

**TECHNOLOGICAL INNOVATIONS IN CATHOLIC INSTITUTIONS CONTRIBUTE  
TO SUSTAINABLE ENTREPRENEURSHIP IN ZAMBIA**

**BY**

**EXILDAH KABASO (SR.)**

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of the Degree of Master of Business Administration -Entrepreneurship

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**LUSAKA**

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## DECLARATION

I, Sr. Exildah Kabaso declare that this dissertation submitted to the University of Zambia as partial fulfilment of the award of the degree of Masters of Business Administration with Entrepreneurship is my own work and has not been submitted either wholly or in part for another degree to this University or any other Institute of Higher Education.

Signed (Candidate)..........

Date..... 26.08.2021 .....



THE UNIVERSITY OF ZAMBIA

DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

Telephone: +260 -1- 290258/Ext. 2208  
+260-1-293937  
Fax: +260-1-290258/293937  
E-mail: drgs@unza.zm

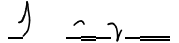
P O Box 32379  
Lusaka, Zambia

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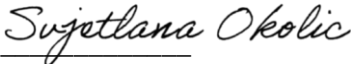
This thesis of **Ms. Exildah Kabaso** titled “**Technological Innovations In Catholic Institutions Contribute To Sustainable Entrepreneurship In Zambia**” and supervised by **Dr. Rob Shah**, has been approved as fulfilling the requirements or partial fulfilment of the requirements for the award of **Master of Business Administration in Entrepreneurship, September 2018 (GSB901026)** by the University of Zambia.

Date of Defense: **26th May 2021**

Name of Examiner 1: Dr. Trina Moore

Signature of Examiner 1: 

Name of Examiner 2: Ms. Svjetlana Okolic

Signature of Examiner 2: 

## **ABSTRACT**

Though there are many studies done on the contribution of the Catholic Church to national development, especially through provision of basic and secondary education, little has been studied on the contribution of the Catholic Church to the growth of entrepreneurship in Zambia. Other scholars have off course studied the stimulation of entrepreneurship by churches in Africa and the United States, for example, yet not specific on the contribution of the Catholic Church in Zambia.

This study examines the contribution of the Catholic Church to the growth of entrepreneurship in rural and suburban areas where the Church, through Catholic Trade Skills Schools (CTSS) and Religious Congregation's Livelihood Projects (RCLP), attend to the socioeconomic needs of the poor people. The study determines whether the integration of new technological innovations in CTSS and RCLP, is largely contributing to the growth of sustainable entrepreneurship in the rural and suburban communities in Zambia.

The study shows that in the earlier years of the operations of the Catholic Church, many trade skills schools and livelihood projects were vibrant and sustained the welfare of the church and the poor people it served. Unlike Catholic basic and secondary education that has increasingly served thousands of people who today serve in high ranking positions in both government institutions and other organizations, the performance of CTSS and RCLP does not stand out. This could be due to poor performance or simply because the institutes have not been studied to bring their performance to light. Based on a few observations, the performance of the CTSS and RCLP seem to be going down with a few closing down without meeting the intended purpose of empowering the beneficiaries with entrepreneur skills and improved socioeconomic status.

One would suppose that, while Catholic basic and secondary education has technically evolved and innovated, the trade schools and livelihood projects seemed not to move at the same pace in terms of innovation. Consequently, the institutes seemed not to meet the expected contribution to entrepreneur skills and improved social economic status of the communities served.

The study largely used qualitative methods with very minimal quantitative design to ensure that the limitations of one type of method are balanced by the strengths of another. The study examines the extent of technological innovation in CTSS and RCLP, including the physical presence of machinery or equipment such as advancement from simple manual farm equipment to mechanized agriculture. The study equally examines changes in procedures, ideas and processes, for example use of sustainable organic farming methods instead of chemical fertilizers.

Secondly the study reviews the socioeconomic impact of CTSS and RCLP on the communities they serve as a catalyst to adoption of such new innovations as entrepreneurship. The study also examines the influence that new technological innovations in CTSS and RCLP have in promoting Small Scale Entrepreneurship (SSE) in the local communities. Finally, the study brings to light the underlying factors behind the successes or failures of CTSS and RCLP in promoting sustainable entrepreneurship in the local communities. This study therefore links innovation to sustainable entrepreneurship in CTSS and RCLP and the communities served.

This study shows a direct proportional relationship between technological innovations, be they technical or non-technical, and sustainable entrepreneurship. The study also shows that there is a positive correlation between the introduction of new technological innovations in CTSS and RCLP and the growth of sustainable entrepreneurship in the rural and suburban communities in Zambia.

**Key Words:** Technological Innovation, Entrepreneurship and Sustainability.

## **DEDICATION**

I would like to dedicate this dissertation to my beloved father Mr. Athanasius Bulungwe Kabaso for the loving father and a special model that he is and for all the sacrifices he made to bring us up after the death of our mother.

I equally dedicate the dissertation to my late mothers, Theresa Chanda Kabaso and Agnes Chanda Kabaso for sharing your love, faith and trust in God and for inspiring me with the spirit of hard work, sacrifice and commitment.

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## **ABBREVIATIONS**

**CTSS** –Catholic Trades Skills School

**DIT**- Diffusion of Innovation Theory

**GDP**- Gross Domestic Product

**JDF**- Jesuit Development Farm

**IGA**-Income Generating Activity

**SSE**- Small Scale Entrepreneur/s

**SOA**- Sustainable Organic Agriculture

**RCLP**- Religious Congregation Livelihood Project

**TAVETA**- Technical Education Vocational and Entrepreneurship Training Authority.

**ZESCO**- Zambia Electricity Supply Company

## DEFINATION OF TERMS

**Catholic Religious Congregation-** groups of men or women who have chosen to express their Christian commitment by living in community and taking lifelong vows of poverty, chastity and obedience.

**Chilimba-** a form of village banking,

**Entrepreneurs-** persons who seek to generate value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets (Ahmad & Hoffman, 2007).

**Entrepreneurial Activity-** the enterprising human action in pursuit of the generation of value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets (*ibid*).

**Entrepreneurship-** the phenomenon associated with entrepreneurial activity (*ibid*).

**General Hospitality-** an industry that includes restaurants, hotels, casinos, amusement parks, events, cruises, entertainment, and other tourism-related services.

**Lay Faithful-** baptized members of the Catholic Church, who have a secular quality and whose functions in the Church differ from those ordained and consecrated as priests and religious men and women.

**Mission -** the vocation or calling of the Catholic Church or a religious congregation to spread its faith in word and actions to the world.

**Religious House-** A house or building inhabited by a Catholic Religious congregation or order; an abbey, monastery, or convent.

## CHAPTER ONE INTRODUCTION

### 1.1 Background Settings

Since the dawn of missionary work in Zambia, the Catholic Church has greatly contributed to the livelihood of the local communities. Based on personal experience, there has been great involvement in social entrepreneurship through the provision of education, health and other social services for the local communities. Normally this has been initiated and spearheaded by Religious Congregations of both men (priests or brothers) and women (sisters). Through their work they introduce both formal and informal Skills Training Centers, small scale industries or entrepreneur activities in such fields as agriculture, carpentry, metal work, information technology, home management and other trade skills that empower young men and women with life skills.

Unfortunately, individuals and communities thus empowered, rarely sustain such developments and once the missionaries leave, the Centre is either closed or become less functional. Similarly, some of the young people trained, upon leaving the mission Centers are not able to successfully use the skills and knowledge acquired to sustain themselves and improve the economic status of their families and communities. Soon or later, their learned skills become dormant and they are back to the old hand to mouth livelihood again. With such a life style of no substantial entrepreneurs to facilitate profit making and savings, individuals, their families and communities remain economically stagnant. This, in a way, defeats the mission of the church and Religious Congregations to improve the livelihood of the poor people.

On the other side of the Catholic Church's social economic empowerment mission, are the administrative and functional changes of the missionaries or Religious Congregations themselves. Many of the Religious Congregations in Zambia are International Congregations originating mainly from Europe and America. Coming from the developed countries, these congregations

begun their work and lived on in Zambia with adequate resources from their homelands. This enabled them to contribute to both the spiritual and social economic development of the communities wherever they settled.

With time, most of the pioneer members of many Religious Congregations have either died or returned to their home countries leaving the management and leadership of institutions or projects in the hands of the indigenous Priests, Religious Brothers and Sisters and, in few cases, the lay faithful. In the transition process the local church or congregation receive financial and administrative support from the Congregational Headquarters in the developed Nations. With time however, the support becomes minimal and is eventually cut off completely, assuming the church and Religious Congregations in Zambia are experienced and empowered enough to run their own affairs.

## **1.2 Problem Establishment and Purpose of the Study**

Following the above events, challenges began to rise, a lot of initiatives developed by the early missionaries started to deteriorate and congregations began to struggle to survive and to carry on their mission in the church. Some of the Catholic Trades Skills Training Centers, Livelihood Projects and other entrepreneurial initiatives established by the early missionaries became dilapidated, others are completely closed. Those activities that might have survived the economic and leadership crisis are now taking off slowly as congregations respond to the innovation wakeup call and open their systems to modern sustainability opportunities.

In this turn of events, many administrators of the local Catholic Church and Religious Congregations have either opened up new or turned already existing trade schools, livelihood projects including hospitals, and primary and secondary schools from charity or grant aided to

either private business or social entrepreneur services. This is done in order for the church to raise enough income to sustain the institutions or projects, their own religious houses and the communities they serve. Paradoxically, this turn of events has become a debatable concern among religious congregations themselves and the on lookers, as to whether the church and individual congregations are being derailed by profit making in the name of sustainability.

The purpose of this research is therefore, to determine how the CTSS and RCLP can be sustainable enough to empower the poor people they serve with entrepreneur skills and thus contribute to the growth of entrepreneurship and improved socioeconomic status of the poor in rural and suburban areas.

### **1.3 Significance of the Study**

This study is significant in that it brings to light:

- The role of technological innovation in the sustainability of CTSS and RCLP and consequent growth of entrepreneurship in the rural and suburban areas they serve.
- The ability of the students and beneficiaries of CTSS and RCLP to apply acquired entrepreneur skills and knowledge to improve their socioeconomic status through entrepreneurship and self-employment.
- The underlying factors behind the successes and failures of CTSS and RCLP in entrepreneur sustainability

All these would eventually culminate into developments that lead to profit making and savings in the poor communities.

This study is important in that it will add new knowledge to the field of entrepreneurship by examining the development of small scale entrepreneurship in the local communities from the

Zambian perspective and as spearheaded by the Catholic Church and its Religious Congregations. Although studies in other countries like the United States, have shown that Religious Congregations play an important role in social entrepreneurship, how these services start and are sustained is understudied and little is known about the organizational aspects of religious Congregations' social entrepreneur programming (Laura Werber et al, 2014). This study will therefore help to know the extent to which the church and Religious Congregation have entrepreneurial, innovative, open organizational culture that may play a role in the development of small scale entrepreneurship in rural areas and suburbs.

#### **1.4 Research Question**

Can new technological innovations in Catholic Trades Skills Schools and Religious Congregations' Livelihood Projects contribute greatly to the growth of entrepreneurship in the local communities in Zambia?

##### **1.4.1 Objectives**

1. To determine the extent to which CTSS & RCLP have contributed to the growth of small scale entrepreneurship in the local communities in Zambia.
2. To determine the socio economic impact of CTSS & RCLP on the local communities.
3. To establish the influence of new technological innovations on the success of the CTSS & RCLP in promoting small scale entrepreneurship.
4. To examine the contributing factors to the success and failures of CTSS & RCLP in the sustainability of entrepreneur programs.

##### **1.4.2 Research Questions**

1. How have the CTSS & RCLP initiatives contributed to the growth of entrepreneurship in the local communities in Zambia?
2. What socio economic influence or impact do CTSS & RCLP have on the local community?
3. How have new technological innovations influenced CTSS & RCLP in promoting small scale entrepreneurship?
4. What are the contributing factors to the success or failure of CTSS & RCLP in promoting sustainable entrepreneur programs?

## CHAPTER TWO: LITERATURE REVIEW

### 2.1 Introduction

The literature review for this study focuses on the Catholic Church's role in initiating entrepreneur activities among the poor people surrounding the mission stations. The section also reviews the influence of new innovations in CTSS and RCLP in the development of Small Scale entrepreneurship. Finally, the literature reviews the ability of the students and beneficiaries of CCTS and RCLP to acquire entrepreneur knowledge and skills and apply them for their economic gain and that of others through small scale businesses, self-employment and other social services.

According to the Universal Technical Institute (2020), a trade school also known as career school, vocational school or technical school, teaches students curriculum based on a specific skilled trade. Thus, trade schools train or educate students in the skills they need to qualify for skill oriented jobs such as such as cosmetology, automotive repair, hospitality, hotel management or carpentry. Apart from equipping students with hand on skills, such schools provide employment assistance and networking opportunities as well.

To gain a career in the skilled trades, students generally need to have at least graduated from high school to attend trade school. However, Zambian trade schools have provision for basic school and primary school dropouts as well, especially in the fields of carpentry and bricklaying. This is because the purpose of trade schools is to deliver a focused education that equips students with skills specific to a particular occupation; students are taught everything they need to know from the ground up, hence no need for higher qualifications, prior experience or training is needed (Universal Technical Institute, 2020) .

The establishment of Catholic Trade Schools in Zambia date back to 1965, largely shaped by the existing state educational policies and regulation. The Catholic Church's education system

aligned itself more with the policies of the Ministry of Education including the 1977 Educational Reforms, whose focus was on the development of the whole person; the 1990 policies which advocated for Focus on Learning and Educating our Future; in 2013, the Zambia Education Curriculum Framework, focused on current areas of social, economic, and technological developments in the curriculum and the opening of two career pathways at secondary school level (academic and vocational pathways) (Mwale, 2020). The Catholic Church reaffirmed the vision of the Jometien 1990 world declaration on education for all, that “all children, young people and adults had the right to benefit from an education that met their basic learning needs in the best and fullest sense of the term” (Mwale, 2020, p.2).

Based on the above policies and in view of the inability of many Zambians in rural and suburban areas to qualify, pay school fees and complete their high school academic education leading to higher professional training, the church chose to help these group of people through vocational training.

On the other hand, the International Labor Organization (2021) describes a livelihood as capabilities, material and social resources and activities required for a means of living. As such livelihood projects provide communities with support, through skills and business-planning trainings that enable community members generate additional streams of income. The livelihood projects provide such services as:

- Education and training services in basic skills and knowledge to enable community members benefit from social services, financial services, and vocational and higher education.
- Social capital services which connect participants with networks or groups for various purposes including market and land provision, and sustainable livelihood promotion.

- Economic strengthening services to increase the economic well-being of participants through innovative entrepreneur activities.

## **2.2 Entrepreneurship, Innovation and Sustainability**

Omoruyi (2017) explains entrepreneurship as the ability of an individual or a group of individuals to create or discover an opportunity and utilize it to the benefit of the society, which, in turn, will bring success to the innovators and their organization. On the other hand, Hayes (2020) describes an entrepreneur as an individual who is able to create a new business or other venture that promises economic gain. He or she is an innovator, a source of new ideas, goods, services or procedures. Though bearing most of the risks, the entrepreneur also enjoys the rewards of profits, fame, and continued growth opportunities. Therefore, entrepreneurs play a key role in any economy, using the skills and initiative necessary to anticipate needs and bring good new ideas to market. It follows then that entrepreneurship is a creative act in which the individual builds something of worth out of virtually nothing. By seeking out any opportunity, regardless of the resources, the individual creates an entrepreneurial vision and is therefore an innovator (Vallone, 2008).

The above description of entrepreneurship and an entrepreneur, fits many pioneer members of Catholic Religious Congregations and missionaries who often settle in remote areas and develop great missions with schools, hospitals and agricultural and development centers in the middle of nowhere, sometimes with very meager resources. Through great efforts and hard work they risk and overcome all obstacles, to transform and ensure the communities they are serving have access to basic socioeconomic services.

The initiatives taken by Catholic missionaries equally matches Vallone's (2008) description of innovation as the means by which entrepreneurs exploit change as an opportunity for a different

business or a different service. Swanson (2017) emphasizes that innovation is not about making new inventions, it is the ability to recognize how to take advantage of opportunities and changes that might offer economic or social benefits. In so doing, innovations increases productivity, access to employment and other social services within an economy and is therefore, a critical component of economic development.

The need for adaptability as the core of innovation is influencing the direction of the service attitude of the church today, from a charity mode of service to social entrepreneurship. Not only does the church or religious congregations adapt social entrepreneurship for their own sustainability but that of individuals and communities they serve. As emphasized by Okwueze & Ononogbu (2010), innovation, institutional quality, and entrepreneurship play critical roles in the structural change toward a sustainable future in Africa. In his argument, Adel Ben Youssef, et al. (2017), further explain that innovation and institutional quality constitute important factors through which entrepreneurship can simultaneously create economic growth and advance social and environmental goals.

In addition, Swanson (2017) points out that sustainable entrepreneurship is the realization of sustainability innovations aimed at providing benefits to the larger part of society. Sustainable entrepreneurs often address the unmet demand of a larger group of stakeholders, thus stakeholder demands are the ultimate sources of entrepreneurial opportunities for sustainability innovation, discovery and exploitation, which is at the core of sustainable entrepreneurship. Therefore, the blending of these three factors; innovation, entrepreneurship, and sustainability constitutes an important aspect of this study.

## **2.3 Contribution of the Catholic Church to the Growth of Entrepreneurship.**

It is a well-known fact that government effort alone does not suffice to address all societal problems, other stakeholders contribute towards the solutions to many social problems in the public space. The church in general, and the Catholic Church in particular comprehensively contribute to the fight against such social problems as poverty, unemployment, illiteracy, disease and delinquent behaviors. Like modern entrepreneurs, the Catholic Church has often used its resources including land or other natural resources, labor and capital integral to production, to produce goods and especially provide services to local communities. The church equally provides leadership and management in the processes of delivering various social services. Thus, this paper particularly focuses on the Catholic Church as a significant social institution that is authentic and culturally relevant in its contributions to Zambia's socioeconomic system through entrepreneur activities.

### **1.3.1 Historical Foundation.**

Writing on the history of the church in Africa, John Baur (1998) reflects that, in the formative period of the Catholic Church, between 1920 and 1960, under mission tutelage, the basic aim of church building was twofold, civilizing, and evangelistic. Under the civilization approach, the church promoted holistic development of the human person relying on education to achieve its aim of converting the whole society and all peoples. The church viewed human development as "...to do more, know more, and have more, in order to be more (Calderisi, 2013, p.59). As such, the Church took a practical role not only in religion but social entrepreneurship, political, economic, and social progress generally. According to John Baur (1998) "...the new faith was presented with new skills of writing and reading and these new skills presented new means of earning money (P. 403). The mission schools were the most important institutions used as the barometer of Africa's

development where entrepreneurship served as a medium for the spillover of knowledge, thus significantly contributing to economic growth (Omoruyi, 2017).

Nwando Achebe et al. (2018, p.7) observed that though prior to the introduction of Christianity in Africa, people had developed their own crafts, it was Christian missionaries who introduced modern forms of crafts such as carpentry and masonry. The early missionaries set up craft centers as part of their educational programs as well as model farms where scientific agriculture was taught and new crops (cotton, coffee, black pepper, mango, ginger, cinnamon and olive trees) were introduced for the people, to go alongside longstanding indigenous production.

In addition, Eze, Lindegger, & Rakoczy (2013) state that, the Catholic Church has been in the lead in the provision of services that have eventually spearheaded educational development particularly in Africa. Through the provision of pastoral, educational, social and health services, the church, driven by the contribution and commitment of, particularly women religious congregations (men too), facilitated massive development of education from nursery, through primary and secondary to tertiary levels. In so doing the Catholic Church has commendably acclaimed as facilitating personal and cooperate development of the people and as an indispensable agent of development. However, the contribution of tertiary education such as in CTSS to the growth of entrepreneurship in Zambia is not so much pronounced, hence the necessity for this research study in this area.

These observations set an important background for the inquiry into the role of the Catholic Church Institutions in the growth of entrepreneurship in present day Zambia. While Catholic Religious Congregations play an important role in education, health and social service delivery, internationally, in Africa and Zambia in particular, how these services start and are sustained is understudied (Laura Werber. et al, (2014). It is therefore paramount to study and understand the

extent to which the Catholic Church and Religious Congregations have an entrepreneurial, innovative, open organizational culture and how these may play a role in sustainable development.

### **2.3.2 Contribution of the Modern Church.**

Though not with emphasis on the Catholic Church alone, Okwueze & Ononogbu (2010) points out that the church as a formidable social actor has an enormous responsibility in bringing about social change in the society. Through the various spiritual and social programs, the church impacts positively on the young people, challenging them to build the nation and alleviate poverty and despair through entrepreneurship.

In the same vein, Shumba (2015), making reference to the Christian denominations in the USA and neighboring Zimbabwe, mentions that, Christian churches play the key roles in the arousal of the entrepreneurial appetite. This is mainly achieved through such avenues as education, livelihood projects, creation of social and business networks, employment provision, contribution to the business seminars and role modeling. In this study, role modelling has been especially effective in livelihood projects among religious congregations.

Okwueze & Ononogbu (2010) further explain that due to the many socio economic challenges facing the youth today, the ministry of the church is vital in modeling a holistic pattern of entrepreneurial skills acquisition. Church initiatives or institutional enterprises help to create linkages between young entrepreneurs and other economic actors. As such youths who train or work with Catholic institutions in Zambia have a competitive advantage when it comes to networking with industries in either employment or entrepreneur partnership. Symbiotically, young people being responsive to new economic opportunities and trends, present alternatives to the organization of work, the transfer of technology, and a new perspective to the market economy, thus, promoting innovation, resilience and sustainability in the church.

In Zambia, both male and female religious congregations such as the Little Servants of Mary Immaculate, the Salesians of Don Bosco, the Society of Jesus (Jesuits) and Franciscan Friars have been very instrumental in the establishment and management of skills Trade schools and agricultural training institutes. The inclusion of tertiary education, especially trades or vocational schools, show that the role of the Catholic Church in educating its people, has not only ended with literacy in basic education and secondary education. The church has gone further to empowering the youth with necessary technical and entrepreneur skills, equipping them for both formal as well as self-employment.

