VOCATIONAL EDUCATION AND TRAINING CURRICULUM RESPONSIVENESS TO THE LEARNING NEEDS OF A1 FARMERS IN POST-2000 ZIMBABWE

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Thesis submitted for the degree of Doctor of Philosophy in the Faculty of Education, University of KwaZulu-Natal

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ABSTRACT

The study explored vocational education and training curriculum responsiveness to the learning needs of smallholder farmers (commonly known as A1 farmers after the Fast Track Land Reform Programme) in Masvingo province of Zimbabwe. The study was a qualitative comparative study of two colleges in Masvingo province. Of the two, College A was government owned and administered while College B was a non-governmental organisation initiative. The study utilised Bhaskar's Critical Realism (CR) as an under-labourer for this qualitative case study. Bhaskar's seven laminations of social phenomenon as well as the position-practice system provided analytical lenses for the study. CR was complemented by Ian Moll's stratified model of curriculum responsiveness the latter of which provided an organising framework. Moll's model works well with both the laminations of reality as well as position-practice system. The critical realist ontology works well in studying complex open systems such as vocational training institutions as was the case in this study. CR works well in studies that seek to understand the often hidden aspects of causality, which cannot be reached at empirically. It also influenced the choice of the comparative case study design that was adopted in the study. Twenty-eight purposively selected participants took part in the study. Data collection was done through multiple methods which included semi-structured interviews, focus group interviews, document analysis and observations. Data were analysed using critical realist modes of inference, abduction and retrodiction as well as thematically through a data matrix.

The study noted that both VET colleges were responsive to the learning needs of A1 farmers but their responsiveness was not uniform. Responsiveness to the learning needs of A1 farmers was mediated by a number of factors or causal mechanisms that were unique to the colleges. CR as applied in the study provided a useful theoretical lens for analysing the causal mechanisms of VET curriculum responsiveness. The reasons for variations were located at the different levels of the VET system as supported by Bhaskar's scalar laminations of reality which linked to Moll's model of curriculum responsiveness. Bhaskar's position- practice system was used to explain the influence of power dynamics on VET curriculum responsiveness at the different levels in which research participants operated. The VET curriculum at both colleges showed greater

inclination towards non-market responsiveness whereby A1 farmers were taught various agriculture related skills to enable their participation in the non-formal market as well as for community development. The thesis suggests that VET curriculum responsiveness to the learning needs of A1 farmers in the two colleges in Masvingo province is a feasible alternative to labour market responsiveness that could be adapted by other rural-based colleges in Zimbabwe and beyond.

Keywords: vocational education and training, curriculum responsiveness, A1 farmers, Fast Track Land Reform Programme, Critical Realism, Zimbabwe

DECLARATION OF OWN WORK

Submitted in fulfillment of the requirements for the degree of
……**PhD**……, in the Graduate Programme in **Education,**
University of KwaZulu-Natal, Pietermaritzburg, South Africa.

I, **Chenjerai Muwaniki**, declare that

1. The research reported in this thesis, except where otherwise indicated, is my original research.
2. This thesis has not been submitted for any degree or examination at any other university.
3. This thesis does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.
4. This thesis does not contain other persons' writing, unless specifically acknowledged as being sourced from other researchers. Where other written sources have been quoted, then:

a. Their words have been re-written but the general information attributed to them has been referenced
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Chenjerai Muwaniki

Prof Volker Wedekind

Supervisor

ETHICAL CLEARANCE CERTIFICATE

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

26 November 2015

Mr Chenjerai Muwaniki 214582335
School of Education
Edgewood Campus

Dear Mr Muwaniki

Protocol reference number: HSS/1264/015D
Project Title: Vocational Education Curriculum responsiveness to the learning needs of A1 Farmers in Post 2000 Zimbabwe

Full Approval – Expedited Application

In response to your application received on 7 September 2015, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol have been granted **FULL APPROVAL.**

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

[redacted]
.....