#### **2.4.The Impact of CTSS and RCLP on the Local Communities.**

Entrepreneurs choose different approaches to business, some take a concept and develop it into a business while others take an existing business and expand the model. The most common type of entrepreneur is the classic entrepreneur, who develops a new product or new idea and builds business around it; he or she opens a business with a fresh perspective.

For the Catholic Church, social entrepreneurship has been one of the innovations adopted in their mission to improve the socioeconomic status of the communities they serve. Social entrepreneurship is a practical social change movement that deploys innovative business strategies to promote practical social justice. Social entrepreneurs measure their success by the beneficial impact they have on the world, as well as profit. They use principles from private enterprise, such as business model strategies, revenue diversification, rigorous application of metrics, and investment to achieve economies and efficiencies in driving social change (Santa Clara University, 2019).

At the international level the best example of church social entrepreneurship is that of the Jesuit Miller Center model for Social Entrepreneurship in America, a Catholic institution that accelerates entrepreneurship to end global poverty and protect the planet. The institute combines inspiration from the Catholic tradition with the entrepreneurial spirit of Silicon Valley to catalyze innovative, sustainable solutions to poverty. Guided by the United Nations Sustainable Development Goals (SDGs) and the vision of integral human development articulated by Pope Francis in the encyclical *Laudato Si'*, Miller Center is the most successful Catholic university-based social enterprise accelerator in the world, (Santa Clara University, 2019).

Locally, the work of the Catholic Church in instilling entrepreneur and other forms of knowledge and skills, have tremendous impact on the sustainable livelihood of the graduates from CTSS, the beneficiaries of RCLP and the surrounding communities at large. Catholic institutions and religious congregations have impacted on the communities they serve, in line with Zulu (2016)'s three impact model, which shows that entrepreneurship largely contributes to proper utilization of resources, the establishment of a developed self-sufficient society, and creation of employment opportunities. A few examples are given here under each aspect of the model.

#### **2.4.1 Utilization of Local Resources.**

The Conrad Hilton Foundation's Catholic Sisters Initiative (CHFCSI) (2017, p.32) argues that cultivating entrepreneurship among religious congregations and other groups such as the youth and women, is an important aspect of building sustainable livelihood and advancing human development in Zambia. Almost all women religious congregations in Zambia learn and develop their own entrepreneur ventures using own resources to provide funding to advance and sustain their missions. In the process of managing their own Income Generating Activities (IGAs) such as food processing, dairy production, fruit juice processing, agricultural ventures, particularly

maize production, gardening, plantation farming (moringa trees and bananas) as well as poultry and fish farming, the sisters pass on entrepreneur skills to women and youths.

The sisters take advantage of their understanding of the logistical and marketing challenges for small businesses and the enabling entrepreneur environment in Zambia, to inspire the young women through their work and spiritual witness. Zambia has a moderately good environment for entrepreneurship and microfinance, with an overall Global Entrepreneurship and Development Index (GEDI) score of 20.5 percent. In addition, Zambia is 64<sup>th</sup> of the 77 countries rated on the female entrepreneurship index (FEI) score of 43. This enabling environment has helped the Catholic Religious sisters to foster female entrepreneurship as the potential area and opportunity to encourage sustainable livelihoods and gender equity (CHFCSI, 2017).

CHFCSI accounts that the Comboni missionary sisters' Moringa plantation livelihood project in Western province avails a 100 local farmers the opportunity to train in organic production and sustainable agriculture. The sisters use their land as model that combine modern and traditional best farming practices that are rooted in local food norms to help local farmers succeed ecologically and financially. The techniques the local farmers learn from the sisters are applied in the farmer's own fields. The project also reaches out to about 800 women in the rural areas per year, promoting improved nutrition, through the use of moringa at the household level. As an agricultural and nutritional project, the plantation serves the various needs of the local community in addressing the problem of malnutrition. The Mother Earth project growing over 6000 moringa trees, promotes resilience of the local people through skills training, agriculture, environmental stewardship and sanitation improvements.

With such exposure and acknowledging the use of available natural resources, entrepreneur skilled youths in the area also use the available ideas and wealth to satisfy own human needs and

sell moringa products to earn profit. With time, they like their mentors, the religious sisters, can accumulate capital to create a business that is productive enough to provide jobs to others too.

The sisters are also involved in micro financing to help women access loans or form saving groups for their business ventures. For example, in Ndola Diocese, the sisters have been actively involved in the development of savings groups through the Department for International Development (DFID), a UK major funder for community-based financial services and the financial empowerment of rural populations (CHFCSI, 2017).

In Lusaka archdiocese, the Little Servants of Mary Immaculate at Kasisi mission are working on the development of a Micro Finance as later detailed in the findings of this study. In addition, the Holy Rosary Sister in Chilanga district through Chipapa Development Project, later described in full, initiated the formation of farmer's cooperatives to facilitate the local farmers' easy access to farm inputs and financial capital.

#### **2.4.2 The Establishment of a Developed Self-Sufficient Society.**

With passion for a more just and sustainable world, religious social entrepreneurs are catalysts for sustainable human development. With innovation and entrepreneurship, religious men and women essentially strategies in fulfilling Pope Francis' *Laudato Si'* which calls for a profound reorientation of society, such as the conversion of markets and institutions toward a more sustainable future. Embracing integral human development, the church's social entrepreneurship provides the poor access to essential goods and services, by creating markets that respect human dignity, thus overcoming the trap of dependency inherent in traditional development and charity models (Atkins, 2018).

With the help of the Miller Center for Social Entrepreneurship initiative, the Association of Consecrated Women in Eastern and Central Africa (ACWECA), have recognized the limitations of a charity model, and that they have real assets that can be leveraged to support their outreach to the poor. ACWECA, comprising 302 congregations of Catholic Religious sisters in Eastern and Central Africa, Zambia inclusive, has been providing direct services to the poor. In the recent past however, leading congregations in the Sisters Blended Value Project, seek to transform the social ministries they sponsor into social enterprises in order to make themselves and the communities they serve financially sustainable, moving away from a donor-dependent charity model (Santa Clara University, 2019).

Among the Jesuits, Miller center has evolved from an apprenticeship for the members of society only, into a youth employment and entrepreneurship network, applying the principles of social entrepreneurship. Through the center the teaching of social entrepreneurship to youths has been extend to Jesuit secondary schools and universities. With the entrepreneur skills acquired from such schools, the young people come out already empowered for life after school even if they may not have the opportunity to get white color jobs.

As an acceleration model, Miller Center, is helping religious congregations to achieve operational excellence, secure appropriate forms of capital investment, and scale their impact in the local communities. Another outstanding project reported by the US Center for Religion and Civic Culture (CRCC) (2017), is Chipapa Training Centre for Empowerment and Development managed by the Holy Rosary Sisters in Chilanga district in Lusaka archdiocese. The sisters initiated the project for self-sustainability of the congregation and for the purpose of empowering the local community by educating the future generation. The project comprises a farm, bakery and Trade Skills Training Centre.

At the farm the sisters train the local farmers in modern farming techniques that help to transform dry land into arable land, dairy farming and enterprise. The sisters create small business partnership with the local farmers and vendors. With the local dairy farmers, the sisters provide storage for the farmer's dairy products especially milk and sower milk at a fee. With the vendors, the sisters provide merchandise for the young men and women in terms of dairy and beef products, bread and other confectioneries from the bakery, who later sell the products at retail price. This helps the vendors to establish and grow their own small business ventures to sustain their livelihood.

#### **2.4.3 Creation of Employment Opportunities.**

Over the years the world has been witnessing the transformative impact of the Catholic Church's social entrepreneurship in the lives of its beneficiaries, employees, and other social entrepreneurs. The locally rooted enterprises, catalyze socioeconomic relationships by stimulating agency and participation among the poor in the community. Thus creating access to goods, services, and human dignity and providing opportunities for the poor to design their own futures (Santa Clara University, 2019).

Back in Zambia, a study of the work of religious congregations by CHFCSI (2017), revealed that the sisters have unique roles that they play in the communities and societies they serve. The sisters work in typical rural areas where no one else is ready to work. As spiritual workers, the sisters embrace the poorest and most vulnerable members of the society and provide strong spiritual witness through their work. Living side-by-side with the people, the sisters intimately understand the challenges that communities face on a daily basis. Their observation and experience of poverty among the people encourages the sisters to initiate a number of projects including trainings in entrepreneurship to help the poor people sustain themselves and thus reducing the

poverty levels in such communities. Apart from their core business of bringing Christ to the people, the sisters embrace the whole person, unify communities and inspire confidence in the people.

A number of religious congregations, if not all, in Zambia have initiated sustainable agricultural and other livelihood projects to train the local communities in modern agricultural methods and provide employment for the poor. The examples of the moringa tree plantation by Comboni Missionary Sisters in Western Province, earlier sited, apart from empowering farmers and women, provides employment to the local community such as a part-time accountant, salespersons, caretakers and a large number of farm workers, thus providing source of income for members of the local community (CHFCSI, 2017).

Apart from the Comboni Missionary Sisters, the Holy Rosary Sister's Chipapa Development Project Centre earlier mentioned, provides employment to the local community members who work in the bakery, the farms and at the trade's school. The trade school offers skills in dairy and conservation farming, bee keeping, tailoring and catering and entrepreneur skills. These equip the young men and women in the local community with skills that help them startup their own small business ventures once they graduate from the center and employ other needy people. (CHFCSI, 2017).

Investments such as these, supports Okwueze & Ononogbu (2010)'s emphasis that promoting youth entrepreneurship and self-employment avenues is a growing need, because youth-run enterprises will have a direct bearing on employment if young entrepreneurs hire fellow youth, and thereby address some of the socio-psychological problems and anti-social delinquency that arise from joblessness.

Okwueze & Ononogbu further argue that by virtue of the discipline with which the church operates to support its mission in the community, the church brings the gift of good management and administration coupled with efficiency of operation, space utilization, relationship, money and effective decision-making. These are rich virtues and gifts that are learned and practiced and eventually passed onto the young people and the rest of society wishing to engage in the field of entrepreneurship.

The Holy Rosary Sisters in Chipapa share their knowledge in administrative and leadership skills with their students, employees and business partners creating team work and an enabling environment for the development and growth of their enterprises. Thus a history of working or participating in a Catholic Church institutions or project gives young people a competitive advantage should they advance in their own entrepreneur venture or have opportunity to find employment elsewhere.

The Catholic church indeed become a source of home-grown solutions and support a holistic platform for food security, livelihood development, employment, nutrition and entrepreneurship. With access to technical expertise, capital, agricultural inputs, machinery and other technological innovations, the church would have much more impact and impart greater social entrepreneur skills on the community.

## **2.5 The Impact of New Technological Innovations in CTSS and RCLP**

According to Baum (2001), technological innovation is a process of creative destruction in which technologies evolve over time through cycles of long periods of incremental change. Technological innovation influences organizational populations profoundly by disrupting markets, changing the relative importance of resources, challenging organizational learning capabilities,

and altering the basis of competition. In this process new, radically superior technologies displace old, inferior ones, making possible more improvements in organizational performance. The new technology can either be competence-enhancing, building on existing knowhow and reinforcing incumbents' positions, or competence-destroying, rendering existing knowhow obsolete and making it possible for newcomers to become technologically superior competitors.

On the other hand, Yu-Cheng & Shun-Hsing (2011), describes technological innovation as the way in which an organization can efficiently select, implement and use a technology in comparison with a competitor. Technological innovation includes the company's professional knowledge necessary for designing, manufacturing and assembling a product or the efficiency of the personnel in using the tools of production. Technological innovation is an integrated process incorporating manufacturing, production, R and D, expenditure, management and marketing functions in the company.

An organization's technological capability is acquired through designing and making new products, experience in problem solving through its existence and research and development (R&D). As such improving data collection and processing increases an organization's technological assets, allowing its survival in a competitive environment. Organizations with a technological edge have better profitability and are faster in developing new product lines or other technological innovation. Technological innovation is at the core of the company's competitive capability. And as Baum (2001, para. 3) puts it technological innovation creates opportunities for entrepreneurs to found new organizations and establish competitive positions as incumbents' sources of advantage decay.

Drucker (1985, p.19 in Swanson, 2017) emphasize that innovation is the specific tool of entrepreneurs, by which they exploit change as an opportunity for a different business or a different

service. He explains that entrepreneurs need to search for the sources of innovation, the changes and their symptoms that indicate opportunities for successful innovation and be able to apply the principles of successful innovation. As an economic or social phenomenon innovation is not a technological term, neither is it about making new inventions, rather, it is the ability to recognize and take advantage of opportunities and changes. Therefore, innovation consists the purposeful and organized search for changes, and the systematic analysis of the opportunities such changes might offer for economic or social innovation.

Lambing & Kuehl (2000) state that innovation is one of the several key factors to successful entrepreneurship (others include market entry, availability of capital, networking and having a mentor within the industry). In America, for example, about 4% of the Americans try to open own business annually, through innovation; beginning a new venture of one's own is a popular idea among the Americans.

Galindoa and Mendez in Omoruyi (2017) argue that entrepreneurship boosts economic growth by introducing innovative technologies, products, and services, therefore, replicative entrepreneurs are of no relevance to economic growth. Unfortunately, in most developing nations, economic growth is not 'innovation-driven' and replicative entrepreneurs are many. Thus the importance of this study to examine the CTSS and RCLP to determine the presence of innovation and how it is influencing entrepreneur and eventual economic growth.

Reilly & Milikin (1996, p.39) point out that companies with a vision of the future, embrace emerging technologies and markets as part of their entrepreneurial activities. These technologies and emerging markets present exceptional challenges and unlimited opportunities for companies and individuals seeking to secure a competitive advantage. For example, emerging markets such

as India and China are creating an enabling environment for both innovation and entrepreneurship; with emerging technologies they create a powerful foundation of global business solutions.

According to Gobry (2017), the difference between successful and unsuccessful entrepreneurs is not so much of money as is the mind-set of the technological entrepreneur. It is a relentless focus on trying new things, measuring their impact carefully, changing and scaling them up once they work, why Silicon Valley is a unique phenomenon. Gobry argues that in order to effectively fulfil the call to serve its neighbors, the Catholic Church should have an innovative mind set. The church's mission is to concretely make the present world a new creation by making things better and effect transformational change at every level.

Gobry (2017) makes reference to the church in the era following the ruins of the Western Roman Empire, an era of enormous technological innovation, powered by monasteries; the Silicon Valley of that time. Monastic innovations in agricultural technology such as the wheeled plow, the horse harness, the nailed horseshoe and three-field crop rotation contributed to an agricultural revolution that broke Western Europe out of the Malthusian trap in which the Roman Empire had been stuck for centuries. The agricultural revolution fueled a population boom, which in turn led to economic, cultural, artistic and technological boom, the industrial revolution, including the invention of the university.

The church produced countless social and technological innovations including social welfare, the hospital, the university, the post-slavery economy. In the process of providing health care to their own patients, Catholics literally invented the hospital, a rather important innovation. This was all due to the right mind-set, a Silicon Valley mind-set that was crucial and central to performing the church's work of feeding the hungry, instructing the ignorant and effecting broad-based social change. The early church believed and worked in confidence and trust in God's grace

that led to greater intelligence, creativity and resourcefulness in getting the work of the church done, thus accomplishing novel and startling things.

Similarly, today's Catholic Church is expected to be a center of creativity and inventiveness, particularly in the area of science and technology, a creativity that leads to transformative change. Unfortunately, the attitude of individualism, dualism, materialism, laziness, and worse of, inferiority complex, has rocked the church. Gobry (2017) argues that, feeling inferior, many Catholics as well as other Christians, instead of thinking of how the church should beat today's modernity, forget and fail to compete for fear of being losers. Though there are many worthy and innovative endeavors in the church today, present day Catholic Church is no undisputed leader of innovation. Unlike the early Christians, today's Catholic Church as an institution lacks that sort of culture.

For example, while the Catholic Church in Zambia was among the first to establish a private university, the Zambia Catholic University, the performance and growth of this university is below other private universities that opened within the same period, such as Rusangu and Appex Universities. It is therefore, important to find out whether lack of innovation or which other factors are contributing to the failure of the institution to excel and grow. The same situation applies to the Catholic Private hospital, Cardinal Adams Hospital, whose performance cannot also compare with other private hospitals. Finding out the cause factors to this situation would equally be helpful.

Gorby might be right that the attitude of individualism, laziness and inferiority affects the innovativeness of present day Catholic Church, however, the church still remains innovative especially from the social economic point of view. This is witnessed in the work of the church especially religious congregations' initiatives in livelihood projects earlier alluded to. On the other hand, Gorgy might be right where technical and administrative innovation is concerned.

Technically, most Catholic Institutions especially the CTSS in Zambia have not been innovating at improved rates as Government and other private institutions, mainly due to lack of resources as well as administrative skills. Though finances are not the major key to innovation, the CHFCSI (2017) study of religious congregation proved that the ability of a congregation to sustain itself financially is essential to its vitality.

Administratively, leadership skills also play a greater role in the ability of an institution to innovate. Unfortunately, administrators of CTSS and RCLP especially priests and sisters sometimes lack the appropriate training to help them exercise their leadership roles in a more innovative and technical manner. Eze, Lindegger, & Rakoczy (2013) discovered that, the sisters themselves are not adequately provided with educational resources to enable them keep abreast of current demands of educational development in the 21st century.

However, through the African Sisters Education Collaborative (ASEC), the African sisters, Zambia inclusive, are currently being helped in administrative and computer skills, grant-writing and financial skills. These different ASEC education programs are helping the sisters to earn money for the institutions and above all to bring learned skills to the congregation and create systemic change. This is the kind of innovation that the church needs, not necessarily whiz-bang technology, but simple innovative techniques such as applied by earlier church fathers. As Gobry (2017) rightly puts it that, functioning as all pastors, the Scholastics of the time were bound by monastic rules to spend as much time in prayer as in study, they were thus reflective great thinkers innovating different techniques within their ministries.

In his example, Gobry (2017) sites the social innovation, Aux Captifs la Libération (“Freedom to the Captives) or Captifs, a Catholic ministry founded by Rev. Fr. Patrick Giros in Paris, aimed at reinventing social work in a more effective way. Instead of immediately offering a home, food

or clothing to a homeless person, Captifs volunteers were trained to first use techniques that created social trust among the homeless. After long social interaction for days, weeks, months or even years, a genuine bond and trust is developed with a homeless person. Only then would they propose specific interventions, ranging from free housing in a community apartment to training and rehabilitation programs. Such simple interventions as Captifs' have much higher rate of success than abstract ideas; they produce specific, novel techniques that bear actual fruit reflecting the true Catholic innovation.

Omoruyi, (2017) states that, according to the endogenous growth model, the creation of innovative ideas is a direct function of human capital which finds its expression in the form of scientific knowledge. Investment in human capital drives growth in physical capital, therefore human capital accumulation might stimulate growth by catalyzing technology adoption or in other words human capital is necessary for technology use. Hence, in the midst of competitive innovation from the scientific world and secular academic orientation, the modern Catholic Church, can create simple innovations as they work with the poor in rural communities to keep their schools and projects efficient instead of giving up or wholesale copying that eventually fails. For example, young people's challenges in starting up own entrepreneur businesses is mainly associated with lack of motivation and lack of capital. The church can capitalize on that by first attending to the psychological need for motivation through well strategized motivation techniques and microfinance or related innovations respectively, to capture young people's entrepreneur potential.

Since entrepreneurship helps in poverty reduction, when it is creating employment through the establishment of new entrepreneurship or the developing of existing ones, the more the number

of entrepreneurs in each country, the minimal rate will the poverty line automatically be. Hence reducing funding constraints for would-be entrepreneurs is a significant goal for policymakers.

Technological innovation also helps creating a global connection because it speeds up dissemination of scientific achievements, breaks down information barriers and creates realistic prerequisites to define minimum standards behavior; Innovativeness is a basic determinant of entrepreneurship.

In his final comment, Omoruyi (2017) advises that entrepreneurs will continue to seek profit, and state will continue to look after common welfare. However, social entrepreneurs together with the responsible state will create a market in which entrepreneurship will be based on market principles trying to constantly increase common welfare. The social entrepreneur is not settled by temporary solutions to a problem, they try to change the environment: local community, society and the whole world (p.154). Such a balanced expression of mind must for sure be welcomed and embraced by any innovative social entrepreneur including the church.

## **2.8 Sustainable Entrepreneurship**

Greco & De Jong (2017), making reference to various reviews (Hockerts and Wüstenhagen, 2010; Pacheco et al., 2010; Shepherd and Patzelt, 2011), describes sustainable entrepreneurship as the discovery, creation, and exploitation of entrepreneurial opportunities that contribute to sustainability by generating social and environmental gains for others in society. In other words, a successful sustainability-driven enterprise must be able to sustain its own activities while contributing to sustainable development of the larger social–ecological system of which it is part. Sustainable entrepreneurship assures long lasting goods, values or services, while preserving current resources for future generations (sustainability) and developing unique solutions for the long run (entrepreneurship).

In addition to producing long lasting products or services, the main aim of sustainable entrepreneurship is to create a certain positive impact in the society. As expressed by İyigün, (2015, p. 1230), in Greco & De Jong, (2017) the main goal of the business activity of the sustainable entrepreneurs should be ‘looking for prosperity and continuity. This entails that entrepreneurs should have the ability to start and carry on their entrepreneur activities profitably for long term benefits, not only for themselves but those of the community too. This why taking risks, persevering in difficult times and being innovative is very cardinal for an entrepreneur.

Greco & De Jong (2017) reemphasize that both sustainability and entrepreneurship require innovation, the discovery, creation, evaluation, and exploitation of opportunities to create future goods and services consistent with the sustainable development goals. Therefore, sustainable entrepreneurship strives to create value that is beneficial for society through opportunity creation, and development in an uncertain environment. Hence an entrepreneur has to possess risk-taking abilities, innovative attitude and alertness together with determined ethical concerns.

To achieve sustainable entrepreneurship, the entrepreneur has to build social networks, team work and dedication. In addition, one requires good managerial experience, funding, acceptance of the new ideas, voluntary and salaried labor, and stakeholder network and market readiness. Sustainable related concerns, such as the business model design, boost entrepreneurial will of startups, though they decrease with more individual business experience, while lack of suitable venture capitalists threatens success.

It is therefore, necessary for this study to equally examine the extent of sustainability of the entrepreneur activities practiced by CTSS and RCLP and which are passed on to the community. An understanding of the contributing factors to the success or failure in sustaining such enterprises is equally inevitable.

## **2.7 Successes and Failures of CTSS and RCLP in Entrepreneur Sustainability**

According to Granger & Sterling (2003), observation of both successful and unsuccessful entrepreneurs can be beneficial in understanding the attributes of becoming successful. Some entrepreneur traits exist within the individual or organization culture and others need to be learned. The prospective entrepreneur must first understand himself or herself and the environment within which one is operating to evaluate successful and unsuccessful trends.

### **2.7.1. Factors contributing to Sustainable Entrepreneurship.**

Tidd and Bissant, explain that, “the creation of a venture is the interaction of individual skills and disposition and the technological and market characteristics” (2013, pg.506). The individual’s skills and disposition comprise a person’s family background, goal orientation, personality traits and motivation. On the other hand, environmental factors such as the home context, religious affiliation, education, technological market and institutional support are key determinates of a suitable environment for innovation and entrepreneurship.

Generally, Tidd and Bissant (2013) points to the need for high levels of achievement as a common drive for technical entrepreneurs on one hand, and internal locus of control for other professionals such as scientists and engineers. The need for high levels of achievement (‘n-Ach’) is associated with moderate risk taking which is essential for entrepreneurs because risk takers take personal responsibility to find solutions to their problems. According to Gorby (2017), this attribute of risk taking seems to be lacking in present day Catholics for fear of being losers, as such this study helps to confirm this observation.

According to Vallone (2008) being ambitious, seeking to be the best, being competitive, and having a sense of accomplishment are characteristic of a successful entrepreneur; having ambition is important to accomplish entrepreneurial goals of opening and maintaining a business. The study

will examine these traits in both the leadership of the CTSS and RCLP and the beneficiaries to determine whether they apply in the Zambian Catholic Church context.

Lambing & Kuehl (2000), state that self-discipline makes a successful entrepreneur. A determined and self-motivated entrepreneur values obedience, good work ethics, regulation, order, and control as important aspects of discipline. With the sense of responsibility for their business, family, and employees who depend on their success, entrepreneurs feel obliged and the need to achieve success.

As earlier discussed, entrepreneurs have to be creative or innovative with unique imagination that allow them find a way out of every perceived obstacle. Being innovative, creative or individualistic are key traits and very beneficial in owning a business.

CTSS and more so RCLP have recorded great success in the area of entrepreneurship, however, most of their work has not been acknowledged and worse still documented. Omoruyi (2017) suggests that the best and useful way to view the success of the Catholic Church and Religious Congregations is through the lens of social entrepreneurship theory, although social entrepreneurship remains an evolving construct. Examples of the success stories include:

- Indirect economic development through the education offered by the missionaries by which many Africans accessed salaried employment and hence the ability to begin their own business.
- Health care innovation has been productive freeing man from disease and giving him the strength and joy to work and engage in more entrepreneur activities.
- In many places, missionaries introduced cash crops which became the major source of income for the local people.

- The labor provided through the construction and maintenance of mission buildings; the employment to mission personnel, casual labor in gardens, fields and roads. All these are initiatives that provided the learning opportunity and possibility of engaging in similar or related entrepreneurship later.
- There were places where missions counted as the greatest employers and investors. People have always valued missions as important economic factors. (John Baur, 1998. P.419).
- The above social activities offered these great social entrepreneurs and those they served opportunities for economic entrepreneurship and propensity to create and exploit opportunities to realize their mission.
- Resourcefulness, particularly in compensating for resource limitations and dealing with setbacks, is another strength of the CTSS and RCLP. Other attributes include credibility, an abundance of social capital, and the ability to recruit and motivate others.

In recent times, the best and pure entrepreneur success story for religious congregations is the story of the Pax Garments Limited in Sunyani owned by the Catholic Church in Ghana. Fr. Peter Oppong Kumi explained how religion combined with entrepreneurship skills has contributed to the expansion and growth of Pax Garments Limited in Sunyani. He further explained how the understanding of Physical Capital, Knowledge Capital, Human Capital, and Social Capital contributed positively to the success of Pax Garments Limited in Sunyani (Peter Oppong Kumi, 2016).

### **2.7.2 Factors Contributing to Failures in Sustainable Entrepreneurship**

Failure to pursue sustainable entrepreneur ventures despite exposure to relevant, knowledge, skills and experience, is basically due to lack of self-motivation, capital, related technology and

information, infrastructure, successful mentors, and unsuitable government policies. Above all, individual entrepreneurs and institutions lacking in discipline, creativity, determination, and innovation and not ambitious to take risks tend to fail in their business (Okwueze & Ononogbu, 2010).

Omoruyi (2017) stated that:

Despite the view that Africa is the richest continent in the world in terms of minerals and natural resources for which reason entrepreneurship should flourish on the continent, the continent's entrepreneurial performance has been very slow. This limited performance is attributed to factors such as lack of sensitivity of raw agricultural products to international prices, poor infrastructure, lack of human and financial capital; quality standards, inappropriate trade policies, poor management of human resources, and government policies that are hostile to entrepreneurship (p. 5).

While the church has done its best to help youths to develop appropriate skills and initiate entrepreneurship in the local communities they serve, the church has equally experienced a number of challenges that sometimes disrupt the mission and vision to empower individuals and communities in self-sustainable entrepreneur activities. It is in the interest of this study to understand the underlying factors behind the closure and failure of some of the CTSS and RCLP.

Generally, the challenges are two fold, with some emerging from the environment and attitudes of the individuals being served. Others challenges are however institutional, connected to the administration of the community or nation and the church institutions or projects. For example, in Africa, Zambia in particular, private entrepreneurs are deficient in financial and managerial ability

to operate large and sophisticated businesses. This applies more to the church in Zambia; compared to other Catholic institutions on the continent. The Catholic Church and Religious Congregations in Zambia are far behind in terms of entrepreneur advancement. The level, variety and operational capacities of entrepreneur related activities are very low compared to those in West and East Africa. This study is an opportunity to explore the reasons for Zambia's Catholic church lagging so far behind in entrepreneur and related developmental projects.

Other contributing factors as indicated by Ncube (2013) in Omoruyi (2017), points to the lack of high and technological related skills which lessens the prospects for moving up the value chain in industries, lessen labor productivity and existing industries' competitiveness. It is appropriate therefore, that this study examines the level of technological innovations in the church's entrepreneur initiatives and determine whether improved technology and other innovations can make a difference in the positive direction.

Historically, the early church's failures in advancing entrepreneur activities in the local communities included following situations:

John Baur (1998) noted that Missionaries' strategies insisted on the education programs that would focus on the need for craftsmen and farmers as a more and wide involving move towards entrepreneurship. However, in the face of the confrontation of an African society built upon oral traditions and subsistence agriculture, verses a literate and technically high advanced culture of the dominating white man, to acquire this knowledge through book learning seemed the key to progress. "Thus crafts and agriculture came to be identified with backwardness and bush" (John Baur, 1998. p.415). Consequently, there was no demand to improve agricultural methods and very little incentive to learn new crafts for which one could hardly find a market in a subsistence economy.

When the Catholic missionaries came to Africa, they built missionary stations following the pattern in their own countries where monks built monasteries, lived and worked with the local people, improving agriculture and handicraft. In their own countries the monasteries became centers of civilization and so was in Africa, with the church, house of the priests, convent for the sisters, a school, dispensary, workshops and a farm. However, development did not work out in the same way in Africa. One of the contributing factors was the geographical distances in the territories entrusted to African missionaries, about 20 to 40 times larger than those around the monasteries in early Europe. Thus they divided themselves and built up a network of much smaller missions which could render little economic services.

The clash of cultures was another contributing factor, the difference in culture between Africans and European missionaries could not favor an early common life as it was in Europe.

The financial means of the early missionaries were also too small, very restricted and not enough to cover their constant needs for new churches, schools, hospitals and stations.

Not all missionaries were convinced that it was their duty to help their new converts with economic development. “Among Catholics the theory was universally accepted but practice was limping far behind” (John Baur, 1998 p.418). Paradoxically, they sometimes “went as far to forget the proper religious values of the same missions” (p.419).

In the modern church, institutions and young people face a lot of challenges and sometimes fail to make it in the entrepreneurship industry and life at large. Omoruyi (2017) attributes such failure to a number of factors some of which are outlined below:

**Environmental challenges for entrepreneurship:** this is the general environment encompassing “the overall economic, sociocultural, and political factors that influence people’s willingness and ability to undertake entrepreneurial activities.

**Challenges of access to funding:** Finding access to funding when it comes to starting a business is problematic; the challenge is one of the biggest concerns influencing potential entrepreneurs globally.

**Challenges of access to credit and entrepreneurship:** Sustained entrepreneurship requires supportive and accessible financial institutions, such as commercial banks, development finance institutions, microfinance banks, credit bureaus, and money deposit banks. In most African countries, financial institutions are underdeveloped, and access to credit is limited. Perhaps church institutions would be very helpful to the young people if they took innovative direction to provide a little financial business startup for their graduates.

**Challenges of physical infrastructure and entrepreneurship:** The poor condition of infrastructure across sub-Saharan Africa is a crucial challenge to the expansion of entrepreneurial enterprises; it seriously creates a huge problem for entrepreneurs’ in terms of efficiencies, costs, and market access.

**Transportation/Logistics:** Most African nations face weak communications, inferior quality and limited breadth of rail network and road. Products and services have no value unless they are in the possession of the customers when (time) and where (place) they wish to consume them.

**Electricity power generation:** For most entrepreneurs, the greatest obstacle when it comes to running a successful business is the dearth of electricity; most African nations face unreliable power supply (Omoruyi, 2017).

Given the obstacles to entrepreneurship advancement about Africa in general, and the historical struggles of the early missionaries, this study is an intriguing opportunity to discover whether these factors still apply in the struggles of church institutions in Zambia today or whether there are new challenges and what could be the major difference.

## **2.8 Summary of Literature Review**

From the literature reviewed it is clearly stated that the Catholic Church has from time immemorial played a bigger role in stimulating innovative entrepreneur activities in communities they serve worldwide, in Africa and in many aspects in Zambia. It is equally understood that through entrepreneurship, the church plays a huge and significant role, especially in Africa, by creating jobs and stimulating local resource utilization and self-sustainability. Through entrepreneurial education and activities, the church has been key player in poverty reduction and employment provision, enhancing economic growth. Indeed, with a very young population and not enough jobs to offer, Small and Medium Entrepreneurship are the only solution for poor African countries like Zambia.

The literature has reviewed the extent to which innovation is a key factor in entrepreneur growth. The impact of the education and experience offered in CTSS and RCLP on entrepreneur growth and socioeconomic status of the beneficiaries has also been reflected especially through the efforts of the religious sister. Contributing factors to success or failure of entrepreneurship has equally been reviewed.

## **CHAPTER THREE: METHODOLOGY**

### **3.1 Introduction**

Following the general exploration of literature on the role and impact of the CTSS and RCLP in innovative entrepreneur growth, this study focuses on the contribution of the CTSS & RCLP to the growth of entrepreneurship in the local communities in Zambia. The study determines the extent of innovation in these institutions and projects and the influence of such innovations on entrepreneur growth. The research also analyzes the socioeconomic impact of CTSS and RCLP on the local communities in terms of shared entrepreneurship and employment provision. Finally, the study examines the other underlying factors behind the success and failures of some of the CTSS and RCLP in promoting sustainable entrepreneur growth in the local communities in Zambia.

To bring the research to success, the following research questions were investigated.

1. How have the CTSS & RCLP initiatives contributed to the growth of entrepreneurship in the local communities in Zambia?
2. What socio economic influence or impact do CTSS & RCLP have on the local community?
3. How have new technological innovations influenced CTSS & RCLP in promoting small scale entrepreneurship?
4. What are the contributing factors to the success or failure of CTSS & RCLP in promoting sustainable entrepreneur programs?

### **3.2 Research Design**

This section explains the operation framework or research procedure within which facts were placed and analyzed for valuable research outputs. The section discusses steps and actions taken to answer the research questions stated above.

### **3.2.1 Research Purpose.**

The study is a combination of both the exploratory and explanatory approach. The study took an exploratory approach because the aim was to find out the extent of the Catholic Church's contribution to entrepreneur growth in the local communities served by church institutions or projects. As explained by Bhattacharjee (2012), exploratory research is conducted in new areas of inquiry in order to scope out the magnitude or extent of a particular phenomenon, problem or behavior and generate initial ideas about the phenomenon. The contribution of the Catholic Church to entrepreneurial growth in Zambian communities is a new area of inquiry, as most studies have been more on the contribution of the Catholic Church to general education and /or general development in Zambia.

The study also takes an explanatory approach in that it seeks to explain the relationships among the three variables, entrepreneurship, innovation and sustainability. The study examines the influence of technological innovations on the effectiveness of the CTSS and CRLP in promoting sustainable entrepreneur growth in the local communities and also tries to identify other variables that contribute to the success or failure of these institutions. Hence the study explores the cause effect relationships between innovation and sustainable entrepreneur growth. Bhattacharjee (2012) explains explanatory research as seeking to explain observable phenomena, problem or behavior by identifying causal factors and outcome of the target phenomena.

### **3.2.2 Research Approach.**

The study largely used qualitative approach combined with very minimal quantitative designs for data collection, presentation, interpretation and analysis, to determine correlation between new technological innovations in CTSS and RCLP and the growth of sustainable entrepreneurship in the rural and suburban communities in Zambia.

The qualitative methods were used to reach a better understanding of the entrepreneurial activities and the impact of innovations both in the institutions and in the community, on sustainable entrepreneurship. The qualitative approach availed the researcher close contact with the respondents for detailed information that helped to explore and understand the meaning individuals and communities attach to the phenomena under study. Qualitative method made it possible for the researcher to make follow up and clarify points that were not well explained or understood.

The minimal inclusion of quantitative approach made it possible to get a generalized picture about the innovations and sustainable entrepreneurship in CTSS and RCLP and their impact on the entrepreneur growth in the community. Quantitative approach also enabled data to be analyzed statistically to strengthen findings on the cause effect relationships between variables through correlations. The combination of the two methods yielded better results than a single approach.

### **3.3 Sample Selection**

#### **3.3.1 Study Area**

The study was conducted mainly in Lusaka and Copperbelt provinces due to the concentration of Catholic Religious congregations and CTSS in the provinces. However, others in Luapula and Northern provinces were included to cater for CTSS and RCLP located in rural areas, for variation in the social economic conditions, and also due to the presence of the Salesian fathers and sisters for their reputation in the area of Youth empowerment through trade schools and agriculture.

#### **3.3.2 Target Population**

The target population are the CTSS and RCLP and surrounding communities in the suburban areas of Lusaka and the Copperbelt and the rural areas of the Northern and Luapula provinces of

Zambia. The sample size was determined by the total number of CTSS and RCLP that are well known and registered with the Technical Education Vocational and Entrepreneurship Training Authority (TAVETA) in each province. Out of 12 institutions in Lusaka, 9 were purposely selected, 2 RCLP and 7 CTSS; on the Copperbelt province 1 CTSS and 2 RCLP were selected from a total of 7 institutions. As for the rural areas, 1 RCLP out of 3 institutions was picked from Northern Province and 3 CTSS out of 7 institutions from Luapula province. Thus bringing the total number of CTSS and RCLP investigated to 16 out of the 29 qualified institutions.

### **3.3.3 Sampling Method and Sample Size.**

The sample size included the following purposefully and randomly picked respondents:

1. Sixteen Administrators or Project Managers or equivalent (here referred to as Managers), one for each institution, purposely picked because of their position as custodians of the institutions hence key informants on the activities in the institutions. They also provided information on the extent of innovation in the institutes and how such innovations are impacting on the direction and growth of entrepreneurship.
2. Two current and two former students or beneficiaries, and at least 3 other members of the community per institution, all randomly selected. This segment of the sample provided, entrepreneur knowledge and skills being passed on to students or beneficiaries and how they are applying what has been learnt. These key informants further provided information on the impact of the institutions on the socio economic activities. They also explained the growth of entrepreneurship in the local community, in terms of local resource utilization, self-sufficiency and creation of employment opportunities.

3. An official from TEVETA and one official from the Catholic Church Education Department helped with extra information on the numbers, presence and location of the targeted institutions as well as on the validity and contribution of the Catholic Church to the growth of entrepreneurship in Zambia.

Thus the total sample size was 130 respondents which is quite representative for generalization to the target population and also manageable to work with.

### **3.4 Research Method.**

This section describes the research tools or techniques that were used in the collection of data, data analysis, and writing to meet the purpose of the research. Qualitative methods are largely used with minimal quantitative aspects to ensure that the limitations of one type of data are balanced by the strengths of another. This was also to improve understanding by integrating different ways of knowledge and to improve the end evaluation (Bhattacharjee, 2012).

#### **3.4.1 Data Collection Method**

Under quantitative methods, a survey was used with structured questionnaire for the managers of both the CTSS and RCLP, students and other beneficiaries who are highly literate. The structured interview was used for the illiterate and moderately literate who could not handle the questionnaire on their own, for example, RCLP beneficiaries in the rural and suburban areas. The questionnaires were delivered through email for a few who had access to the internet, and delivered physically for those who had no access to the internet. In addition, phone calls were very useful for clarifications and follow up. A sample questionnaire and structured interview was tested at two CTSS and two RCLP respectively.

For respondents with very low literacy levels, qualitative methods were used to collect data. These included structured interviews, for consistency purposes, and focus group discussions and field observation, for collection of more detailed information and validation of what is expressed and experienced in CTSS & RCLP and the community. Structured interview and focus group discussions were recorded digitally and also by use of notes. Secondary data was also used to collect more information about the CTSS and RCLP.

As indicated by Bhattacharjee (2012), the use of these multiple sources or “triangulation,” enabled multiple measures of the variables and improved the validity of the research.

#### **3.4.2 Development of the Instrument.**

The questionnaires were developed and scaled based on the Five point Likert method of scaling. Though an ordinal scale, the Likert measure is, for the purposes of correlating the variables, treated as interval scale as well. This is justified by Bhattacharjee’s (2012, pp. 46 & 48) observation that though Likert scales are ordinal scales, in that the anchors are not necessarily equidistant, they are sometimes treated as interval scales by social scientists by considering these differences as equal, so that statistical techniques such as correlation or regression can be used for analyzing ordinal scaled data.

#### **3.4.3 Reliability and Validity of Instruments.**

To reduce error and biases, the reliability of the instruments was estimated through test-retest and the split half method. Validity is secured by correlating results from questionnaires for management and students and with those from interviews and focus group discussions and observation, as well as using the convergent and discriminant validity measures.

### **3.5 Data Presentation, Interpretation and Analysis Methods.**

This section explains how Data was examined, categorized and tabulated, or recombining of the collected data. The process involved data reduction, data display and drawing of conclusions and verifications. This study takes a post positivism approach combining empirical observation with logical reasoning from both the subjective and objective dimensions- functionalism and interpretivism. While the existence of both the CTSS and RCLP and entrepreneur impacts on the community are empirically observed, their purpose and performance required both objective and subjective interpretation to help make reasonable inferences about the observed phenomena and expressed facts, experiences, opinions and feelings.

#### **3.5.1 Units of Analysis and Research Variables.**

In this research the units of analysis are the CTSS, RCLP and surrounding communities, on the other hand the units of observation included signs of new technological innovations, signs of entrepreneur growth and sustainability. Among them, technological innovation in CTSS and RCLP is the independent variable, explaining the growth of entrepreneurship and levels of sustainability as dependent variables. Concurrently, entrepreneurship is a mediating variable, explained by the independent variable, technological innovations and at the same time explaining the dependent variable, sustainability.

Entrepreneur growth is also playing the role of a moderating variable, which is influencing and explaining the relationship between the independent variable technological innovation, and the dependent variable sustainability. Control variables include such environmental factors as the home context, religious affiliation, education, technological market and institutional support on one hand and access to funding, transportation, credit, electrical power and others, on the other hand, that may affect the success or failure of entrepreneur growth.

### **3.5.2 Measurement of the Research Variables**

The variables technological innovations, entrepreneur growth and sustainability, were measured on the Five point Likert 1-5 continuum. The values expressed by answer choices of a-e, rated as strongly disagree to strongly agree respectively, and results interpreted as slow to rapid technological innovation, low to high entrepreneur growth, and low to high entrepreneurial sustainability levels as follows:

#### **3.5.2.1 Technological Innovation**

The measure of the technological innovation variable was considered using the five point Likert scale, giving 1-5 points with answers ranging from ‘strongly disagree’ to ‘strongly agree’. For the measurement of dimensions of technological innovation, this study is based on Baum (2001), Yu-Cheng & Shun-Hsing (2011), Vallone (2008) and Swanson (2017) descriptions to ensure construct validity.

#### **3.5.2.2 Entrepreneurship Growth**

When measuring entrepreneurship growth variable, this study considered each variable using the five point Likert scale, giving 1-5 points which corresponds with answers ranging from ‘strongly disagree’ to ‘strongly agree’ and the study uses the most common dimensions defined by Zulu (2016), Ahmad & Hoffman, (2007), Vallone (2008), Omoruyi (2017) and Hayes (2020).

#### **3.5.2.3 Sustainability.**

Sustainability is also measured considering each variable on the five point Likert scale, giving 1-5 points with answers ranging from ‘strongly disagree’ to ‘strongly agree’. When measuring sustainability, this study used the dimensions defined by Greco & De Jong (2017).

### **3.6 Data Presentation and Analysis**

The presentation and analysis of the collected data was done using qualitative methods for comprehensive understanding and narration of the various variables involved. Quantitative methods were only used for needed quantifications and correlations. Tables and graphs are helpful for clarifications, progression and comparative purposes.

To help explain the cause and effect relationships of new innovations in CTSS & RCLP and the resulting entrepreneur growth and sustainability of the institutes and projects in the local rural and suburban communities in Zambia, the innovation diffusion theory by Rodgers (1962) in Bhattacharjee, (2012). was used. The theory views innovations as new technologies, new practices, ideas or social systems communicated to individuals or organizations and that innovation diffusion is a process. People will learn and adopt the innovation at different rates depending on the meaning and the potential benefits they perceive. The diffusion will also depend on the social system such as the presence of opinion leaders, change leaders and support systems (Bhattacharjee, 2012).