Dr Shenuka Singh (Chair)
Humanities & Social Sciences Research Ethics Committee

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ABBREVIATIONS

AET	Agriculture Education and Training
AGRITEX	Agricultural Technical and Extension Services
AIDS	Acquired Immune Deficiency Syndrome
AU	African Union
BSAC	British South African Company
CBT	Competency Based Training
CDU	Curriculum Development Unit
CESA	Continental Education Strategy for Africa
CHAT	Cultural Historical Activity Theory
COTVET	Council for Technical and Vocational Education and Training
CR	Critical Realism
CRADU	Curriculum Research and Development Unit
DED	Department of Economic Development
DFID	Department for International Development
EFA	Education for All
ESAP	Economic Structural Adjustment Programme
ESD	Education for Sustainable Development
EU	European Union
FTLRP	Fast Track Land Reform Programme
GDP	Gross Domestic Product

GMB	Grain Marketing Board
GNU	Government of National Unity
GOZ	Government of Zimbabwe
GZU	Great Zimbabwe University
HEXCO	Higher Education Examination Council
HIV	Human Immunodeficiency Virus
HND	Higher National Diploma
ICM	Intended Curriculum Model
IKS	Indigenous Knowledge Systems
IMF	International Monetary Fund
LED	Liechtenstein Development Services
MDC	Movement for Democratic Change
MHESTD	Ministry of Higher Education Science and Technology Development
MPDA	Manpower Planning and Development Act
MYIEE	Ministry of Youth Indegenisation and Economic Empowerment
NC	National Certificate
NAMACO	National Manpower Advisory Council
ND	National Diploma
NGO	Non Governmental Organisation
NORAD	Norwegian Agency for Development Corporation
NQF	National Qualifications Framework

NYS	National Youth Service
OPVs	Open Pollinated Varieties
PVO	Private Voluntary Organisation
SADC	Southern Africa Development Community
SDG	Sustainable Development Goals
SDQA	Standards Development and Quality Assurance
TTLs	Tribal Trust Lands
TVET	Technical and Vocational Education and Training
UKZN	University of KwaZulu Natal
VET	Vocational Education and Training
VTC	Vocational Training Centre
WIL	Work Integrated Learning
ZANU PF	Zimbabwe African National Union Patriotic Front
ZIMCHE	Zimbabwe Council for Higher Education
ZIMDEF	Zimbabwe Manpower Development Fund
ZIMFEP	Zimbabwe Foundation for Education with Production
ZIMPREST	Zimbabwe Programme for Economic and Social Transformation

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CHAPTER ONE: INTRODUCTION TO THE STUDY

1.1 1ntroduction

The study was on vocational education and training (VET) curriculum responsiveness to the learning needs of A1 farmers in the Masvingo Province of post- 2000 Zimbabwe. It focused on the responsiveness of two VET colleges to the learning needs of A1 farmers as well as the factors or causal mechanisms which facilitated or hindered such responsiveness. The implementation of the Fast Track Land Reform Programme (FTLRP) from the year 2000 onwards, saw the emergence of A1 farmers. The 'A1 farmers' was a new category of farmers, the majority of whom were in farming for the first time and lacked relevant knowledge and experience in farming. Because of their huge numbers, A1 farmers' learning needs appeared not to have been effectively met by existing agricultural extension services. Resultantly, some rural based vocational training colleges expanded their agricultural programmes to include some A1 farmers.

The issue of the responsiveness of VET curriculum to non-market related factors has not received adequate research attention in Southern Africa, generally. To date, and to the researcher's knowledge, there has not been any study that has focused on how the VET curriculum has responded to the learning needs of A1 farmers, hence the current study. This opening chapter presents the purpose and background to the study, research questions, delimitation and definition of key terms used in the study. The chapter also gives a general overview of the whole study, highlighting what other chapters cover. At the end, a summary of the chapter is given as well as highlights of all other chapters in this thesis.