Data was collected from middle December to end of December, 2020 and data analysis and presentation completed by January, 2021. The collected data is stored in both hard and soft copies till graduation.

### **3.7 Scope and Limitation**

The scope of this study was to establish the contribution of CTSS and RCLP to the growth of entrepreneurship in the local communities; to explore the levels of innovation in CTSS and RCLP and how they impact on entrepreneurship growth in communities; and to determine factors that can contribute to the development and growth of this industry and explore the deterring factors to the development and growth of entrepreneurship in local communities in Zambia.

However, the study was limited in its findings and results by several factors such as lack of cooperation from the respondents especially administrators of institutions who were too busy to answer a questionnaire on time especially those sent by email, in some cases, the researcher had to change the approach by going physically to collect the information which was costly and time consuming. Some of beneficiaries were too shy to participate fully in focus group discussions though they were the key informants. Low literacy levels among the respondents especially beneficiaries from the local community made it difficult for them to conceptualize the problem at hand and they took certain problematic or lacking situations as part of normal life even when situations are meant to be improved.

Other respondents like farmers and students were too busy with cultivating and examinations respectively, data collection having been shifted towards the end of the school year, inconvenienced by unexpected events and COVID 9. Due to the COVID 19 regulations, some of the public offices were not in full operation and this made it difficult to collect data on time from both TAVETA and Catholic Education Department.

Lack of and poor record keeping in institutions, absence of statistical data and lack of information on student records and follow up programs, entrepreneurship and innovation growth trends in the institutes and livelihood projects aggravated the collection of necessary information.

Given the limited time and resources coupled with the busy period of administrative changes and festivities, the researcher had difficulties travelling to all the targeted CTSS and RCLP especially those distant.

Another limitation as alluded to by Labaree (2020) is that conclusions about causal relationships between innovation and entrepreneurship and sustainability may be difficult to determine due to

the control or extraneous variables, earlier mentioned, that exist in a social environment. Thus causality was not necessarily being proven; it was instead only inferred.

Though innovation as an independent variable is related to dependent variables, entrepreneurship and sustainability, it may be difficult to determine which variable comes first and, therefore, to establish which variable is the actual cause and which is the actual effect.

### **3.8 Summary**

All in all, the research focused on the role of innovation in the growth and sustainability of entrepreneurship and the relationships that exist among the three variables of entrepreneurship, technological innovation and sustainable development. The main interest in the study is to determine the role of technological innovations in the CTSS and RCLP in sustainable entrepreneurship development. The study shows that there is a positive relationship between technological innovations within the institutions and their capacity to produce sustainable entrepreneurs as well as contributing to institutional and community welfare.

From the literature reviewed it is clear that technological innovations such as investments in human capital or scientific knowledge, friendly financial lending modalities, efficient transportation systems and appropriate machinery will help improve existing and build new entrepreneur activities.

Given the successful history of its social entrepreneurship in Zambia, tracing as far back as the 17<sup>th</sup> century, the Catholic Church can for sure revamp the once flourishing trades and Craft institutions to boost sustainable entrepreneur and economic development in the local communities. The key to the success of this dream is technological innovations and supportive general environment.

## CHAPTER FOUR

### RESEARCH FINDINGS AND INTREPRETATION

#### 4.1 Introduction

This chapter presents the empirical findings of the study with reference to the four research questions. The chapter gives the general description presented in the CTSSs, followed by RCLPs, covering information collected from 14 CTSS and 6 RCLP and their respective students or beneficiaries and communities serviced. A general introduction is first given on the Church's purposes of establishing CTSS and RCLP; the management, common activities and entrepreneur activities in the institutes; and the transfusion of entrepreneurship into the surrounding communities. The findings are described by categories of CTSS & RCLP, progressive or positive responses to each of the research questions, and then the challenging or negative responses based on the frequent responses given for each of the questions.

1. Descriptive findings to question 1: The contribution of CTSS & RCLP to entrepreneurship growth in the local communities.
2. Descriptive findings to question 2: The socio economic impact of CTSS & RCLP on the local communities
3. Descriptive findings to question 3: The role of technological innovations in CTSS & RCLP and/in promoting small scale entrepreneurship.
4. Descriptive findings to question 4: Contributing factors to the success or failure of CTSS & RCLP in sustainable entrepreneurship.

## **4.2. Background of Investigated CTSS and RCLP**

The information on the details of the CTSS and CRLP given below are based on the responses to the questions that included, the identification data about the individual respondent and the institution, what trade skills are offered in the institution, what trade skill or life skill the respondents (students and RCLP beneficiaries) respectively trained in and the impact the training has had on one's entrepreneur skills. The information was also derived from the researchers' observation and study of the institutional documents.

### **4.2.1 Investigated Catholic Trade Skills Schools**

The following 12 CTSS were surveyed in order to address the four research questions. However, the last two, St. Ambrose and Francis Xavier, were not followed up in all the investigations since they are no longer in operation. The two institutions were relevant and helpful in answering the fourth objective of the research to understand some of the contributing factors to failure by CTSS to contribute to sustainable entrepreneurship.

1. Marietta Trades Skills School in Matero, Lusaka district and Province
2. St Edmunds Home craft Centre in Matero, Lusaka district and Province
3. Bauleni Special Needs Trades School in Bauleni, Lusaka district and Province
4. Mulele Mwana Trades Skills School in Regiment, Lusaka district and Province
5. Chipapa Skills Development Center in Chipapa, Chilanga district, Lusaka province
6. Chikupi Vocational Training Centre in Kafue District, Lusaka Province
7. Kasisi Agriculture Training Centre (KATC), Kasisi mission, Chongwe district, Lusaka Province.

8. Don Bosco Kazembe Carpentry School in Mwata Kazembe Village, Mwanabombwe district, Luapula Province.
9. Don Bosco Lufubu Agricultural Training School in Lufubu, Mwanabombwe district, Luapula province.
10. Don Bosco trades School in Chimese, Mansa District, Luapula province.
11. Don Bosco School Skills Training School in Chingola district, Copperbelt Province.
12. Chelstone Youth Centre in Chelstone Lusaka district and Province.
13. Failed St Ambrose Skills Training Centre in Kafue district, Lusaka province
14. Failed St Francis of Xavier Trades Skills School in Kalingalinga, Lusaka district and province.

From the information gathered in this study, it is evident that the focus of CTSS in Zambia was mainly to give skills to the less privileged youths who could not progress to professional training due to lack of financial support or own intellectual inabilities. The increasing number of orphaned and vulnerable children due to HIV/AIDS related deaths of parents and guardians, put pressure on the few bread winners left to look after their own and the orphaned children. As such orphaned children in some cases were left without the opportunity for education be it basic or professional.

To intervene in this lack of education coupled with high unemployment levels among the youths, a number of CTSSs were opened to purposely give the vulnerable youths skills to enable them access employment in related fields or establish own Small Scale Entrepreneur (SSE) for self-sustainability. Apart from orphaned and vulnerable youths, CTSS were also developed to cater for school drop outs whose high school grades could not secure places into professional training

colleges. These CTSS were mostly established by either the parish councils in respective Catholic parishes, the diocese curia or religious congregations.

Among the schools surveyed, Mulele Mwana in Chilenje Township and St, Francis Xavier in Kalingalinga area were the initiative of the parish priests and their respective church councils. St. Ambrose and Chikupi CTSS were started by the Catholic diocese of Lusaka. Religious congregations initiated such institutions as St. Edmunds Home Craft Centre and Mother Marietta Community Skills School by the Little Servant of Mary Immaculate Sisters in Matero suburban area; Cheston Youth Centre by the Handmaid Sisters of the Blessed Virgin Mary and the Don Bosco Institutes in Chingola, Mansa, Kazembe and Lufubu by the Salesian priests; KATC by the Society of Jesus (Jesuits) in Kasisi Mission and Bauleni Special Needs trade School by the Sisters of the Sacred Heart of Jesus and Mary in Bauleni suburban area.

The common background of all the surveyed CTSS is that they were all founded for the purpose of empowering youths and women in the local communities. The intention was that, in the face of high unemployment levels, youths especially the orphaned and vulnerable, women and girls, who may not have the opportunity to excel academically could use vocational skills to sustain their lives. Trade schools aim at teaching practical skills and knowledge which the youth can use to develop various products such as furniture, food products, clothes and farm products to start small scale businesses to sustain their lives. The second option was for the students to use the skills learnt to access formal employment in related industries or the same training institutes.

Table 4.1 shows the Catholic Trade Skills Schools visited and the respective skills or vocational courses offered at each institution. The table excludes St. Ambrose, Francis De Sales, St. Francis Xavier and Zambia Airforce sub parish which though visited are no longer in operation.

**Table 4. 1: CTSSs and Courses Offered**

S/N	Name of CTSS and Year Opened	Courses Offered					
1	Marietta 2006	General Hospitality (Catering, Housekeepin g)	Design Cutting and Tailoring	Basic Computer Skills			
2	St. Edmunds 1991	General Hospitality	Design Cutting and Tailoring				
3	Bauleni Special Needs School 1996	General Hospitality	Design Cutting and Tailoring	Carpentry and Joinery	General Agricultu re		
4	Mulele Mwana 2003	General Hospitality	Design Cutting and Tailoring	Carpentry and Joinery	Basic Compute r Skills	Power Electrical	Automotive Mechanics

<b>5</b>	Chipapa 2011	General Hospitality	Design  Cutting and  Tailoring				
<b>6</b>	Chikupi 2009	Design  Cutting and  Tailoring	Brick  Laying and  Plastering	Metal  Fabrication	Power  Electrical	General  Agriculture	
<b>7</b>	Don Bosco  Carpentry  Training  Centre  Kazembe  1981	Carpentry  and Joinery					
<b>8</b>	Don Bosco  Agricultural  Training  Centre  Lufubu  1994	General  Agriculture					
<b>9</b>	Don Bosco-  Mansa	Carpentry	Metal  Fabrication	Brick  Laying			
<b>10</b>	Don Bosco-  Chingola  1991	Carpentry  and Joinery	Metal  Fabrication	Auto  Mechanics	Power  Electrical	General  Agriculture	Computer  Skills

<b>11</b>	Kasisi Agricultural Training Centre 1974	Organic Farming	Food Processing				
<b>12</b>	Cheston Youth Centre 1975	General Hospitality	Design Cutting and Tailoring				

### 4.3 Courses Offered in CTSSs and Associated Skills

Generally, the following are the vocational training skills offered in the CTSS that were surveyed. General Hospitality and Design Cutting and Tailoring is in more than half of the institutes (7) with the exception of the Don Bosco and Jesuit Schools, probably due to their main focus on the male youths, general hospitality and tailoring being traditionally female trade skills. Carpentry and Joinery is in 5 of the 12 schools, Mulele Mwana, Bauleni Special Needs School and the two Don Bosco schools in Kazembe, Mansa and Chingola Schools. Basic Computer Skills is integrated in other courses in all the schools except for Mother Marietta Centre, Mulele Mwana and Don Bosco Chingola where it is offered as an independent subject.

General Agriculture is also in six schools including Mulele Mwana, Bauleni Special Needs, Chipapa, Chikupi and Don Bosco schools in Lufubu and Chingola. Special and unique skills include organic farming at KATC and Brick laying and Plastering at Don Bosco Mansa and Chikupi schools. Chikupi, Don Bosco in Chingola and Mulele Mwana cover almost all the trades common in these schools including Metal Fabrication, Power Electrical, and Automotive Mechanics which are not offered in the rest of the schools.

All the CTSS surveyed are affiliated to TAVETA, implying that the curriculum and courses offered are approved by government and the students are legitimate to writing TAVETA exams and obtain level 3 skills certificate. TAVETA regulates and coordinate apprenticeship and trade testing facilities in these trade schools, and most of the students are accredited with levels 1 to 3 certificates.

#### **4.4 Investigated Religious Congregation Livelihood Projects**

In addition to the CTSS, 5 Religious Congregation's Livelihood Projects (RCLP) were also investigated. These included:

1. Jesuits Development Farm (JDF) by the Jesuits in Kasisi Mission, Chongwe district, Lusaka Province.
2. Salesian Sisters Valponasca Learning Farm by the Salesian Sisters in Luwingu district of Northern Province.
3. Dagama Nutrition Center by the Franciscan Missionary Sisters of Assisi in Dagama, Luanshya district in the Copperbelt province.
4. Chibote Rehabilitation Center by the Franciscan Missionary Sisters of Assisi in Ibenga, Luanshya district, Copperbelt province.
5. Chalice project by the Little Servants of Mary Immaculate in Kasisi Mission, Chongwe district, Lusaka Province.

As indicated by the International Labor Organization (2021) a livelihood describes capabilities, material and social resources and activities required for a means of living. As such livelihood projects provide communities with support, through skills and business-planning trainings that enable community members generate additional streams of income. In this way the

purpose is more or less the same as the CTSS. However, whereas CTSSs generally focus on vulnerable youths, RCLP targets crosses over all ages and demographic characteristics.

The five livelihood projects surveyed in this study, generally focuses on services that support the local communities in resolving or reducing the challenges they face in different areas of need as displayed in table 4.2. RCLPs equip communities with knowledge and skills that are sustainable to improve their livelihood or standard of living as was observed in the following projects:

1. **The Jesuit Development Farm (JDF)** addresses the universal goal of caring for mother earth by incorporating and helping the farmers both those already trained in organic farming and those yet to be trained in organic farming. The purpose is to demonstrate to the local farmers that organic farming is very possible and cheaper than conventional farming. The project help the farmers increase their productivity by overcoming the financial challenges of purchasing agricultural inputs such as hybrid seeds, chemical fertilizers and pesticides. Instead in organic framing they use local resources, they grow their own seed, use animal or other forms of manure to enrich the soil and local herbs to fight pests and diseases. The farmers are given free seed, manure, 5 australope chicks per farmer as part of initial capital.
2. **The Salesian Sisters Valponasca Learning Farm** located in Northern Province where farming, especially where cash crops are concerned, was not so much developed despite the vast fertile lands, good rainfall and plenty of rivers that could be utilized for farming. Being in a rural area, lack or poor farming practices entails a lack of food and hence malnutrition and poverty. The Salesian Sisters therefore established the farming project to motivate and initiate interest among the local subsistence farmers to grow and appreciate the benefits of both subsistence and cash crops as well as keeping farm animals.

Though it took a lot of effort to change people's mentality, the project has yielded a lot of well skilled farmers who have improved the agricultural production of Luwingu district. According to the manager, last year, the 2019/2020 agricultural season, the district yielded 25, 000 tons of maize more than half the previous which had 10,000 tons in 2018/2019 season. This bumper harvest prompted the Provincial Permanent Secretary to request the sisters to explain how they managed to change the attitude of the people when it had taken government many years and resources to coopt the people into agriculture and yielded no tangible results.

3. **Dagama Nutrition Centre and Chibote Rehabilitation Centre**, both run by the Franciscan Sisters of Assisi, use the same tool of agricultural production to eradicate the problem of malnutrition and poverty. Dagama Nutrition Centre cares for the needs of the aged who provide parental care to the orphans whose parents died with HIV and AIDs. Chibote takes care of the abandoned lepers whose families cannot receive and accommodate them. In both cases families and lepers are taught different skills in farming to help them sustain their lives. The sisters demonstrate different farming activities as in table 4.2, working with the beneficiaries, after which they give each family a portion of land where they carry on with what they have learnt at the sister's farm, to support their families.
4. Chalice Project run by the Little Servants of Mary Immaculate slightly differs from the other four projects in that the project uses the tool of Education Sponsorship to help vulnerable and orphaned children. However, Chalice believes that no matter how much the child is provided with, education materials and school fees, if the home and community the child is coming from are still languishing in poverty, the child will not excel. Hence

Chalice extends its services to the family and community the sponsored child is coming from by training and empowering them in different life skills to improve the family and community economic status and hence the welfare of the child. Here in, like the other livelihood projects, agriculture and other income generating activities are taught and practiced as reflected in table 4.2.

While most of the services offered in these projects are job on training, formal trainings are also carried out in technical skills like organic farming, free range chicken rearing, tailoring and catering. Hence CTSS and RCLP are quite similar in their purpose and service delivery, and the two were treated as one in responding to the rest of the research questions.

**Table 4.2: Investigated RCLP Details**

<b>S/N</b>	<b>Name of Project and Year Established</b>	<b>Focus of the Livelihood Program</b>	<b>Target Group</b>	<b>Activities</b>	<b>Numbers Served</b>
1	Jesuit Development Farm-2016	Care for Mother Earth- Reinforcing the Adoption of Organic Farming	Local Farmers trained or not trained in organic farming	Moringa growing and processing. Integrated Agriculture Agroforestry Fish Farming Free Range Poultry farming	25 families

				& Vegetable gardening.	
2	Salesian Sisters Valponasca Learning Farm-2015	Increasing Agriculture Productivity	Local farmers	Agricultural Skills Training in Sustainable Arable and Animal Farming Provision of Farming inputs through cooperatives	1500 Farmers
3	Dagama Nutrition Centre 1980s	Reduction of Malnutrition through farming skills	The aged and Vulnerable children	Crop Farming Poultry Farming and Avails part of the land to poor families. Feeding Program	600 Families With well over 1000 children
4	Chibote Rehabilitation Centre 1975	Empowering the abandoned for self- sustainability	Lepers	Skills training in tailoring, poultry piggery and arable farming Avails both accommodation	36 families

				land for farming to the lepers	
5	Chalice Project	Children's Education Needs and family and community empowerment	Vulnerable children, their families and the community they live in.	Sponsorship for children Skills training in tailoring, farming and entrepreneurship. Village banking services and Microfinance services	1500 families in 5 districts.

**4.5 Contribution of CTSS & RCLP to Entrepreneurship Growth in Local Communities**

The trade skills offered in CTSS equip students and beneficiaries with different skills that they can use to sustain their lives once out of school. The courses or trade skills offered and related entrepreneur skills ignited include the following.

**Design, Cutting and Tailoring.** In design, cutting and tailoring, students learn such skills as sketching of styles, pattern drafting, free hand cutting; measurements and sewing skills as well as the right type of fabric and method to be used when making different types of clothes. Most (71.4%) of the former students skilled in tailoring are in business, managing their own tailoring shops. Of the remaining 28.6% majority are mainly employed in institutions such as high schools and colleges, Zambia Army and Zambia Air Force to sew uniforms for students and employees

respectively. The rest are employed by their fellow formal students who have been able to establish their own small scale businesses. The best students in all trades are often selected and further trained to remain lecturing in the same CTSS or offered other related jobs in the schools.

**General Hospitality.** In this course students are mainly exposed to skills in food production, catering, and bar and restaurant skills, others include housekeeping. However, for the purpose of this paper, General Hospitality will be referred to as catering because most of the entrepreneur activities were more in the catering than any other aspect of general hospitality. With skills in catering, students easily find employment in hotels, lodges and homes or establish their own small scale enterprises as either groups or individuals. Individuals interviewed are mainly engaged in bar and restaurant or take away businesses, on the other hand those who work as teams offer outside catering especially for weddings, birthday and kitchen parties. Some individuals do outside catering too.

**General Agriculture.** Here, students learn skills associated with both arable farming and animal husbandry, fisheries, different farming technologies such as organic farming, sustainable agriculture, agroforestry, integrated farming, poultry farming and agribusiness management were observed.

Almost all the surveyed CTSS had a variety of farm animals particularly poultry, piggery and fish farming. Even though agriculture is not one of the trades skills formally taught in some CTSS, the production section includes farming for Income Generation in all CTSS. As students sometimes participate in the IGA programs as practical lessons on entrepreneurship, they equally learn some agricultural skills informally. Outstanding dairy and beef production was observed at KATC, and Chipapa schools. Technology transfer is an essential part of the curriculum in this course; KATC specializes in training students in organic farming and transferring the organic

technology to local farmers. With more and more Zambians engaging in serious farming as SSEs or for self-sustainability, particularly maize production, poultry farming and fish farming, students graduating with agricultural skills are also becoming more marketable. Their services are critically needed in the same institutions of learning and on both commercial and small scale farms. It was discovered that graduates who manage to raise capital upon graduating or a few years later, establish their own small scale farms and or agricultural consultancy firms.

### **Carpentry and Joinery, Bricklaying, Electrical Mechanics and Metal Fabrications.**

Students in the Carpentry and Joinery course, learn skills related to measuring cutting and shaping wood; they are also equipped with skills such as construct, repair installing of building frameworks, walls, floors, door frames, ceiling boards and other wooden as well as other material structures. Bricklayers are skilled in building construction, roofing, painting, plumbing and paving.

The following basic skills are taught in power electrical or electrical mechanics; electrical systems, power tools, high voltage, control panel, and test equipment. In metal fabrications students are exposed to basic skills in shearing, TIG and MIG welding, blue print reading, metal fabricating and advance to lathe machining, hand tools, roofing, drill press saw and steel fabrication.

Students developing skills in Carpentry and Joinery, electrical mechanic and metal fabrications easily make it in the world of both formal and self-employment as well as related small scale businesses. This is mainly attributed to the current expansion of the construction industry especially in Lusaka be it in the city, suburban areas or surrounding villages. More and more people are opting to own family houses than living in rented houses. On the other hand, many retirees and investors are constructing housing estates for rental business. These construction

works are providing employment and business opportunities for brick layers, carpenters, welders and electricians.

Doyle (2020, para.1) points to the fact that population growth around the world has created a demand for trade and construction skills, among which are carpentry, fabrication and electrical skills. Doyle cites the construction of new homes, construction of factories and power plants as requiring many new workers, and is expected to result in additional job opportunities for carpenters, different engineers and electricians. Metal fabrication is also on demand in technical set up kind of organizations.

The Copperbelt and North Western Provinces also absorb a lot of metal fabrication students from CTSS especially those from Don Bosco Technical School in both Chingola and Mansa due to the presence of the mines where the trade is on high demand. Some of the graduates have set up their own metal fabrication workshops in these areas.

Students in automotive mechanics learn such skills as customer service, diagnostic skills including problem identification, how to repair and replace worn out parts, resourcefulness and technical aptitude. There are several small scale auto garages in and around Lusaka that absorb the graduate students on voluntary, part time and full time employment. However, it takes 5 to 10 years before one could venture into own business due to lack of startup capital, the equipment needed is complicated and expensive. The use of vehicles in Zambia is ever on the increase and since most of them are brought into the country as second vehicles, soon or later they begin to wear out and need the attention of the auto mechanical engineers thus providing market for the industry that in turn absorbs some of the students from CTSS schools.

Graduates in basic computer kills form Marietta, Mulele Mwana and Don Bosco Chingola and Mansa technical schools, find employment in banks, network providers or small scale businesses such as internet cafes, though loosing market as people easily access internet on present day advanced mobile phones. One of the graduate students gave up the internet café businesses because of competition with the personal phones.

Common to all trades are skills in communication, entrepreneurship, though not often taught as a single subject but integrated in the other courses. Teaching entrepreneurship as a single subject in trade schools would help to build entrepreneurial mind set in the students, rather than the observed orientation to being employed. The best students in all trades are often selected to remain lecturing or other related jobs in the same CTSSs.

**Table 4.3: Annual Enrollments per School per Trade**

S/N	CTSS	Annual Enrollment Capacity Per CTSS Per Trade											
		General	Hospitality	Design Cutting And Tailoring	Carpentry and Joinery	Power Electrical	Automotive Mechanics	Metal	Fabrication	Agriculture	Brick Laying	Short Basic Computer Course	
1	Marietta	44		30									30
2	St. Edmunds	20		20									
3	Bauleni Special Needs	80		25	25					25			

<b>4</b>	Mulele Mwana	<b>60</b>	<b>32</b>	<b>29</b>	<b>19</b>	<b>23</b>				<b>75</b>
<b>5</b>	Chipapa	<b>22</b>	<b>15</b>							
<b>6</b>	Chikupi		<b>25</b>		<b>24</b>		<b>24</b>	<b>30</b>	<b>20</b>	
<b>7</b>	Don Bosco- Kazembe			<b>20</b>						
<b>8</b>	Don Bosco- Lufubu							<b>35</b>		
<b>9</b>	Don Bosco- Mansa	<b>25</b>		<b>15</b>			<b>28</b>		<b>8</b>	
<b>10</b>	Don Bosco- Chingola				<b>8</b>	<b>13</b>	<b>7</b>		<b>5</b>	<b>10</b>
<b>11</b>	KATC							<b>100</b>		
<b>12</b>	Cheston Youth Centre	<b>60</b>	<b>20</b>							
	<b>Total</b>	<b>311</b>	<b>167</b>	<b>89</b>	<b>51</b>	<b>36</b>	<b>59</b>	<b>190</b>	<b>33</b>	<b>115</b>

**Table 4.4: Trades in Which the Interviewed Students Trained**

S/N	TRADE TRAINED IN	NUMBER OF STUDENTS INTERVIEWED BY SEX		TOTAL NUMBER
		Male	Female	
1	General Hospitality	2	17	19
2	Design Cutting and Tailoring	2	10	12
3	Carpentry and Joinery	6	2	8
4	Power Electrical	3	3	6
5	Automotive Mechanics	4	0	4
6	Metal Fabrication			
7	General Agriculture	4	4	8
8	Brick Laying	2	0	2
9	Basic Computer Skills	1	4	5
	<b>Total</b>	<b>25</b>	<b>38</b>	<b>64</b>

Table 4 reflects the number, sex and trades specialized in for the students who were interviewed. Almost all the trades were represented except for metal fabrication, the candidates had a commitment at the mines, pursuing a contract. However, the helpers at the metal fabrication workshop as well as members of that community explained about their work and benefits for both the owners of the business and the community.

Among those interviewed, general hospitality and tailoring had more females than males including computer science; carpentry and joinery had more male than female, agriculture and power electrical were balanced; auto mechanics and bricklaying had no female. Catering and tailoring are traditional female tasks, whereas mechanics and bricklaying are traditionally male gender roles.

#### **4.6 The Socio Economic Impact of CTSS & RCLP on the Local Communities.**

The presence and the services offered by the CTSS and RCPL have had positive impacts directly on the graduating students or beneficiaries and indirectly on the rest of the community through the services offered by the graduate students or beneficiaries and the institutes. The respondents, including managers, current and former students, direct and indirect beneficiaries from the community, confirmed the benefits of CTSS and RCLP. The trainings and experiences received from CTSS and RCLP has impacted on the individual's social economic status and that of the family, the community and the nation at large. These benefits were listed and categorized as follows:

##### **4.6.1 Social Economic Impact at Personal Level**

- A number of CTSS and some RCLP offer student sponsorship for the poor youths in the surrounding communities to access formal training and basic and high school education respectively.
- Trainings and livelihood programs at CTSS and RCPL empower students and beneficiaries especially youths and women with trade skills and certificates to access salaried employment or establish own SSE.

- Empowered with diversity of skills and knowledge streaming from lessons in entrepreneur skills and actual entrepreneur activities in CTSS or RCLP, the young people become self-reliant and economically independent
- Individual students and farmers are enriched with skills in sustainable organic agriculture (SOA), agroecology, and ability to transfer knowledge to others.
- The trainings help the individual to develop a business mindset which is cardinal for personal economic success.

#### **4.6.2 Social Economic Impact at Household Level**

- With income from either the salaried employment or small scale business the graduates are able to educate other members of the family and take care of the basic needs of their families' especially housing, feeding and clothing, which improves the standard of living in the home.
- Farmers trained in SOA increase agricultural production and food security thus improved nutrition for their families.
- The increased production increases profit from the excess for sale, hence increased family income.
- Graduates specialized in tailoring and catering skills offer their services at no or very low cost to reduce cost of family events such as weddings, kitchen and birthday parties.

### **4.6.3 Social Economic Impact at Community Level**

- The graduates provide easy access to services associated with their trades in the communities at the door step. Such services include actual and consultation services in catering, tailoring, agriculture, housing construction, electrical wiring of houses and repairs of electrical appliances, carpentry work such as fixing doors, assembling kitchen units and other forms of furniture; welding services and others.
- Some SSE groups in catering offer themselves to teach those preparing for marriages, skills in cookery and baking to equip them for the kitchen demands of a home.
- SSE in tailoring produce latest designs on the market to meet the different needs of women for different events especially kitchen parties.
- Brick layers contribute to the improvement in the standards of houses in the community and offer free construction services to the church and neighbors in need having learnt to help the poor from CTSS.
- Trained farmers contribute to diversity of farm product and community food security, hence reduced cases of malnutrition, creating a health community.
- Local farmers are helped to carry on with winter local vegetable farming through KATC's provision of land and Centre Pivot irrigation.

### **4.6.4 Social Economic Impact at National Level**

- SSE who have been in the business for more than five years provide employment to young people as cooks, house keepers, waitresses, spanner boys

in auto mechanic workshops thus contribute to the welfare of the society by keeping the youths from crime.

- Youths thus employed help to reduce poverty at family, community and nation levels.
- Graduates pass on the learnt practical skills to other members of their families and the community, especially those they employ who may not have the opportunity to get formal training. This transfer of knowledge increases the needed semi-skilled labour force in the nation.
- Farmers who train in sustainable organic agriculture contribute to the nation's effort in providing alternative ways of farming that are sustainable hence care for the environment.
- Trained farmers contribute to food security at national level and improved national GDP.
- The performance of some of the institutes and projects contributes to national recognition, for example KATC as a leading organic training institute in Zambia and is internationally recognized.

#### **4.7 Technological Innovations in CTSS and RCLP and Small Scale Entrepreneurship.**

In response to the third research question and objective, the impact of technological innovation in CTSS and RCLP was investigated from two perspectives; the presence of technical innovation or machinery and equipment on one hand, and technological innovations in terms of new ideas, initiatives, competence building, competitiveness, professional knowledge, efficiency, problem solving, transformative change and other processes. With machinery and equipment, the criteria of innovativeness of the institutions was basically about the presence of the necessary equipment

or machinery, the status of the machinery, whether modern and up to date or obsolete, to meet modern Zambian society's demands.

#### 4.7.1 Machinery and Equipment in CTSS and RCLP

Based on the information from the respondents and the researcher's observations, all the CTSS and RCLP investigated had equipment and machinery of one kind or another according to the different trades. Some of the machinery and equipment commonly found in all the institutions are displayed in table 4.5. With the machinery available the institutions are able to conduct effective transmission of knowledge and skills to the students and beneficiaries.

**Table 4.5: Common Machinery and Equipment for Each Trade/Course in CTSS and RCLP**

S/N	Trade	Major Machinery / Equipment Available in CTSS & RCPL	Major Machinery / Equipment not Available but needed in CTSS & RCLP
	Cutting Design & Tailoring	Manual Hand and foot Sawing Machines, Electrical sawing machinery, and specialized (embroidery, overlocking, button hole making, industrial treadle) machinery	Increased number of electrical specialized machinery
	General Hospitality	Electrical and solar stoves Manual kitchen utensils	Computers i.e. internet. Cook and hold stoves. Automated kitchen appliances such as juicers, mixers

			Fridges that monitor inventory. Electrical food displays.
	Carpentry And Joinery	Automated Ripping Machine, Planner, Jig Saw, Ryobi Band Saw, Biscuit Jointer, Router, Sanding Disk, Circular Saw	Automated hedging machine
	Basic Computer Skills	Slightly new model Duo Core Computers	Computer library with updated modern CORE I from 3, 5 to 7, computers, and internet servises.
	Metal Fabrication	Pedestal Grinder, Welding Machines, Rolling Machine, angle grinders, Angle Finder, Cleo fasteners, Helmets and Cutting Glasses.	MIG & TIG welding Throat Less Shear
	Power Electrical	Single Phase and three phase induction Motors	Increase number of the available motors
	Auto Mechanics	Old manual Engines	Automatic engines
	Brick Laying	Drilling machine	Compactor, mixer, block making machine and Damp level for planning

	General  Agriculture	Ordinary ploughs and Tractors-  Soil cultivating machinery  Planting machines  Weeding machines  Irrigation machinery- center pivot  Harvesting Machines  Milk and Grain and other processing machines and Grinders	Zero tillage equipment  Laboratory for Analysis  Seed bank
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Generally, 91.5% (fig 5.1) of the respondents felt that their schools or projects had adequate machinery that performs the expected functions, however, they admitted that some of the machinery being manual are not efficient to match the demands of the market. For example, respondent 1 shared that *the carpentry workshop is stocked with the circular saws suited for solid pine timber, yet solid pine timber is no longer marketable since clients demand for laminated boards. The best machine for laminated boards is the hedging machine which is not available in the schools. However, students, including the production section have to use the circular saw to meet customer demand and it takes 4 days longer for the carpenter to deliver the product. This affects the efficiency in delivering the products and one can easily loose market.*

Though some of the manually operated machinery and equipment are outdated, slow in terms of the rate of production and somehow not matching with the demand on the market, it was explained that students are encouraged to use the manually operated machinery to suit the environment in which they may have to operate after school. Those who venture into small scale businesses are not able to buy semi and automated machines for themselves because they are very

expensive. The students are prepared to use manual machinery and equipment so that lack of automated machinery may not deter them from starting their own business operations. With this training, graduates can be able to use simple tools to start business and purchase more efficient ones as they raise enough capital.

In the same vein SSE in the food production or catering business verified that using manual or non-electrical equipment while in school was helpful because latter it was possible to provide outside catering services using braziers and wooden stoves before raising enough capital to buy electrical appliances. Even baking which was thought to be impossible without an electrical stove was successful. Moreover, all the students are exposed to semi-automated and automated machinery when on attachment and education tours in industries.

Otherwise, the semi and automated machines are better as they occupy less space, reduce human labor, production is faster, cost efficient, match with the labour market; allow for easy movements within the workshops and highly equip those who immediately get employed in highly automated industries like the mines.

Due to the advanced technology that the students are exposed to in long established and well equipped CTSS and RCLP like Don Bosco Chingola and KATC, as well as their approach to work, SSE from these schools are more efficient and competitive than those from similar government trade schools.

The study reviewed that when need be, graduates who take up small scale businesses in metal fabrication, carpentry, auto mechanics and power electrical, apply the skill of networking with bigger companies such as Bafokong on the Copperbelt when they have contracts that need

specialized or automated machinery. When they join hands and work as a cooperative, the SSE manage to subcontract big companies to do jobs that require advanced machinery on their behalf.

In other circumstances, graduates use learnt creativity skills to innovate and modify some of their simple equipment to make multipurpose, faster and more productive, for example, a homemade lathe machine. In addition, the skill of openness learnt while in CTSS make it easy for these SSE to adapt to new technologies on the market even though they may have not used a given technology before, they easily learn from others already on the market. Some of the SSE, for example tailors, go back to their formal CTSS to make use of the equipment which they do not have in their workshops at a fee. For example, embroidery and overlocking machines. Thus the machinery available in the school makes it possible for the former students to succeed in their SSE businesses.

#### **4.7.2 Other Technologies Innovations in CTSS & RCLP.**

Apart from the knowledge gained through the hands on use of machinery and equipment in CTSS and RCLP, the students are equally exposed to other innovative ideas, processes and procedures that increase their knowledge and skills in given trades, an entrepreneur mind set and self-confidence. Some of the common technological innovations (both technical and non-technical) experienced in CTSS and RCLP include the following:

- Use of modern machinery in various departments for example at Don Bosco Chingola, Mulele Mwana, Chikupi, KATC, JDF and Valponasca Learning Farm, agricultural equipment range from cultivating, through planting weeding, irrigation, harvesting and processing machinery and equipment.

- Introduction of new products through the value addition programme. For example, KATC and Chipapa engaged in dairy farming, process and produce dairy products such as milk and cream; and different types of cheese and a variety of yoghurts for KATC. Thus widening the scope of entrepreneurship.
- Teaching techniques that embrace everyone for example the education philosophy in the Don Bosco schools of promoting assistance and close supervision and the use of modern teaching aids such as projectors.
- Stocking of CTSS with considerably new model DUO CORE computers (for the Zambian market) compared to the very old Pentium 4; and incorporation of basic computer skills in catering and tailoring at Marietta CTSS attracts more students as future entrepreneurs.
- Incorporation of renewable energy training in electrical and agricultural courses.
- Innovation of the project and work based training by distance learning at Don Bosco Chingola and online diploma in agroecology and SOA at KATC thus widening horizons in training more future entrepreneurs.
- Training in and the production of bio fertilizers for example Bokashi manure and generating own seeds at KATC and JDF.
- Training and production of teaching materials on agroforestry, bee keeping, and other technics
- KATC networking with colleges of agriculture to introduce SOA in their curriculum. Other networks for all CTTS and RCLP with the industries, government, local political leaders, the donors and the community for student attachments and resource mobilization.

- Knowledge and skills in the use of local resources for example traditional herbs for prevention and treatment of crop and animal diseases and pests using chili, marigold, Neem tree leaves, snake bean pods, tephrosia leaves and other herbs.
- Agricultural technological innovations such as integrated farming, for example sesbania sesban and Moringa plantations integrated with poultry and fish farming and vegetable growing. In this multi-symbiotic relationship, trees provide nutrients for the vegetables, waste or left over vegetables are feed to the chickens, manure from chickens mixed with moringa leaves is made into fish and animal feed. Thus cheaper production costs.
- Resource diversification, to widen sources of income, for example formal employment and small scale business; many business options such as farming and tailoring; diversified agriculture such as integrated farming; catering services integrated with dry local foods packaging, furniture and shelving dish hiring and decoration services.
- Introduction of the production section in the CTSS & RCLP as IGAs such as poultry, fish farming and piggeries; vegetable growing and tailoring shops and restaurants within the schools to sustain the institutions. Unique to Chipapa and Mulele Mwana CTSS are the bakeries.
- Partnership with former students who have ventured into SSE automotive mechanics at Mulele Mwana. These SSE rent space for their auto repair garages from the schools at a minimal fee. The school attaches students to the garages within their premises which expose students to modern automatic vehicle engines not available in the school workshop.
- Microfinance services and village banking at Kasisi Chalice RCLP to enable graduates and beneficiaries access credit facilities for startup capital.

- Infrastructure, machinery and human resource improvements. For example, construction of dormitories for female students at Chipapa and Chikupi to allow interested female students from distant places to access the trainings thus increasing the enrolment levels in the school and spreading the entrepreneur impact throughout the nation.
- Business planning, budgeting, saving and profit estimations, for example trade mathematics in construction used to calculate the needed input and estimate profits.
- The blue print plans, construction patterns, and the building procedures in bricklaying which an ordinary bricklayer without a craft certificate or trade test cannot understand.
- Production of local vegetables like pumpkin leaves (chibwabwa), bean leaves (chimpapila) and black jack (kasokopyo) on larger scale for sale resulting from the shared knowledge and skills between the officers and local farmers.
- In the catering departments new technology innovations include food production recipes and procedures from the ordinary home recipes; food safety management; personal hygiene; customization of the products to suit customer needs.
- Communication skills especially customer care, treating customers with respect, promptly and cheerfully meeting their needs to increase business opportunities.
- The attitudes of hard work, business mind set, commitment, faithfulness, perseverance, efficiency and self-motivation which increase productivity and self-sustainability as one fully utilizes the 8 hours or more of daily work efficiently.
- Management skills such as self-supervision, discipline, public relations, conflict management, and team work.

Exposure to the above technological innovations and dispositions gave the graduates and beneficiaries of CTSS and RCLP competitive advantage, they are the most sought after by

employers. The mere background of being students from CTSS sales one to employers and other stakeholders. Graduates had easy access to employment in various industries and good networking linkages for those who started up SSE. It is the same exposure that helped the graduates to establish and progress in own small scale businesses once they overcame the major challenge of startup capital. Due to lack of capital, most of the graduates first looked for employment that helped them raise startup capital before they ventured into own business.

#### **4.7.2 Desired Technological Innovations Lacking in CTSS & RCLP**

Despite having the necessary equipment, machinery and other transformative change innovations in the CTSS and RCLP systems, the respondents bemoaned lack of the following technological innovations in the institutions that would improve the performance of the institutes and produce more entrepreneurs if implemented.

- Equipment and machinery displayed in the last column of table 5.
- The inclusion of computer skills especially the use of the internet to would have made it easy for students to use related facilities when they were on attachment or employed in hotels and lodges and for research. With computer skills students would learn more from YouTube and other programs on the internet and for research purposes.
- Teaching aids as projectors would make lessons interesting and easy to comprehend. Only three out of the 12 CTSS investigated are offering basic computer skills and could use Power point teaching technics.
- Students in catering longed for the inclusion of both the outdoor and Interior decorations in the curriculum for the CTSS and the graduates to gain competitive advantage by integrating decorative skills with outside catering for such events as weddings and parties.

- Inclusion of detailed lessons on stock control to impart the confidence needed during attachment and improve personal business skills.
- Alternative sources of power, either thermal or diesel powered generators or solar energy in the catering departments to avoid disruptions when ZESCO introduces power load shedding.
- Graduates from the faculty of Design Cutting and Tailoring proposed inclusion of Equipment Maintenance and Repair in the curriculum tailored at repairing of tailoring equipment so that they are able to handle faults on the machines by themselves to improve productivity. SSE in tailoring complained that hired engineers tend to exaggerate and take long to repair machines, thus reducing productivity and profitability.
- Students and managers in the agricultural departments, expressed the need for food processing machinery, to curb food wastage when there is overproduction and the market is flooded with the same products, for example tomatoes.
- Use of remote control to drive certain equipment that are a risky, for example acid plants.
- Use of sensors for one part of the machine to respond to another panel.
- Provision of credit facilities be they monetary or tools for graduating students to help them with startup capital for SSE.
- Need to invite model entrepreneurs to give motivation talks to the students.
- Deliberate policy for the church to include graduate students to work on church projects as helpers for them to gain more experience and raise startup capital for their own businesses. The graduate students expressed disappointment that the church imparts skills in the youths who are however forgotten when the church is carrying out related projects, be it brick

laying, carpentry, wiring and other similar works at the site, instead bigger companies are hired.

- Improved curriculum to include courses, not just topics, in marketing to bridge the gap between the classroom teaching and the reality of the labor market; entrepreneurship and business studies to help students not to focus so much on being employed, instead vision themselves as future great business men and women and employers.
- The need to upgrade some of the CTSS to high levels of learning and certification as diplomas and degrees since trade tests and craft are no longer on high demand. This will also provide continuation in the similar environment for graduate students who desire to upgrade themselves through diplomas to university degrees in a Catholic Technical College or University.

With these and other missing technological innovations in place, students' knowledge and skills would greatly improve and graduates will be more competitive in the both the world of work and SSE. Consequently, high enrolment levels in CTSS due to proper match between the knowledge and skills acquired and the labour market. In addition, the innovations will improve productivity in the production sections resulting into increased market share, profitability and sustainability.

#### **4.8 Impact of the Technological Innovations on Entrepreneurship**

The findings of this study showed that, due to the exposure the graduates and beneficiaries have in the CTSS and RCLP from either the training itself and sometimes through observation and participation in various entrepreneur activities in the institute, graduates and beneficiaries end up developing an entrepreneur mind set. The outstanding entrepreneur attitudes or impacts reported by the responded matches very well with Zulu (2016)'s study of entrepreneurship in relation to

utilization of resources, the establishment of a developed self-sufficient society, and creation of employment opportunities as follows:

#### **4.8.3 Utilization of Local Resources**

- Skills learnt in CTSS and RCLP teaches students to make use of available resources for economic gain instead of wasting them. For example, integrated farming earlier mentioned where every resource on the farm is used profitably; wastes from vegetables are fed to the chickens and pigs and chicken droppings used to make fish and cow feed.
- Students and beneficiaries' creativity in using local resources, for example using cheaper and easily accessible animal or chicken manure to improve soil fertility instead of the costly and harmful chemical fertilizers thus reducing costs and increasing agribusiness productivity.
- Knowledge and skills gained in particular trade skills increase SSE's self-esteem and courage upon seeing own resourcefulness such as ability to construct a house and the creativity involved; taking accurate body measurements for different body structures and producing beautiful embroideries and knitting; graduates becoming their own bosses using one's creativity and investing in own entrepreneur activities.
- Faced with the challenge of securing startup capital for a restaurant, a CTSS graduate (responded 2) saw the opportunity of using a local credit system called "Ichilimba," which does not require collateral and does not attract interest, to access startup capital for a restaurant. This reflects the entrepreneur's attitude to take risks which is embodied in the graduates and beneficiaries-

- Overcoming fear and take the risk to invest in business though one is not very sure they will succeed or not.
- Knowledge and skills in the diversification of sources of income influenced the graduates, who might not have thought of owning their own businesses, to do so in addition to being employed in the relevant industry.
- Adoption of local technologies such as use of local pellet braziers in catering services without being inconvenienced by electrical power load shedding reduces the cost of inputs in a business venture. The brazier is made in such a way that it absorbs a lot of heat and hence very efficient and environmental friendly as it uses a little charcoal or firewood to cook a meal, hence economically sustainable for SSE.
- Innovative team work among members of staff in some schools especially between the teaching staff and the staff in the production section allow for multipurpose hence sustainable use of local resources.
- Short intensive and work based learning has encouraged more youths to think of becoming business entrepreneurs than the usual mindset of getting employed.