1.2 Background to the study

Zimbabwe, like many other countries in the world, has made significant investments in VET. VET is increasingly considered as a solution to a range of national problems (social and political), including but not limited to youth unemployment, stagnating economic growth, gender

inequality and environmental problems (Cavanagh, Greg, & Li, 2013; Doyle & Stiglitz, 2014; McGrath, 2012c; UNESCO, 2016). International literature on VET has over the years been unambiguous on encouraging developing countries to invest in skills development of their populations through VET, especially the out of school youth for formal employment, informal employment and self-employment (McGrath, 2011; UNESCO, 2013c, 2016). Some studies have established the existence of a positive correlation between efficient and effective VET systems and economic development (Akoojee, Gewer, & McGrath, 2005; Alam, 2008). Traditionally, VET was concerned with the world of work and the participation of well-trained personnel in the labour market and thus, more focus was on the responsiveness of VET institutions to the labour market. That approach was regarded as the economic approach (McGrath, 2012b). A more modern approach was to promote access by all people to VET. This approach is known as the equity approach. Equity in education seeks to ensure fairness in the acquisition of knowledge and skills across all demographic groups. VET, according to this approach, is a tool for the social inclusion of the disadvantaged population groups (Hagreaves, 2011; Wheelahan & Moodie, 2016). The approach takes note of demographic issues such as race, education and socio-economic status in order to promote broader access to VET. In the latter approach, VET has a broader scope focusing on, but not limited to, sustainable development and going beyond economic indicators (McGrath, 2012b; McGrath & Powell, 2016; Wallenborn, 2010).

For Wallenborn (2010), a skilled labour force is a necessary ingredient for sustainable development. Investments in VET are therefore seen as approaches to increase competitiveness, reduce poverty through increased productivity and sustainable growth. It is thus envisaged that this study may deepen our understanding of non-market related responsiveness focusing specifically on responsiveness to the FTLRP. Zimbabwe has embarked on land reform programmes since attaining independence in 1980, with the most significant (in terms of coverage, beneficiaries and impact) being the FTLRP, which officially took place in the year 2000 (Mkodzongi, 2013; Scoones et al., 2011; Zikhali, 2008). Given the economic, social and political importance of land ownership and productivity in Zimbabwe, one would expect all other sectors, including education, to respond to the FTLRP.

Currently, there has been little attention in the area of the relationship between the vocational education curriculum and land reform in Zimbabwe, hence this study. In Zimbabwe VET is a critical component for training, especially for out-of-school youths and adults, mostly for self-employment in the ever-growing informal sector. These training centres contribute as Agriculture Education and Training (AET) offering institutions, focusing mostly on learners who do not qualify for more conventional agricultural training programmes in universities and agricultural colleges. A number of studies have been done on vocational education generally, but very few have focused on curriculum responsiveness to anything other than the labour market. This study, by focusing on VET curriculum responsiveness to the learning needs of A1 farmers, falls within the framework of the equity approach explained above (McGrath, 2012b). Responsiveness in higher education is based on the tenets that colleges and universities ought to become functionary organs of society, building bridges between internal and external stakeholders (Silver, 2007). A few studies in Zimbabwe which have focused on the implications of the FTLRP on education dealt with challenges faced by children and teachers in farm schools (Mapuva, 2016; Mutema, 2012; Muyengwa, 2013). Rural based VET colleges have the potential to lead in the transformation of rural areas if they address the needs of the local economy (Katsande, 2016). However, a yawning gap exists on VET curriculum responsiveness to the learning needs of A1 farmers following the FTLRP in Zimbabwe..

1.3 Purpose and focus of the study

The absence of knowledge on how rural based VET colleges have responded to the new farming communities implies that the experiences of VET managers, lecturers and students have remained unknown. A study focusing on that aspect could assist in equipping other VET institutions with strategies to enhance their responsiveness to the needs of local farmer communities, especially the over a hundred thousand A1 farmers. Within Southern Africa in general, there is a lack of research attention on curriculum responsiveness. The few studies which address responsiveness focused more on labour market responsiveness and employability issues (Cosser, McGrath, Badroodien, & Maja, 2003b; Wedekind & Mutereko, 2016). The purpose of this study was, therefore, to explore the VET curriculum responsiveness to learning needs of A1 farmers in post-2000 Zimbabwe, at two vocational training centres (VTCs) in

Masvingo province. Of the two, College A is government- owned and run institution, while College B is a non-governmental organisation initiative.

This was an exploratory study that sought to examine how the VET curriculum has responded to the learning needs of A1 farmers after the year 2000 and why it has been so. The study sought to highlight and compare the causal factors and hindrances to such responsiveness at the colleges under study with a critical realism (CR) as an under-labourer for this qualitative comparative case study. The study also examined how principals, lecturers and learners have experienced the process of curriculum responsiveness. The focus of this study was on A1 farmers because most of the farmers allocated these smallholder plots came from the socially and economically excluded group. These were unlike the A2 farmers who own large commercial farms. A2 farms were accessed mostly by the educated and economically privileged who had the capacity and influence to employ the best farm managers and have unlimited access to agricultural extension services. The A1 farmers, it was envisioned, possessed greater motivation to enroll in VTC's, considering the flexibility in entry requirements. Furthermore, they are also less likely to worry about the low status afforded to VTC's compared to the A2 farmers.

The majority of A1 farms were allocated to the bulk of the landless population whereas the A2 scheme benefited mostly the governing elites comprising ministers, former ministers, high ranking civil servants and those serving or retired from the military (Zamchiya, 2011). The A1 farmers have been commended for having higher levels of productivity contributing more to national food security in comparison to the A2 farmers (Agriculture Reporter, 2014). The former Minister of Lands and Resettlement, Dr Douglas Mombeshora revealed that A1 farmers were the major producers of maize, cotton and lately tobacco (Agriculture Reporter, 2014). The contribution of A1 farmers to agriculture production cannot be over-emphasised. This study deliberately focused on the previously socially excluded A1 farmers. A1 farmers were the majority of land recipients of smallholder plots (most of these people are owning land for the first time). These farmers are generally of lower social and economic status as compared to recipients of the A2 large commercial farms.

1.4 Aim of the study

The study sought to investigate vocational education and training curriculum responsiveness to the learning needs of A1 farmers in the Masvingo Province of Zimbabwe post 2000 and why it has come to be this way.

1.5 Objectives of the study

In order to support the aim, the following objectives were formulated:

- To identify the causal factors that influence learning needs of A1 farmers.
- To explore the ways in which the VET curriculum has responded to the learning needs of A1farmers and how this has come to be this way.
- To highlight the experiences of VET managers, lecturers, and learners regarding responsiveness to the learning needs of A1 farmers.
- To identify the challenges that affect VET curriculum responsiveness to the learning needs of A1 farmers.

1.6 Research questions

This study sought to answer one main research question, namely:

What is the responsiveness of the vocational education and training curriculum to the learning needs of A1 farmers in Masvingo Province of Zimbabwe post 2000and how has this come to be this way?

In order to answer the above main question fully, the following four sub-questions were derived from the main question above:

- What are the causal factors that influence the learning needs of A1 farmers in Masvingo Province?
- How has the VET curriculum responded to the learning needs of A1 farmers in Masvingo Province and why?

- What are the experiences of VET managers, lecturers and learners regarding responsiveness to the learning needs of A1 farmers regarding curriculum responsiveness to the learning needs of A1farmers?
- What are the challenges that affect VET curriculum responsiveness to the learning needs of A1 farmers and why?

1.7 Motivation for the study

Research on curriculum responsiveness in vocational education in Africa is still in its infancy. The few studies on responsiveness on the continent have tended to be limited to South Africa. These studies, however, have tended to focus more on its responsiveness to the labour market (market related responsiveness) that is, how the curriculum meets the needs of employers, employability, technological advancement in the formal sector and entrepreneurship and self-employment in the informal sector (Abefe-Balogun & Nwankpa, 2012; Gamble, 2003; Ogude, Nel, & Oosthuizen, 2005; Terblanche, 2017). This thesis is a departure from earlier studies by its focus on non-market related responsiveness. It pays particular attention to VET curriculum responsiveness to the learning needs of A1 farmers after the land reform programme in post-2000 Zimbabwe.