#### **4.8.3 Self -Sufficient Society**

- With skills in agriculture most SSE are venturing in agribusiness which enable the community to be self-sufficient in food production.
- Communities are enriched with most of the necessary skills needed for day to day survival provided through the available services offered by former students or beneficiaries such clothes, agricultural services, catering services, carpentry services,

electrification services. Thus graduates contribute to the economic self-sufficiency of the community.

- More youths working and providing for families.
- Through the introduction of the production section, some CTSS and RCLP are becoming less dependent on donor funding and are able to survive on their own for most time.
- The production section supply needed products to the community and enable the community to easily access such products as maize meal, relish such as beef, chicken, pork or vegetables; all are produced locally and are cheaper.
- The director at KATC explained that with all the variety of agricultural products produced at the training center, KATC can comprehensively feed the people in the surrounding villages for a year.
- Well utilized skills for economic gain reduce the youth's dependency on one's nuclear or extended family enhancing human freedom and dignity and eventual ability and space to think well and innovate more.
- Graduates from CTSS who hold leadership positions in the local business have contributed to more diversity in the economy.

#### **4.8.3 Creation of Employment Opportunities**

Technological innovations in CTSS and RCLP encourage the following entrepreneurial activities:

- Making available skilled manpower on the labor market by linking CTSS & RCLP to the industry thereby increasing employment opportunities.
- Skills learnt from the schools allow the trainees to access employment in various industries and abilities to create own business enterprises after raising enough for startup capital.
- Trainees who manage to start their own businesses provide employment to youths in the community and hence reduce unemployment levels in the community and national at large. For example, those SSE running restaurants, carpentry and automotive garages.
- The integration of different school programs and IGAs avails students, opportunity to learn and practice a diversity of skills including those one may not have officially registered for. This increases the student's chances to be employed and offers lot of options to choose from.
- Successful SSE who have been exposed to various innovations from the CTSS inspired other people to be entrepreneurs and employers too. The inspired members of the community follow their dreams and succeed in businesses, creating further employment opportunities for the youth in the same community. These are the innovators and early adopters according to the IDT.
- The CTSS and RCLP are sources of employment to both graduates and other members of the community who are employed as Tutors and general workers in the various departments of the institutes.

- The knowledge and skill of saving and banking the profit gained has helped to sustain the enterprises as one has reserved resources to fall on when business is not doing well or in the event that disruptions that need financial input arises.
- Investing part of the profit back into the business to grow the enterprise. For example, one of the SSE from Bauleni Special Needs School catering department opened a restaurant after working for Pick and Pay supermarket for two years. By now this responded 3, has two restaurants and bars, bought a delivery vehicle and a piece of land and is constructing a house. Responded 3 is also saving for investment in a farm to be producing her own raw materials for the restaurants. As at now responded 3 is an employer of four people on permanent basis and hires others when need arises. Appreciating the help received from a CTSS as a poor woman then, the respondent offers credit services without interest for fellow graduates or other trusted people who wish to venture in SSE and hopes to create a profit making business out of this in the future.
- Another SSE, here referred to as responded 4, from Chipapa School in the catering department has grown business from one restaurant in Lusaka to a second one in Mazabuka. Responded 4 equally sells merchandises such as blankets television sets and carpets imported from Botswana and South Africa, a business that was started by saving profits earned from the outside catering contracts secured with Mulungushi International Conference Centre. This networking started during the attachment experience at the institute while responded 4 was on training at Chipapa.

With the innovations of school attachment, diversity, hard work, excellence with recipes and customer care, responded 4 is now an entrepreneur, landlord and an employer of 5

other young people. The responded hopes to get back to school and learn computer science to manage her business accounts easily. She also wishes to study Antenatal Care, an opportunity she has seen to help her venture into maternity and child clothing business.

#### **4.9 Success and Failure in Sustainable Entrepreneurship.**

As earlier reviewed in the Literature, Greco & De Jong (2017), Hockerts and Wüstenhagen (2010), Pacheco et al. (2010), Shepherd and Patzelt (2011), describe sustainable entrepreneurship as the discovery, creation, and exploitation of entrepreneurial opportunities that contribute to sustainability by generating social and environmental gains for others in society. Therefore, CTSS and RCLP as successful sustainability-driven enterprises must be able to sustain own activities as they contribute to sustainable development of individuals and society at the larger.

##### **4.9.1 Successful Sustainable Entrepreneurship.**

The CTSS and RCLP investigated have been sustainably managed through the years, the oldest being KATC followed by Cheston Youth Centre which have been in existence for 47 and 46 years respectively. All the investigated CTSS have together been training 1,053 vulnerable youths annually, and RCLP reaching out to 2,761 families empowering them for formal employment and/ or entrepreneurship. Without the assistance from these institutions, such community training and empowerment would not have been possible. In response to the fourth question and objective of the study as to the factors contributing to the success or failure of CTSS and RCLP in sustainable entrepreneurship, the respondents particularly managers of these institutions as well as beneficiaries highlighted the following factors:

#### 4.9.2 Factors Contributing to the Success

- **CTSS's Commitment.** Political will on the part of the Catholic Church leadership to ensure that young people especially the vulnerable are well equipped and skilled for a better tomorrow.
- **Donor Funding.** Some of the CTSS have access to donor funding where the students and families are given scholarships for their school fees. For example, Mulele Mwana and Bauleni Special Needs School are funded by government through TAVETA and Chikupi funded by donors mainly from Switzerland. Apart from scholarships for students at Chikupi, the Swedish donors also provide consistency funding for the general management of the school. Chalice, KATC and Salesian Sister's Learning Farm also access donor funding.
- **Accountability.** Institutions that consistently receive funding from both government and other donors have been able to do so because of their accountability as they use donated resources for the intended purpose and faithfully account for it.
- **Income Generating Activities.** Each CTSS and RCLP has incorporated production section in the management system of the various departments, not only for practical experience for the students and beneficiaries but as an innovation in the sustainability of the activities of the institutes. Extra income is raised from the sales of different products including:
  - Farm products such as beef, dairy products, vegetables, poultry, pork and fish.
  - Products from the carpentry workshops, for example furniture.
  - Metal fabrication products such as hospital beds, window frames, metallic gates, garden chairs, and braai stands.

- Foodstuffs from the restaurants and the bakery.
  - Uniforms and other types of clothes, including masks sewn from the tailoring shops.
  - Hiring out school halls and grounds for various events.
- **Quality of Training offered.** The excellent performance of graduates from CTSS in both the formal employment sector and SSE attracts other youths who wish to train in the same skills too; the increased demand for skills training ensure continuity of the training programs in the institutes.
  - **Qualified Instructors and Managers.** The excellent performance of the trainees is attributed to the right qualifications of the lecturers, commitment and efforts of the teaching staff in CTSS which in turn promotes and markets the school sustainably. With the funds from donors, government and those raised from production unit IGAs, the CTSS are able to hire and pay qualified lecturers who in turn offer quality education thus attracting more students. With such reputation enrolment is sustained.
  - **Suitable Environment.** Conducive and practical learning environment for the trainees and beneficiaries. This is achieved through the many innovations earlier outlined in section 4.5. The funds raised from the production section also help in the purchase of training materials and paying affiliation fees to TAVETA, eliminating the possibilities of closure, hence sustaining school activities.
  - All the CTSS and RCLP investigated plough back in the institution by seconding and training the best students as lecturers or managers for the production sections.

- Collaboration between the CTSS and the industry enabling the institutions to offer relevant courses that meet the demand of the market.
- Good marketing strategies of the schools through various modes of the media especially the local Catholic Radio stations, church announcements and distribution of fliers in some schools.

#### 4.9.3 Factors Contributing to the Failure of CTSS.

While the majority of the CTSS are very successful and contributing to the growth of entrepreneurship and social economic development in the communities and the nation at large, the performance of a few others has not been successful. Such CTSS either closed down or are not performing to expectation as management could not sustain the running of these school for various reasons, including the following:

- **Failure to Innovate and Manage Change.** An example is St. Ambrose in Kafue district established in 1990. The school was well equipped with modern machinery at the time and worked very well for some years. Later the school was closed due to management failure to focus on the dynamics of the education sector, hence could not adapt to the changing times. A number of government and private colleges were established which absorbed school leavers and drop outs were phasing out.
- **Lack of Phasing out Strategy.** In addition, St. Ambrose school management did not plan for the phasing out of donor funding so could not be sustained when donors pulled out since most of the students were from vulnerable families and could not pay the minimal school fees. The school had no plan for Income Generating for self-sustainability.
- **Competition.** Later efforts to enroll students who could pay school fees was defeated by the competition from the upcoming professional colleges in the growing city of Lusaka.

- **Poor Management and Lack of Accountability.** An example is St. Francis Xavier CTSS in Kalingalinga. The school closed before 2012 basically due to poor management that included frequent change of top management, and in the interim, the running of the school was left in the hands of unqualified managers. Consequently, lack of accountability and transparency forced the donor to withdraw.
- **Inability by the Students to Pay School Fees.** In the cases of both St Ambrose and St. Francis Xavier schools, the poor youths who were being sponsored by the donors could not pay minimal school fees to sustain school activities since they were used to free education; wrong mindset of the community that the church has to always provide free services. Eventually, the number of students declined drastically and the schools closed. All the equipment and machinery was sold to pay gratuity to the lecturers and other workers.
- **Unqualified Lecturers.** Lack of innovation in training, hence dependence on cheap voluntary unqualified teaching staff together with poor library facilities result into poor quality of teaching and hence declining enrolment levels.
- **Obsolete Machinery.** The challenge posed by failure to replace obsolete machinery due to the high cost of modern machinery, makes teaching and learning less practical than it should be. As such students loose interest and join other colleges especially NOTECH and CBU on the Copperbelt.
- **Lack of Marketing.** CTSS inability to advertise and sell themselves, consequently, unable to reach out to the many youths who desire to study.

- **COVID 19.** The pandemic disrupted a number of programs that take two intakes in a year, instead only one intake was enrolled in 2020 reducing the contribution of CTSS to the number or annual growth of potential entrepreneurs in the community.
- **Policy Issues.** Lack of guidelines and monitoring at both the diocese level and Catholic Secretariat. There seem to be no control from top leadership, CTSS can open and close as situations dictate.
- **Lack of Market Research.** Inability of the CTSS to meet the needs of the community, some of the CTSS decide on the courses to offer which do not match the demands of the community. For example, the community in Chikupi is interested in catering and tailoring which are not offered in the school. Basic and advanced computer skills are generally lacking in most schools meanwhile they are on high demand in the local communities. With restrictions on traveling due to COVID 19, a lot of people in the business fraternity are demanding for computer lessons to help them with on line business transactions.

## CHAPTER FIVE

### DISCUSSION OF FINDINGS

#### 5.1 Introduction

The purpose of the study was to determine the contribution of the Catholic Church to entrepreneur growth in the rural areas and suburban areas where the church is serving the people. The study particularly focused on the role of the CTSS and RCLP as communication channels for the adoption of entrepreneurial activities as they offer skills training services and share knowledge with the local community.

The study examined whether technological innovations in the CTSS and RCLP does contribute to the growth of sustainable entrepreneurship in the surrounding communities. The study examined the means by which CTSS and RCLP are contributing to entrepreneurship in the local community; the socio economic impact these contributions have on the community; how new technological innovations in CTSS and RCLP are promoting small scale entrepreneurship and finally, the factors that are contributing to the success or failure of these institutes in effecting sustainable entrepreneurship both in the institute and the community.

This chapter will therefore analyze each of the areas of concern or research questions by comparing the research empirical findings with the theoretical framework of the innovation diffusion theory and what is earlier stated in the literature review.

#### 5.2 CTSS and RCLP Contribution to Entrepreneurship Growth in Local Community

The Innovation diffusion theory explains how innovations are adopted within the population of potential users using the four elements of innovation, communication channels, time and social systems (Bhattacharjee, 2012). In the case of entrepreneur growth within the local communities

served by the church, CTSS and RCLP are the channels of communication, where students and community members respectively learn and practice entrepreneur skills.

The study confirmed what was earlier reviewed in the literature, that the Church has always taken a practical role not only in religion but social entrepreneurship, political, economic, and social progress (Calderisi, 2013). This is due to the importance the church attaches to the holistic development of the human person. The study confirmed that as in the earlier days of its missionary work in Africa, the Catholic church in Zambia still continues to use its own resources such as mission land, finances, labor and capital, in addition to leadership and management, to create social systems that produce goods and provide services to local communities.

Because of the commitment the Catholic Church has to human development, the church immediately responded to the Zambian Government's education policies of 1977 Educational Reforms on the development of the whole person; the 1990 policies about Educating our Future; and the 2013 policy of social, economic, and technological developments (academic and vocational pathways) (Mwale, 2020). The Catholic Church also reaffirmed the vision of the Jometien 1990 of the rights of both young people and adults to benefit from an education that met their basic learning needs, in the best and fullest sense of the term" (Mwale, 2020, p.2). Thus the church established a number of CTSS and RCLP as means to transfer various trade skills and related entrepreneur skills and knowledge to the Zambian local communities.

This study has confirmed the existence of both the CTSS and RCLP and the different skills that are taught or transferred to the students and community beneficiaries respectively, as reflected in Tables 4.1 and 4.2. In addition, the findings of this study confirms that exposure to the training at CTSS and the transfer of knowledge that take place in RCLP have had positive impact on the entrepreneur mindset of the students and beneficiaries. The training at CTSS, hand on experience

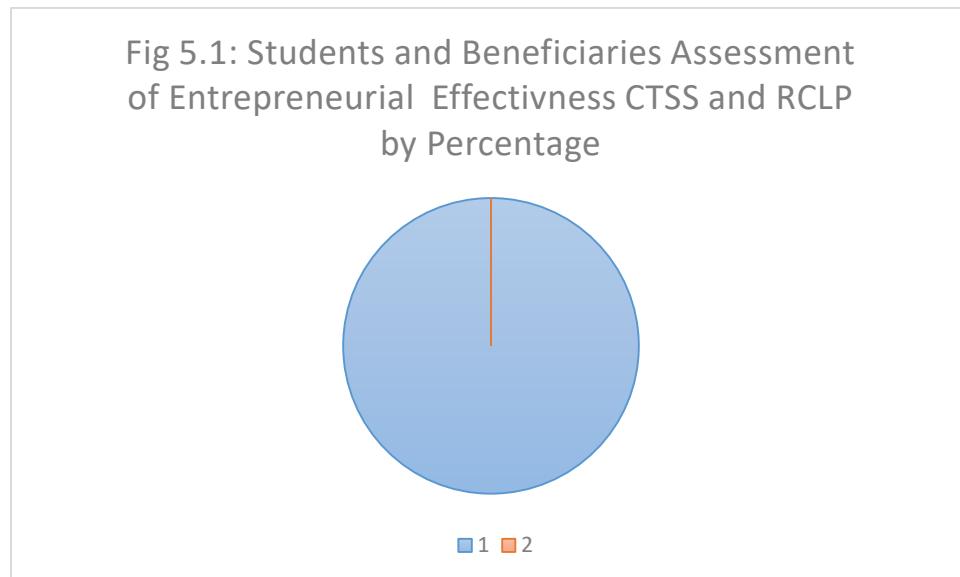
with the tools or machinery, observation and the experience of the entrepreneur activities that goes on in the schools motivated the students to plan towards owning businesses that would sustain them and enable them be employers for other youths.

Unfortunately, most of the CTSS investigated do not have a systematic student follow up record to help trace other former students in the various fields they are engaged in order to precisely determine how many are in SSE and how many are employed, per annual intakes. However, assessment was done based on the students who were interviewed for the study.

The present situation (Fig, 5.4.2), showed that on average, 47.5% of former students are in formal employment and 52.5 % are SSEs, and the remaining 1% are still on the search for either employment or SSE. The result reflects that there are more former students in the SSE sector than in formal employment, even though the initial intention for joining CTSS and RCLP for most (75.1%) of the students was to be in formal employment as reflected in figure Fig 5.4.1. Therefore, one can easily infer that, exposure to the skills training in the CTSS may have influenced the students to venture into SSE and raised the rate of entrepreneur mindset by 23.6%, that's from 28.9% students who initially desired SSE before training to 52.5% after the training.

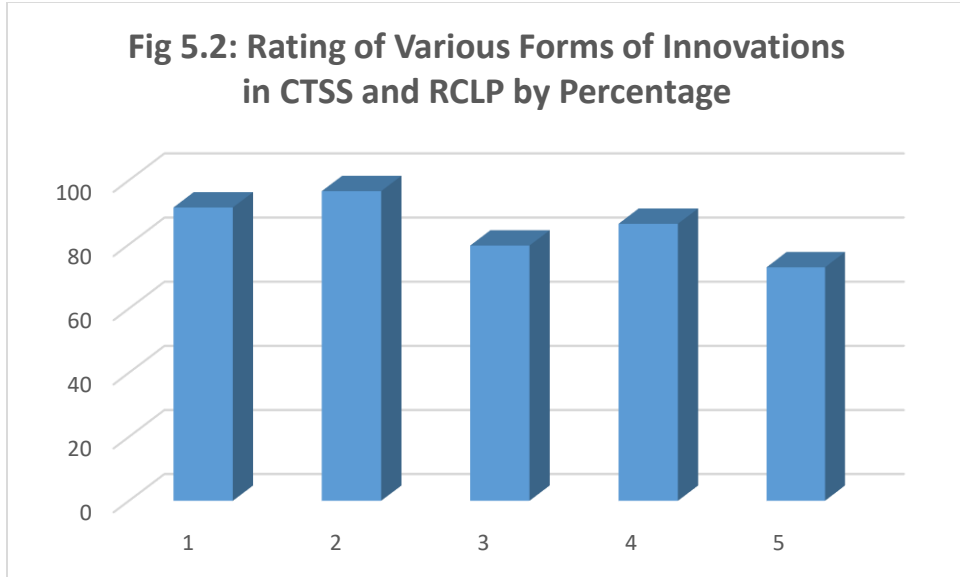
It is important to note that only 10% of the students that complete school annually, soon (less than 2 years), establish themselves as SSEs, the majority do so, five to ten years or more after school. This is attributed to the lack of startup capital, which forces the graduates to first get employment in companies or people's homes to help them raise the capital for establishing their own business ventures. Out of the 31 former students who have managed to create their own SSE, 8 or 25% said they have employed other youths in own SSE businesses.

The delayed entrepreneur mindset or decisions reflected above match well with the Innovation Diffusion Theory which alludes to the fact that diffusion is a slow process and since adopters are not identical, diffusion first starts among few adopters called innovators as in the case of the 28.8% respondents, followed by early adopters represented by the 23.6% who did not initially think of being entrepreneurs as they began the course, however did so with time and more exposure. Then they are the early majority, for example the 47.5 % who are still focused on formal employment but may adopt SSE with time and finally the laggards like the remaining 1% who are not yet settled on any of the options (Bhattacharjee, 2012).