This comparative case study is intended to provide a window through which issues to do with curriculum responsiveness are perceived on the one hand in a government run VET college, and, on the other, in a non-governmental organisation run college in the context of the contested and often controversial FTLRP in post-2000 Zimbabwe. The relationship between the state and the non-governmental organisations in Zimbabwe is sometimes complementary, while, at other times, it can be one of conflict.

Agriculture is the mainstay of the Zimbabwean economy. It contributes significantly to the country's Gross Domestic Product, employment as well as food security. In terms of employment, agriculture employs over 70% of the labour force in Zimbabwe and contributes 40% of foreign earnings through exports (Matandare, 2017). Despite the important place still occupied by agriculture in the Zimbabwean economy, agricultural productivity has been on the

decline over recent years due to both natural as well as human factors such as climate change. Zimbabwe has lost its 'bread-basket' status and, regrettably, has become the 'begging basket' of Southern Africa, importing maize from other countries such as Malawi and Zambia, something that was not the case before (Mabhena, 2010; Tanga & Mundau, 2014). This could be a result of a number of factors such as climatic change and preference for the farming of cash crops such as tobacco, among others. This thesis, however, argues that lack of skills and misplaced priorities among new farmers could be significant causes of current low productivity.

Beginning the year 2000, Zimbabwe embarked on the FTLRP which altered and redefined the structure of land use in the country by giving land to some people who had little agricultural skills (Scoones et al., 2011). Any progressive education system of a country is expected to be responsive to the needs of any development programme in the country it serves. It is anticipated that this study will give new insights to policy makers and curriculum developers and educators in VET in Zimbabwe and beyond, on the need for a responsive VET curriculum that meets changing societal needs; not just the labour market or the economy. This study, in its recommendations, shall suggest ways in which the VET curriculum could respond to the learning needs of A1 farmers. The question of how responsive an education system is to the social, political and economic changes in the country it is designed for is recognised as critical. This ensures that the knowledge, attitudes and skills taught are relevant to the prevailing situation in the country concerned. Previous studies on VET in Zimbabwe have tended to focus on vocationalising the school curriculum, the role of VET in rural Zimbabwe, the challenges the sector is facing and policy development (Chinyamunzore, 1995; Katsande, 2016; Nherera, 1994; Nziramasanga, 1999; Zengeya, 2007). This thesis, however, focuses on Vocational Education and Training curriculum responsiveness to the learning needs of A1 farmers in post-2000 Zimbabwe.

1.8 Significance of the study

It was hoped that the study would be of significance to a number of stakeholders including the following:

1.8.1 Policy makers

The study may be of significance to policy makers as well as curriculum developers in government ministries such as Higher and Tertiary Education, Science and Technology Development, Youth, Indigenisation and Economic Empowerment and the Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement. The three ministries have been singled out because they run VET programmes in institutions under their jurisdiction. This study was motivated by the thinking that for Zimbabwe to develop economically and socially, national programmes should enjoy the support of the country's education system since education is the vehicle for the transmission of a country's values.

1.8.2 VET providers

The study may also assist rural based VET providers on coming up with programmes which are responsive to the needs of their student population as well as those of the local communities they serve. In line with this argument, the FTLRP is one such programme that needs to be supported by a responsive VET curriculum that is designed to give new farmers the needed knowledge, attitudes and skills for productive and sustainable farming. This is also in line with the World Bank's recommendations on VET policy reforms, which suggest that VET could focus on the training needs of smallholder farmers apart from labour market issues (Bennell et al., 1999). This study would also be relevant in filling the gap by focusing specifically on A1 farmers (a new category of smallholder farmers in Zimbabwe).