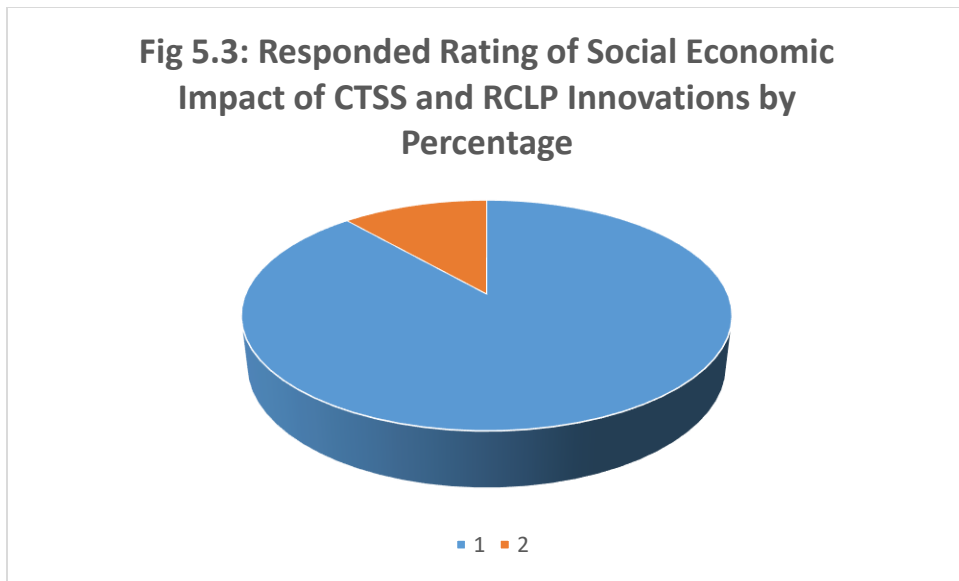


**Key**

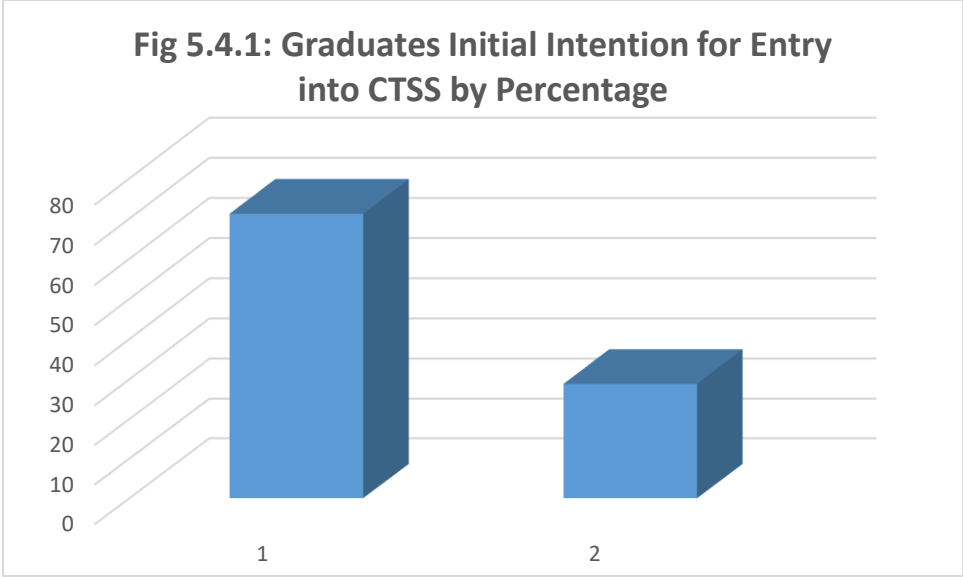
- 1- Highly Effective
- 2- Ineffective



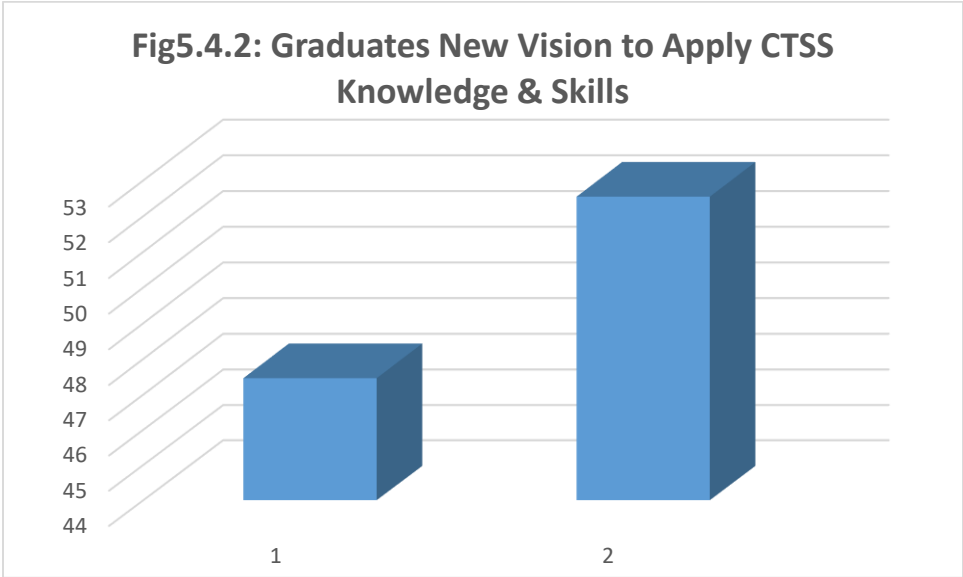
1. Machinery 2. New Knowledge and Ideas 3. Taking advantage of opportunities  
 4. Increased Productivity 5. Integration of Ideas



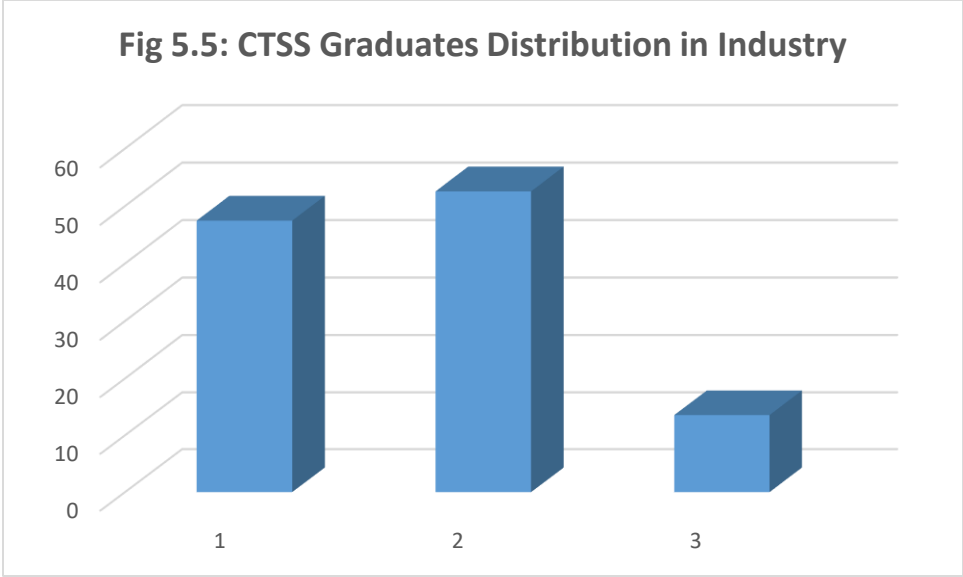
- 1- Significant Social Economic Impact  
 2- Minimal Social Economic Impact



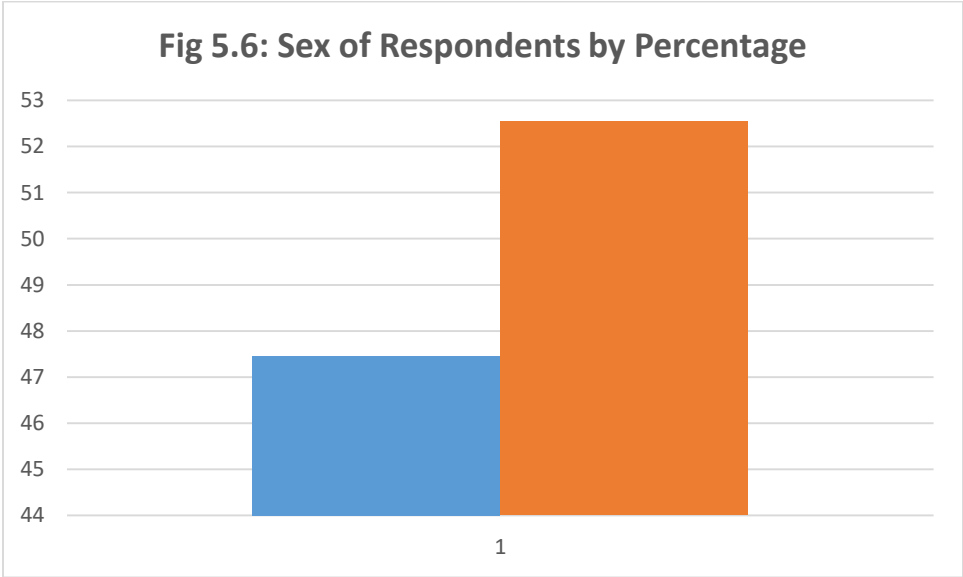
1. To Access to Employment
2. To Establish own SSE



1. To access Employment
2. To Establish Own Business



1. Formal employment
2. Small Scale Business
3. Employers



1. Male
2. Female

The largest number of SSE among the interviewed former students were those skilled in catering, tailoring, carpentry and general agriculture particularly poultry farming. This can be attributed to the high enrollment levels in these fields as reflected in table 4.3. All the CTSS investigated together trained about 311 students in catering, 190 in agriculture, 167 in tailoring, and 89 in carpentry per annum. Another probable reason is the demand associated with these trades, including, food, clothing and shelter respectively, as basic needs of life.

Computer basics also had a lot of candidates, 115, and that is in only 3 CTSS. The course is increasingly on demand especially in the urban areas. More students in computer studies were available for the interviewed for similar reasons (table 4.4). In addition, they were easy to locate because they have permanent sites they operate from. On the contrary, graduates in the other fields like construction, electrical wiring of buildings, move from places to place and home to home in the townships and where difficult to locate.

Based on institutional records (Boyrczka, Czerwinski, Thyriag, & Malama, 2006) and the researcher's earlier knowledge and observation of all the Don Bosco schools, enrolments in these schools in agriculture, carpentry, metal fabrication and computer basics have gone down. According to one of the managers, the reducing numbers in Chingola for example is due to the increasing competition with professional training colleges such as the Copperbelt University (CBU) and Ndola Technical College (NOTECH). These institutions are offering more advanced diploma courses such as Electrical Engineering, Mechanical Engineering, Computer Science and Degree and Diploma Courses in Agriculture Science which attract students. The trade skills are somehow loosing market. The declining enrolments in the rural areas could be due to the same reasons and in addition to administrative and technical reasons such as difficulties to find well qualified personnel that can accept to live in typical rural areas.

It is in view of these challenges that the art of innovation becomes very critical for the CTSS to survive. There is need for the schools to advance their curriculum to suit the demand on the market especially for CTSS in the urban areas. Schools in the rural areas can do the same to raise the education levels from crafts and trade tests to diploma level to attract more students. However, they should keep the more practical teaching methods in order not to lose CTSS ability to empower students with practical skills that make the graduates more relevant entrepreneurs. In addition, CTSS offering agriculture, if not performing well in terms of enrolments could be better change target from the youths to already practicing farmers and adjust the curriculum.

### **5.3 The Social Economic Impact of CTSS and RCLP on the Community**

The data collected on this section was in response to the questions on the socio economic impact that training or empowerment from the CTSS and RCLP have on the individuals, their families, community and nation. The responses from the respondents helped to determine the benefits that can motivate the people to adopt new technological innovations such as entrepreneurship being suggested by the CTSS and RCLP. Since the local communities are experiencing the many benefits as outlined by the respondents in section 4.4, it is most likely that they embrace the new innovation of entrepreneurship.

According Bhattacharjee (2012), the Innovation Diffusion Theory (IDT) states that certain innovation characteristics shape the adopter's decision. These characteristics include relative advantage, compatibility, complexity, trialability and observability. Relative advantage refers to the expected benefits of an innovation relative to prior innovations. Thus the extent to which technological innovations can influence the growth of entrepreneurship in the communities will largely depend on the benefits that the CTSS and RCLP bring to the individual adopters and the community at large.

This study showed that respondents as individuals are benefiting through access to basic and secondary education through sponsorship; being equipped with craft or trade test certificates, the knowledge and skills to access formal employment and or establish own SSE; and personal productivity and independence.

At household level the benefits include improved standards of living, food security, excess income and family unit and shared knowledge. At the community level are the easily accessible social services such as, housing construction, electrical wiring, carpentry, agricultural, catering, and other services provided by the members of the community equipped in the different skills. Other benefits are communal agricultural productivity and food security, health community free from malnutrition and related diseases.

At national level the benefits from CTSS and RCLP programs include employment provision and reduced crime among youths, hence stable and peaceful nation; reduced levels of poverty, transfer of and shared knowledge, environmental sustainability, high DGP, and international recognition of the nation.

The benefits outlined are real tangible benefits that accrue to everyone in the community and the nation at large. In addition to confirmation with the DTI, the findings ascertain to the literature review that social entrepreneurs measure their success by the beneficial impact they have on the world, as well as profit. They use principles from private enterprise, such as business model strategies, revenue diversification, rigorous application of metrics, and investment to achieve economies and efficiencies in driving social change (Santa Clara University, 2019).

The narration below from respondents 5 gives practical evidence of this fact. Due to the economic impact of the COVID 19 pandemic lock down, many employees especially in the hotel

industry were laid off including respondent 5. The respondent 5 who had always been skeptical about investing in own businesses was forced to take risk and venture into own small scale business after being laid off.

Having no permanent source of income anymore the respondent, a CTSS graduate, organized an outside catering services group of four and serviced different events such as workshops, weddings, and kitchen and birthday parties. By the time of the interview, responded 5's catering group had realized more income than they get from full time employment. Due to increased demand for the services, the team engaged two more young people to help the team. The experience and the benefits the group gained for themselves, their families and others helped the team to value and henceforth venture into SSE as per CTSS and RCLP training, advocacy and persuasion.

Thus the findings in this study (figs 5.1 to Fig 5.3) confirm the potential and influence of the Catholic Church to contribute to the growth of entrepreneurship in the local communities and the nation at large because of the benefits guaranteed to individuals, family, community and nation at large. This creates the confidence that though innovation process is slow the technological innovations from CTSS and RCLP including entrepreneurship will be acceptable and grow in the community.

#### **5.5 Technological Innovations in CTSS and Small Scale Entrepreneurship.**

The information gathered from the respondents in this section was meant to examine the levels of technological innovation in the CTSS and RCLP, to determine how innovation is influencing entrepreneurial and eventual economic growth. The information collected was from the questions addressing both the presence, modernity and impact of technological innovation be it technical or

non-technical on SSE entrepreneurship. Technological innovation was considered from both the physical presence of machines and equipment and the non-technical innovations as defined by other innovative ideas, processes and procedures (fig5.2).

According to the literature reviewed, innovation is the specific tool for entrepreneurs, by which they exploit change as an opportunity for a different business or a different service (Baum, 2001). In terms of physical presence of technical machinery and equipment, all the CTSS and RCLP were well equipped (fig 5.2). However, of the 17 institutions investigated 8 or 52% had more of manual than automated machinery and equipment. On the other hand, 9 or 47%, including the four Don Bosco schools, Mulele Mwana, Chikupi KATC, JDF and the Salesian Sister's Valponasca Learning Farm, had a number of modern and some of them, very advanced semi-automated to automated and multipurpose machinery and equipment. These included machinery and equipment in the workshops for carpentry, metal fabrication, power electrical, automotive mechanics and the departments of catering, tailoring and agriculture (table 4.5). The institutions are therefore equipped for transmission of theoretical and practical knowledge to the students within the institutes.

However, Baum (2001), warns that technological innovation is a process of creative destruction in which technologies evolve over time through cycles of long periods of incremental change. He further explains that as new, radical and superior technologies displace old, inferior ones, possibilities can be created for more improvements in organizational performance increasing competence. On the other hand, new technology can become competence-destroying, rendering existing knowhow obsolete and making it possible for newcomers to become technologically superior competitors. Therefore, though respondents at management level explained that students are encouraged to use the manually operated machinery to suit the environment in which they may

have to operate after school, being able to identify occasions of change and acting on them is very cardinal for entrepreneur growth.

Apparently both management and students were encouraged in this way assuming that the speed of innovation today will be the same tomorrow. Practically, the world of innovation and development is moving at a very fast rate than before. Students may find themselves dictated by an absolutely different market than imagined in the next two to five years. A market that may render the students and the institutions that prepared them obsolete.

However, the same fact that the managers and the students feel, slightly outdated equipment, helps students to remain relevant to the local market in a deficiency environment, reflects the relativeness of technological innovation such that what is obsolete in United States is perfectly novel on the Zambian market. Respondent 6, a SSE in food production or catering services verified that using manual or non-electrical equipment while in school has been helpful because latter it was possible to provide outside catering services using braziers and wooden stoves before raising enough capital to buy electrical appliances and during power load shedding. Even baking which was thought to be impossible without an electrical stove was successfully done.

Therefore, the need for innovation that meet the conditions of the local environment for it to be easily adopted by the end user. This confirms the IDT theory's second innovation characteristic that shapes innovation adoption, compatibility, that is, the extent to which the innovation fits with the adopter's work habits, beliefs and values.

There is need, therefore, to bridge the gap between unaffordable advanced machinery and affordable ineffective tools or machinery. Some of the SSE shared how they had to come up with a homemade hedger to ensure the needs of the customers are met on time. This is what is expected

in a Catholic institution as challenged by Gobry (2019) that in order to effectively fulfil the call to serve its neighbors, the Catholic Church should have an innovative mind set. The church's mission is to concretely make the present world a new creation by making things better and effect transformational change at every level.

Revealed in this study is the fact that concerning other forms of innovation that are non-technical, Gorby's expectations of today's Catholic Church that is a center of creativity and inventiveness, particularly in the area of science and technology, a creativity that leads to transformative change has been met (fig 5.2). The study reveals great innovations that are going on in the CTSS and RCLP a few outstanding ones being agricultural innovations such as sustainable organic farming, winter framing for local farmers under Centre pivot irrigation, agroforestry, production of bio fertilizers, herbal based disease and pest control, conservation farming, no traditional burning of trees, drip irrigation, mechanization of farming processes, establishment of factories in the rural areas such as dairy products processing, grain processing, establishment of the same CTSS and RCLP, own seed generation, resource diversification, microfinance and infrastructure development in rural and suburban areas.

On the other hand, the findings have shown that some of the machinery need to be placed and other activities be improved or modified. For example, CTSS must improve the curriculum to include full time courses in both basic and advanced computer skills, marketing and entrepreneurship courses too. Leadership training for managers, change of target populations for trade skills such as agriculture; provision of credit facilities to graduates to facilitate the adoption and growth of entrepreneurship in the communities. Above all to upgrade some of the CTSS to diploma and degree certificates. Noticing and acting on the need to change if the institutes are to remain relevant and effective.

As leading examples some of the CTSS like the Don Bosco schools in Chingola and Mansa realizing the loss of market facing trade skills at school leaver level, have incorporated those trade skills into the High or Secondary School syllabus so that pupils at that level can learn the craft skills which they can use to access informal and formal employment in case they do not proceed to professional training. At the same time the system would enable others to easily advance to professional training in the same fields. Trade skills are very cardinal in the growth of the economy hence cannot be completely abandoned but innovated. As explained by Drucker, (1985) in Swanson, (2017), entrepreneurs need to search for the sources of innovation, the changes and their symptoms that indicate opportunities for successful innovation and be able to apply the principles of successful innovation.

Based on Zulu's (2016) description of entrepreneurship, the technological innovations identified in this study contribute to the growth of entrepreneurship in the local communities in that they help communities in the utilization of local resources, being self-sufficient and in employment creation. The study reflected that these three characteristics of entrepreneurship are observable and practiced in the communities served by the CTSS and RCLP.

In terms of utilization of local resources a few examples include, the ability of the trained farmers to use local animal, plant and other wastes products to produce bio fertilizer; improved number of skilled manpower within the local community provided by indigenous members of the community trained by the CTSS and RCLP, investing in agricultural inputs, improved diet, utilization of local credit facilities such as microfinance and village banking (Chilimba).

Under self-sufficiency, is the competence in agricultural production methods, community food security through improved agricultural productivity. Graduates provide sufficient skills within the community to meet the daily service needs of the community as construction, furnishing, and

electrification of houses, food and nutrition for the sick and aged, tailoring services and others. Individual's ability to provide for their families. Diversification in the sources of income for the youths affords them independence and personal dignity. With the introduction of production section in the CTSS and RCLP, a number of these institutes have become less dependent on donor funding.

Evidence of employment creation in the communities begins with the institutes themselves as they offer employment for lecturers and general workers. Graduates from the CTSS and RCLPs are empowered to access formal or informal employment. CCTS and RCLP avail the labour market with skilled manpower; skills gained from CTSS and RCLP such as entrepreneur skills in business planning, budgeting, saving and credit management enable community members to succeed as SSE and in turn offer employment to the youth reducing crime in the community.

Thus technological innovation has influenced CTSS and RCLP in promoting SSE. The mere background of being students from CTSS sales one to employers and other stakeholders. The same exposure to CTSS and RCLP technological innovations helped the graduates to establish and progress in own small scale businesses. However, the influence of this institutions in the growth of local or SSE would even be more effective if the other missing technological innovations are put in place. In which case the graduates' knowledge and skills would greatly improve and graduates will be more competitive in both the world of work and SSE. Then some of the CTSS that have low enrolments now, will again experience high enrolment levels due to proper match between the trainings and the labour market. In addition, the innovations will improve productivity in the production sections resulting into increased market share, profitability and sustainability.

## **5.5 Success and Failure of CSTT and RCLP in Sustainable Entrepreneurship.**

To create meaningful developments in a community, entrepreneurship has to be sustainable otherwise the individual, community and the nation at large wastes a lot of resources by investing in unsustainable, hence unprofitable projects. Thus the fourth and fifth stages, implementation and confirmation respectively, of the IDT applies at this point where after implementing any innovation the users decide either to continue or discontinue using the innovation. Sustainability is a key factor in the decision to continue using the innovation. A sustainable innovation attracts continued usage while one which is not sustainable does not attract continued usage by the adopters.

Greco & De Jong (2017) describes sustainable entrepreneurship as the discovery, creation, and exploitation of entrepreneurial opportunities that contribute to sustainability by generating social and environmental gains for others in society. In other words, a successful sustainability-driven enterprise must be able to sustain its own activities while contributing to sustainable development of the larger social–ecological system of which it is part.

From the discussions in the previous sections, it is clearly evident that CTSS and RCLP and the communities they serve display these characteristics of being creative and innovative, sustaining own activities while generating benefits for the larger community. The fact that majority of the institutions investigated are still running their programs, some like KATC and Chelstone Youth Centre, for almost five decades, entails that they are sustainable. The presence of income generating activities is equally a profound witness of this sustainability because the institutes are able to raise enough capital that sustain the activities within. Besides there a number of programs for example in agriculture that are aimed at sustaining the environment and the livelihood of the

people, for example SOA, agroforestry, integrated farming and Centre pivot irrigation that ensures communities continue growing their crops all year round using irrigation during the dry periods.

Greco & De Jong (2017) emphasize that to achieve sustainable entrepreneurship, the entrepreneur has to build social networks, team work and dedication. In addition, one requires good managerial experience, funding, acceptance of the new ideas, voluntary and salaried labor, and stakeholder network and market readiness. The results from the respondents show that CTSS and RCLP have very good social networks with government especially through TAVETA, Ministry of Local Government and Housing and Government Trade schools, the donors, the private sector, hotel industry, local communities and other related industries for attachment and other programmes.

As for funding, a few of these institutions for example KATC, Chikupi, Chalice and Salesian Sisters' Valponasca Farm Learning still enjoy reliable support of funding from the donors while the majority rely on the IGAs and sometimes government support, mainly for scholarships through TAVETA. Both hired and salaried labor is available in the institutions and both the managers and teachers are well qualified for their positions. The institutions try to move with the market demand with the exception of technical machinery in some institutions which is obsolete. However, some of the equipment though generally outdated are still good for the Zambian market and the SSE who cannot afford expensive machinery.

On the other hand, however, there is still more to be done to ensure the institutions are more and continually sustainable, for example strengthening and extending the production sections to a larger scale to raise adequate funds to sustain institution and reduce dependence on donor money. There is also need to replace some of the obsolete machines, where it is necessary to do so; to

develop research and development departments and Job Service or Student follow up position in the institutions.