1.8.3 Other researchers

It was hoped that this study would increase researchers' interest in studying VET curriculum responsiveness to the needs of local communities in Zimbabwe and beyond. This would in turn contribute to make VET colleges partners in local community development. The findings of the study would also suggest how the VET curriculum should respond and fill a knowledge gap created by the absence of such a study in post-2000 Zimbabwe. From the few studies carried out on the FTLRP and its implications for education and training, there is evidence for the need for

training of new farmers (Mutambara, Jiri, Jiri & Makiwa, 2013).According to Akoojee et al. (2005) the field of VET in Southern Africa has been badly neglected. It is very difficult to find an article in the international journals on the topic, and it is even less likely that it will have been written by a national of the region, based at one of its research institutions. VET in Zimbabwe is a marginalised area in education. The marginalisation is despite the fact that its usefulness in development is widely recognised (Abefe-Balogun & Nwankpa, 2012; Agrawal, 2013; Choi, 2005; McGrath, 2012c). This is also a reflection of the limited detailed empirical research on VET in Africa generally (Akoojee et al., 2005; McGrath, 2012c).

This study, therefore, sought to generate more interest in research on VET, especially focusing on curriculum responsiveness to the learning needs of smallholder farmers in the global south. There have been a number of studies on Zimbabwe's land reform programme, however, most of these studies are polarised into two conflicting themes. On the one hand, we have studies focusing on the positive outcomes of land reform such as Chitsike (2003); Mbereko (2010); (Moyo, 2011); Scoones et al. (2011) and Zikhali (2008). On the other hand, there are studies focusing on the negative outcomes of land reform programme (Mabhena, 2010; Masaka, 2011; Richardson, 2004; Zamchiya, 2011). This polarisation continues in academic circles and does not seem to be helping the nation look beyond the FTLRP. This has prompted this study, recognising the polarisation and the choice to ignore such and focus on how the VET sector has responded to the FTLRP.

1.8.4 A1 Farmers

Most of the A1 farmers have remained without the necessary knowledge and skills for agricultural production, the majority becoming 'cell phone farmers' who are largely dependent on government for inputs season after season. 'Cellphone farmers' is a metaphor that gained prominence after the FTLRP in Zimbabwe to refer to absentee farmers who use the 'cell phone' to supervise their farm workers resident at their farms. In some cases, cell phone farmers preside over underutilised land. Such named farmers exist only in name but in reality do not engage in any meaningful farming (Scoones et al., 2011). According to Matondi (2012, p. 12) because of the FTLRP, "there is need to examine learning platforms that offer for example, education and

mentoring, farming skills development, agriculture extension and information in order to induce desirable outcomes in the economy". For desirable results to be achieved, training and technology must be reconsidered and adjusted in line with the changes brought about by land reform (Mutambara et al, 2013). The study would encourage educational institutions to be more responsive to the learning needs of A1 farmers.

1.8.5 Contribution to knowledge

This study sought to add to the body of literature on the need for responsive education curriculum to the social and economic needs of communities. There has not been much research on how institutions have responded to the FTLRP programme, post 2000. Of note, however, is a study byMutambara et.al (2013) on agricultural training post land reform in Zimbabwe that focuses on emerging issues and implications. The major drawback of the study is that it was mostly a desktop study and it relied heavily on secondary data sources. Despite its methodological shortcomings, however, the study raised key issues on the FTLRP implications for training and established a need for curriculum review in the sector. The FTLRP expanded smallholder agriculture, creating a higher demand for extension services and education, changed the typology of farmers and increased the need for entrepreneurship education (Mutambara et.al, 2013).

Studies on the relationship between the state and non-governmental organisations have established the existence of both cooperative and conflicting relations. Chimanikire (2000) notes that relations between NGOs and the state are both of cooperation and conflict. In some countries NGOs are viewed as anti- government organisations which seek to frustrate efforts by the post-colonial governments (Chimanikire (2000). The current study will also provide insights into how, on the one hand, a government VET training centre, and, on the other hand, a non-governmental centre respond to a government driven initiative, that is, the FTLRP.

1.9 Delimitation of the study

The study was limited to Masvingo Province of Zimbabwe. The choice of Masvingo Province in a study related to land reform is befitting because in the province, about 28% of the total land area was distributed during the FTLRP (Scoones et al., 2011). The biggest portion of this land was allocated to A1 farmers. The study, therefore, focused on vocational education and training curriculum responsiveness to the learning needs of A1 farmers. The study was confined to two vocational training centres situated in rural areas in Masvingo province, namely College A in Masvingo District and College B in Mwenezi District. These two institutions were purposively selected to be part of this study since College A is a government operated centre while College B is run by an NGO and because both colleges offer agriculture-related courses, apart from other diverse courses. Due to the focus of the study on agriculture related issues, not all programmes offered in these two colleges were included.

The study focused on agriculture as a discipline. This boundary also meant that not all lecturers and students participated in the study. Participation was only meant for lecturers and learners in agriculture. The choice of the two different training colleges was motivated by the assumption that there is a possibility for different forms of responsiveness to the FTLRP. The study looks at what learning needs A1 farmers have and the experiences of vocational education training centre principals, lecturers and learners on curriculum responsiveness. This was done in order to highlight and compare the factors or conditions that contribute to the responsiveness to the learning needs of A1 farmers at the centres under study. The findings of this study specifically refer to the particular centres under study, but may inform policy and practice in other settings.

1.10 Limitations of the study

In carrying out the study I encountered a number of limitations. However, I employed a number of strategies to address the limitations for the study to succeed. Selection of the two centres left out a number of potential sites that could be included in the study. By the time of the study, Masvingo Province had a total of twenty-six registered VET centres. Though this may appear as a limitation, it may not affect the credibility of the study in this qualitative research. The nature

of a PhD study is such that it is difficult to undertake without other sources of income. The researcher, therefore, notes that financial resources available for research were a major limitation, especially in the data collection phase of the study.

Mentioning the FTLRP in Zimbabwe is still a sensitive issue for most people. This study was thus affected by attitudinal barriers held by some of the research participants. This was made clear to the researcher because most participants refused to be video and audio recorded during data collection. I had hoped to collect rich data through videos and audio recordings but the fear exhibited by participants could have possibly reduced the quality of responses I received. I reassured all the participants in this study that interviews would be for educational purposes only and that confidentiality and anonymity would be maintained as required by the UKZN ethics clearance. To address this problem, the interviews were recorded through note taking by the researcher. To make sure I got reliable information from respondents, I carried out member checks to ensure that I got reliable data.

The practical challenges I encountered in carrying out this study affected the study to a limited extent. The study was carried out at two vocational training centres located some 180 kilometres from each other. This posed logistical challenges related to data collection. In order to circumvent this problem, I had to collect data first from the furthest training centre from my place of residence, in Masvingo city, and later collect from the closest centre, about thirty kilometres out of the city. Travel distance and difficulties meant that data collection was sometimes delayed. The practical demands of farming, particularly during the rainy season, meant that sometimes A1 farmers participating in the study were unable to fit flexibly into the interviewer's travelling programme.

1.11 Researcher positionality

The issue of researcher positionality is important, especially in qualitative studies. It is one issue that determines the credibility of studies (Bourke, 2014; Moore, 2012; Unluer, 2012). According to Bourke (2014) positionality represents a space in which objectivism and subjectivism meet. A researcher's position can affect one's access to the field and can shape the nature of the

researcher and the researched relationship. This, in turn, may determine the type of information the researched may be willing to share (Berger, 2015).

Researchers are expected to declare their positionality in relation to the study they are undertaking for a number of reasons. There are a number of positions a researcher may have, such as an insider or outsider position and these may have implications for the study one is undertaking. The aspect of researcher positionality emanates from the view that research is a process and not a product. This view basically means that there is a lot of interaction between the researcher and the participants and the identities of both have an influence on the process (Bourke, 2014). Researchers ought to reflect and be self-conscious on their positionality for it influences the whole research process.