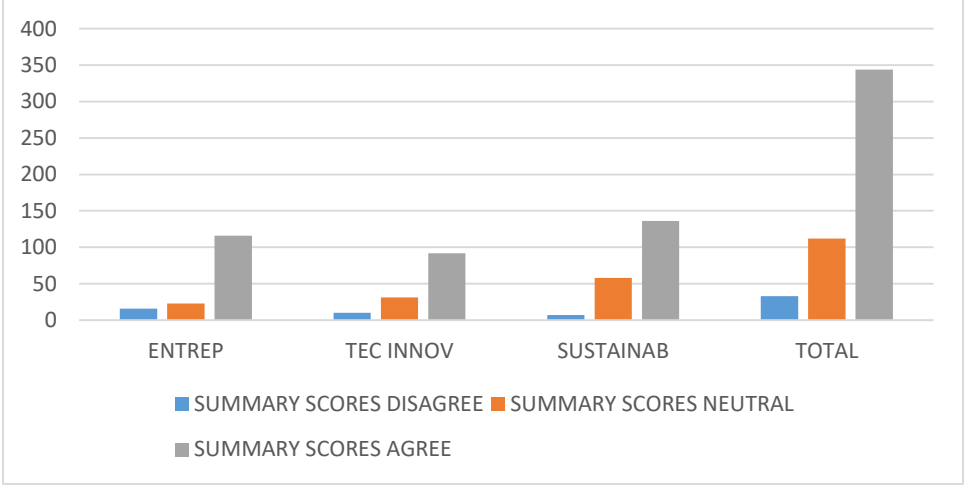
It is important to note that though the research results show that new technological innovations in the CTSS and RCLP greatly contribute to sustainable entrepreneurship growth in the local communities, the growth may not be solely due to technological innovation but other extraneous variables could also play a role, even at a very minimal level. Similarly, lack of entrepreneur growth may not be solely attributed to lack of technological innovation, it could also be due to other negative extraneous variables.

From the research results the following were identified to have also contributed to the growth of sustainable entrepreneurship in the communities; the performance of the graduates once they are employed or as SSE, accountability in the institutes and good marketing strategies of the institute. On the other hand, the following negative extraneous variables may lead to failed sustainable entrepreneurship development; competition from other institutions, lack of accountability, inability by students to pay school fees, poor institutional marketing and the negative socio economic impacts of COVID 19.

However, the role these extraneous variables may play, deep and further examination still reflect that they are also directly or indirectly linked to technological innovation or lack of it. Therefore, it is indeed technological innovation in CTSS and RCLP that largely bring about sustainable entrepreneurship in the local communities. As emphasized by Greco & De Jong (2017) both sustainability and entrepreneurship require innovation, discovery, creation, evaluation, and exploitation of opportunities to create future goods and services consistent with the sustainable development goals.

In addition, the results of the Likert questionnaire for managers, fig 5.7 and the information gathered about the interaction of the three variables, reflect that there is a positive correlation between the independent variable technological innovation and the dependent variables entrepreneurship and a positive correlation between the independent variable technological innovation and the dependent variable sustainability. Where the rates for technological innovation is low the ratings for entrepreneurship and sustainability are also low, similarly high rating for technological innovation dictates high ratings for entrepreneurship and sustainability. Where the smaller number (10) of respondents are disagreeing with the possibility of innovation, the small number of respondents is equally disagreeing with entrepreneurship (16) and sustainability (7) in the community. Similarly, the bigger number of responses agreeing to the presence of innovation (92) in the community, matches with bigger numbers agreeing with the presence of entrepreneurship (116) and innovation (136). The relationship established using Spearman correlation efficiency is a positive correlation of +1. Therefore, one can safely conclude that technological innovation in the CTSS and RCLP contributes to the growth of sustainable entrepreneurship in the local communities. The more investment in technological innovation the greater the growth of sustainable entrepreneurship in the community.

**Figure 5.7 Likert Result to determine positive correlation between Innovation & entrepreneurship and sustainability**



## CHAPTER SIX

### CONCLUSION AND RECOMMENDATIONS

#### 6.1 Conclusion

To determine the contribution of the Catholic Church to entrepreneur growth in the rural areas and suburban areas, the study focused on the role of the CTSS and RCLP as communication channels for the adoption of new innovations related to entrepreneurial activities. The study confirmed that the Catholic Church has always taken interest in social entrepreneurship, political, economic, and social progress, due to the importance the church attaches to the holistic development of the human person.

The findings of this study confirms that exposure to the training at CTSS and the transfer of knowledge that take place in RCLP have had positive impact on the entrepreneur mindset of the students and beneficiaries. The result reflects that there are more graduates from CTSS and RCLP (52. %) in the SSE sector than in formal employment (47.%). About 10% of graduate from CTSS establish themselves as SSEs, usually five to ten years or more after school. Together all the CTSS investigated train about 1053 students in various trade skills like catering, agriculture, tailoring, carpentry, auto mechanics, power electrical, metal fabrication and basic computer skills per annum. On the other hand, RCLP, together reach out to 2160 families and 1500 farmers

The students and beneficiaries from these institutes together with their families, the community and the national at large benefit a lot from the activities and services offered by the CTSS and RCLP. Some of these benefits are at individual level such as access to basic education, craft or trade test certificates, access to formal employment and or own SSE.

At household level the benefits include improved standards of living, food security, excess income and family unit and shared knowledge. At the community are the social services such as, housing construction, electrical wiring, carpentry, agricultural, catering, and other services. At national level the benefits employment creation, reduced levels of poverty, transfer of knowledge, environmental sustainability, high DGP, and international recognition of the nation.

These benefits are real tangible benefits that accrue to everyone in the community and the nation at large. Ability of an institution to provide such benefits, confirm the potential and influence of the Catholic Church to contribute to the growth of entrepreneurship in the local communities and the nation at large. Because of these benefits one is assured that the technological innovations from CTSS and RCLP including entrepreneurship will be acceptable and grow in the community.

In this study technological innovation in CTSS and RCLP was considered from both the physical presence of useful machines and equipment and the non-technical innovations as defined by other innovative ideas, processes and procedures. From the physical presence of technical machinery and equipment, all the CTSS and RCLP are well equipped for transmission of theoretical and practical knowledge to the students within the institutes.

However, the study revealed the presence of machinery and non-technical operation or management systems that are obsolete and no longer efficient in the transfer of entrepreneurial skills to the clients. Therefore, the ability of management to identify occasions of change and acting on them is very cardinal for entrepreneur growth. On the other hand, quotation must be taken to ensure that new technological innovations remain relevant to the local market because technological innovation is relative such that what is obsolete in United States is perfectly novel on the Zambian market. The CTSS and RCLP should therefore, help to bridge the gap between

unaffordable advanced machinery and affordable ineffective tools or machinery in order to meet the needs of the customers timely. Thus fulfilling the church's mission to making things better and effect transformational change at every level.

From this study, it is evident that great innovations are taking place in the CTSS and RCLP, a few outstanding ones being machinery and equipment, agricultural innovations such as sustainable organic farming, establishment of factories at the same CTSS and RCLP, resource diversification, microfinance and infrastructure development in rural and suburban areas.

These innovations are facilitating the transformation of local communities into entrepreneurial communities. The community being entrepreneurial is measured by the ability to utilize local resource for gain, self-sufficiency and employment creation. The study reflected that these three characteristics of entrepreneurship are observable and practiced in the communities served by the CTSS and RCLP.

In terms of utilization of local resources a few examples include, using wastes for the production of bio fertilizer. Under self-sufficiency; accesses to local social services house construction, furnishing, and electrification of houses, food and nutrition and tailoring services. Evidence of employment creation in the communities included graduates' empowered to access formal or informal employment or skills to SSE and investment in agriculture as self-employment process and in turn offer employment to the other.

Thus technological innovation has influenced CTSS and RCLP in promoting SSE. However, the influence of this institutions in the growth SSE would even be more effective if the other missing technological innovations are put in place. In which case the graduates 'will be more competitive, enrolments will improve, the trainings will suit the modern labor market

consequently, productivity, profitability and sustainability. To their credit, it is clearly evident that CTSS and RCLP and the communities they serve are already displaying characteristics of being sustainable, creative and innovative, sustaining own activities and generating benefits for the larger community.

The study therefore shows that new technological innovations in the CTSS and RCLP greatly contribute to sustainable entrepreneurship growth in the local communities. Even though other extraneous variables may play a role, such factors are also directly or indirectly linked to technological innovation or lack of it. The positive correlation between the independent variable technological innovation and the dependent variables entrepreneurship and a positive correlation between the independent variable technological innovation and the dependent variable sustainability, equally ascertain to the influence of technological innovation on sustainable entrepreneurship.

## **6.2 Recommendations for CTSS and RCLP**

The following improvements if put in place can help improve the performance of the CTSS and RCLP so that they are more efficient and effective in the facilitation of the growth of entrepreneurship in the local communities.

- Replacing obsolete machinery to meet the needs of the modern market.
- To improve the curriculum by including full courses in both basic and advanced computer skills, marketing and entrepreneurship.
- Continued Leadership training for managers.
- Change of target populations for trade skills such as agriculture to include already practicing farmers apart from youths without the skill.

- Provision of credit facilities to graduates upon completion in either monetary or simple equipment to facilitate the adoption and growth of entrepreneurship in the communities.
- Above all to upgrade some of the CTSS to diploma and degree certificates.
- Noticing and acting on the need to change if the institutes are to remain relevant and effective.
- Strengthening and extending the production sections to a larger scale to raise adequate funds to sustain institution and reduce dependence on donor funding.
- There is need to establish similar and more institutes in rural provinces where the craft and trade skills are more needed.
- To develop research and development departments and Job Service or Student follow up position in the institutions.

### **6.3 Recommendations for Future Research**

The same research topic can be done on Government Trades Skills Schools.

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**Appendices: Research Tools**

**The University of Zambia**

**Appendix 1: In depth Research Questionnaire for Catholic Trade Skills Schools and Religious Congregations' Livelihood Projects for Managers**

**Topic: Technological Innovations in Catholic Institutions Contribute to Sustainable Entrepreneurship in Zambia.**

Dear Responded,

Kindly and thoroughly respond to this questionnaire to help collect data for the purpose of knowing the extent to which Catholic Trade Skills Schools (CTSS)/ Religious Congregation's Livelihood Projects (RCLP) contribute to entrepreneur growth in the local communities in Zambia.

Identification data

- I. Name of institute/project.....
- II. Names of responded.....
- III. Designation of responded.....
- IV. Email address and mobile number.....
- V. Name of the Religious Congregation/ Diocese managing the institute or project.  
.....
- VI. Location of the Institute/Project by Province/ District/ Village or Township.  
.....
- VII. Focus/of the institute/project.....
- 1. What initially prompted the congregation or local church to establish and develop this institute or project?  
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2. How has the presence and the operations of the institute or project impacted on the growth of entrepreneurship in the:

i. Local community?

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ii. The nation at large?

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3. Success and failures of Catholic institutions and projects

I. What are some of the success stories of your institution or project in empowering and improving the socio-economic status of the local community?

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II. What are the major contributing factors to these success stories?

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III. What failures have you experienced as an institution or project over the past five to ten years in empowering and improving the economic status of the local communities?

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IV. What are the major contributing factors to these failures?

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4. What are some of the innovations and technological advancement employed in the institution or project in the last ten years?

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I. How has the presence of these innovations and technology influenced?

i. The general success of your institute or project in terms of output or productivity?

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ii. The growth of entrepreneurship in the local community?

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iii. Empowering and improving the socio-economic status of the local community?

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iv. Self-sustainability of

a. the institute,

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b. the beneficiaries,

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c. the local community at large?

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II. What other innovations or technological investments would you like to have that are lacking in your institution or project?

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i. How has the lack of these technological innovations contributed to the failures or challenges in the institute or project?

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ii. How would the presence of such technological innovations contribute to:

a. The growth of entrepreneurship in the local community?

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b. Empowering and improving the socio-economic status of the local community?

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c. Self-sustainability of the institute, the beneficiaries and the local community at large?

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iii. How do you hope to overcome the associated challenges today and in the future?

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5. What influence or impact do former students of Catholic Trade Institute (or beneficiaries of entrepreneur initiatives and projects) such as yours have on the business and employment provision in the local community and the Zambian economy today?

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I. In what ways has your project contributed to the change in livelihood of the people or beneficiaries from the following perspectives?

i. Utilization of resources.

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ii. The establishment of a developed self-sufficient society.

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V. Give specific examples of students and other clients of the institute or project that have not been successful in improving their livelihood or achieving their intended goals.

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VI. What are the contributing factors to their failure to achieve intended goals?

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6. How do you intend to ensure that the institution or project is self- sustainable?

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I. What are the likely advantages and disadvantages of your particular method or approach to sustainability?

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II. How do your means to self-sustainability support the charism or mission of your Religious Congregation?

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III. How do your means to self-sustainability support the mission of the Catholic Church in Zambia?

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7. What roles has innovation, institutional quality, and entrepreneurship played in the structural change toward a sustainable future:

I. For the institute?

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II. For the beneficiaries?

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III. For the community at large?

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**The End.**

**Thank You for Your Cooperation and Information Provided**

**Sr. Kabaso Exildah, 0976883222, exildahkabaso@gmail.com**

The University of Zambia

Appendix :2- Likert Questionnaire for Catholic Trade Skills Schools and Religious Congregations’ Livelihood Projects for Mangers

Topic: Technological Innovations in Catholic Institutions Contribute to Sustainable Entrepreneurship in Zambia.

Dear Responded,

Kindly respond to this questionnaire to help collect data for the purpose of knowing the extent to which Catholic Trade Skills Schools (CTSS) and Religious Congregation’s Livelihood Projects (RCLP) contribute to entrepreneur growth in the local communities in Zambia.

1. Identification data

- I. Name of institute/project.....
II. Names of responded.....
III. Designation of responded.....
IV. Email address and mobile number.....
V. Name of the Religious Congregation/ Diocese managing the institute or project. ....
VI. Location of the Institute/Project by Province/ District/ Village or Township. ....
VII. Focus/of the institute/project.....

Mark the appropriate answer choice from the options a to e for the following questions

Would you agree to the following statements about your/the local Catholic Trade Skills School (CTSS) or Religious Congregation Livelihood Project (RCLP) within the local community?

Section A: On Entrepreneurship

- 1. The institute/project has been of benefit to the local community in creating employment opportunities?
a. strongly disagree
b. somehow disagree
c. neutral
d. somewhat agree

- e. strongly agree
2. The institute/project been instrumental is creating or introducing business opportunities in the community?
    - a. strongly disagree
    - b. somehow disagree
    - c. neutral
    - d. somewhat agree
    - e. strongly agree
  3. The institute or project has helped the community to utilize local resources for economic gain and sustainability.
    - a. strongly disagree
    - b. somehow disagree
    - c. neutral
    - d. somewhat agree
    - e. strongly agree
  4. The institute is contributing to the improvement of easy access to social services in the community.
    - a. strongly disagree
    - b. somehow disagree
    - c. neutral
    - d. somewhat agree
    - e. strongly agree
  5. The institute/project has helped the students or direct beneficiaries to develop entrepreneur skills.
    - a. strongly disagree
    - b. somehow disagree
    - c. neutral
    - d. somewhat agree
    - e. strongly agree
  6. The institute/project has contributed to entrepreneur knowledge and skills in the local community.
    - a. strongly disagree
    - b. somehow disagree
    - c. neutral

- d. somewhat agree
  - e. strongly agree
7. The institute has helped members of the community develop other related socioeconomic skills for self-sustainability.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
8. The institute has influenced members of the local community in establishing their own entrepreneur activities?
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
9. The institute or project has been key in introducing new services, products or procedures within the institute.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
10. The institute or project has been key in introducing new services, products or procedures within the community?
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
11. The institute/project has been instrumental in facilitating or providing credit facilities to the students/ direct beneficiaries.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral

- d. somewhat agree
- e. strongly agree

12. The institute has extended the provision of credit facilities to members of the local community as well.

- a. strongly disagree
- b. somehow disagree
- c. neutral
- d. somewhat agree
- e. strongly agree

13. Graduate students/direct beneficiaries from the institute/project are able to develop own ventures and provide employment to others in the community.

- a. strongly disagree
- b. somehow disagree
- c. neutral
- d. somewhat agree
- e. strongly agree

### **Section B: On Technological Innovation**

1. The institute has in the past five years been noticing and experiencing changes and opportunities for innovation.

- a. strongly disagree
- b. somehow disagree
- c. neutral
- d. somewhat agree
- e. strongly agree

2. The institute has effectively responded to these changes and opportunities for social economic gain for both the institution and individual members of the community.

- a. strongly disagree
- b. somehow disagree
- c. neutral
- d. somewhat agree
- e. strongly agree

3. Would you describe the institute as innovative?

- a. strongly disagree
- b. somehow disagree

- c. neutral
  - d. somewhat agree
  - e. strongly agree
4. The rate of Innovation in the institute/project has inspired entrepreneur activities in the members of the surrounding community.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
5. Innovation in the institute/project has brought about economic development in the surrounding community.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
6. The institute/project select, implement and use a technology more efficiently than other competitor institutes/ projects in the area.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
7. The personnel in the institute/ project have the professional knowledge and ability to use tools of production with efficiency necessary for quality training of students/direct beneficiaries.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
8. The personnel in the institute/project have the professional knowledge and ability to use tools of production with efficiency necessary for designing, manufacturing, assembling or producing new products.
- a. strongly disagree

- b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
9. The institute/project could be described as having an integrated process incorporating, management, manufacturing, production, expenditure and marketing functions.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
10. The institute/project has an active research and development department
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
11. In the past five years the institute/project has witnessed new, superior technologies displacing old, inferior ones leading to improved performance.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree

### **Section C: On Sustainability**

1. Innovation has led to self-sustainability in the institute/project.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
2. Innovation in the institute has contributed to the self-sustainability of entrepreneur activities in the community.
- a. strongly disagree
  - b. somehow disagree

- c. neutral
  - d. somewhat agree
  - e. strongly agree
3. Entrepreneurial activities in the institute/project and surrounding community generate social and environmental gains for others in society.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
4. Entrepreneurship in the institute/project and surrounding community are able to sustain own entrepreneurial activities.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
5. Entrepreneurial activities in the institute/project and surrounding community assures long lasting goods, values or services.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
6. Entrepreneurial activities in the institute/project and surrounding community preserve current resources for future generations.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
7. Entrepreneurial activities in the institute/project and surrounding community develops unique solutions for the long run.
- a. strongly disagree
  - b. somehow disagree

- c. neutral
  - d. somewhat agree
  - e. strongly agree
8. Entrepreneurship activities in the institute/project and surrounding community have created positive impact in the society for prosperity and continuity for the past ten years.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
9. Entrepreneurial activities in the institute/project and surrounding community would yield future goods and services that are consistent with the sustainable development goals.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
10. Entrepreneurs in the institute/project and surrounding community possess risk-taking abilities and innovative attitudes.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
11. Entrepreneurs in the institute/project and surrounding community are alert and concerned about ethical matters.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
12. The entrepreneurs in the institute/project and surrounding community have social networks (stakeholder networks), team work and dedication.
- a. strongly disagree
  - b. somehow disagree

- c. neutral
  - d. somewhat agree
  - e. strongly agree
13. Entrepreneurs in the institute/project and surrounding community possess good managerial experience and acceptance of the new ideas.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
14. Entrepreneurs in the institute/project and surrounding community have access to capital funding from venture capitalists or other sources.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
15. Entrepreneurs in the institute/project and surrounding community have the ability to hire voluntary and salaried labor.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
16. Entrepreneurs in the institute/project and surrounding community possess stakeholder network and market readiness.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral
  - d. somewhat agree
  - e. strongly agree
17. Entrepreneurs in the institute/project and surrounding community prepare and make use of good business model designs.
- a. strongly disagree
  - b. somehow disagree
  - c. neutral

- d. somewhat agree
- e. strongly agree

**The End.**

**Thank You for Your Cooperation and Information Provided**

**Sr. Kabaso Exildah, 0976883222, exildahkabaso@gmail.com**

The University of Zambia

Appendix 3: Research Questionnaire for Former Students/ Beneficiaries of CTSS & RCLP

Topic: Technological Innovations in Catholic Institutions Contribute to Sustainable Entrepreneurship in Zambia.

Questionnaire for former students/beneficiaries of Catholic Trades Skills Schools (CTSS)/ Religious Congregation’s Livelihood Projects (RCLP) to assess the entrepreneurial impact of participating and exposure to technical innovations in such institutes.

Dear Responded,

Kindly and thoroughly respond to this questionnaire to help collect data for the purpose of assessing the impact of CTSS/RCLP acquired knowledge and skills on the entrepreneurial involvement of former students and other beneficiaries.

1. Identification data

- VIII. Full Names.....
IX. Tick appropriate sex and age. Sex. M...F... Age 20-35...36-51...52-67...above 68
X. Residential address.....
XI. Email address and Mobile number .....
XII. Current Business/ Employment.....
XIII. Name of the Catholic training institution attended or project participated in.
XIV. Name of the religious Congregation managing the institute or project.
XV. Location: Province/ District/ Village or Township of the institute or project.

2. How does exposure to the training or participation in a Catholic institution or project impacted on your entrepreneur skills today?
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3. What particular technological innovations were you exposed to while in school or on the project?

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4. What has the use of the particular technological innovations in the school or project impacted on your socio economic life today?

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5. How have you used the particular technological innovations to explore entrepreneur opportunities?

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6. What are the implications and impact of the use of the particular technological innovations out of school/project?

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7. In which ways are those technological innovations helping you in your work or business today?

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8. Having being exposed to various technologies in school or in the project, what do you think could have been different without access to that particular technology?

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9. Mention some of the technological innovations you expected and hoped to access which were, however, not available in school or project.

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10. What difference could have these innovations made in your life and work/ entrepreneur activity had you been exposed to that particular technology.

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11. What impact has the entire training or participation at this particular Catholic institution has on you, your family and the community?

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12. What are the challenges of being an entrepreneur in Zambia today?

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13. How do you hope to apply the skills learnt in the particular technological innovations to the entrepreneur activity you are pursuing or likely to pursue in future?

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**The End.**

**Thank You for Your Cooperation and Information Provided**

**Sr. Kabaso Exildah, 0976883222, exildahkabaso@gmail.com**