In this study I researched VET curriculum responsiveness to the learning needs of A1 farmers. The study sites were two vocational training centres in Masvingo Province, neither of which I was part of in any way. My relationship with College A was that it is situated in a farming area where I also operate as a part-time farmer, not in the same category as the A1 farmers under study. However, this link would also mean that I have insider knowledge of some of the dynamics at the centre that could potentially influence my objectivity or lack of it. In view of this, I was careful not to let my prior knowledge of the institution influence my position as a researcher.

I conducted this study more as an outsider since I do not have 'membership' in the social groups under study (Bourke, 2014; Moore, 2012). The researcher, being a lecturer at the biggest university in the province occupied a position of respect from the research participants. The issue of power dynamics cannot be ignored in a situation in which the researcher interacted with lecturers and students from the vocational training centres. I realised that participants in the study might feel 'obligated' to participate in the study prompted me to make it clear that the participants were free to choose whether or not to participate.

1.12 Definition of terms

In order to avoid confusion in the interpretation of terms, the following key words are defined as they will be used in this particular study.

1.12.1. Vocational Education and Training

There are many definitions of the concept Vocational Education and Training (Billet, 2011). The term VET is used broadly mainly in European countries, whereas UNESCO prefers to use Technical and Vocational Education and Training (EuropeAid, 2014). Vocational Education and Training (VET), Technical Vocational Education and Training (TVET) and Further Education and Training (FET) are terms often used interchangeably to refer to education mostly focused on youths for acquisition of practical skills, attitudes, understanding and also knowledge relating to occupations in various sectors of economic and social life (UNESCO, 2013a) . In this study, VET is taken to mean skills training for out of school youth and young adults in vocational training centres registered by the Ministry of Higher and Tertiary Education in Zimbabwe. These could be government, non-governmental or private centres. Vocational education refers to skills-based programmes which are designed for skills acquisition in schools and colleges (Okoye & Arimonu, 2016). Vocational education programmes focus on specific vocations for entry into a defined workplace.

1.12.2 Agriculture Education and Training

According to the United States Agency for International Development (USAID (2011) the term Agricultural Education and Training (AET) covers a wide range of mostly public sector education and training programmes provided to those who work in, and benefit from, agriculture and rural development activities. AET is broad in scope and is inclusive of activities such as undergraduate and postgraduate degrees in agriculture, diploma qualifications by colleges of agriculture and certificates and sometimes diplomas by VTCs.

Agricultural training, often delivered in training centres or training institutes is offered to public sector employees as in-service programmes. It differs from agricultural extension in that while AET offers in-service formal training (in training centres) to farmers and those interested in working in agricultural research; agriculture extension is mostly non-formal and acts as a link between the farmer and technology. Agricultural extension, therefore, seeks to complete efforts by AET. The two, however, are closely linked in that extension operatives are a product of AET institutions, in most cases colleges of agriculture.

1.12.3 Curriculum

Many educators throughout history have tried to define the term 'curriculum', with different levels of success. As such 'curriculum' means different things to different people. Defining the concept curriculum has taxed many an educator and is often a political phenomenon (Hoadley & Jansen, 2010; Jansen, 1990). Fraser and Bosanquet (2006) define curriculum as the interrelated totality of aims, learning content, evaluation procedures, teaching and learning activities, opportunities and experiences which guide and implement didactic activities in a planned manner. Another definition by Shizha and Kariwo (2011) maintains that curriculum involves a set of norms, knowledge and skills which society requires for its continuity and which the young generation has to learn in order to be acceptable and active members of society. Curriculum refers to what students should learn, within a framework of goals, objectives, content and pedagogy. According toParsons and Beauchamp (2012), concern with curriculum occurs at different levels starting with the international level (supra), national levels (macro), institutional levels (meso), classroom (micro) and student/ individual level.

This study used the Intended Curriculum Model (ICM) used in general education as used by (Kilpatrick & Johns, 2003). The ICM also operates in a similar manner with the model presented by Parsons and Beauchamp that describes layers of curriculum. At the highest point there is the system level where we have the intended curriculum. At this system level are general educational objectives which encompass what learners are expected to know and do (Kilpatrick & Johns, 2003). The second level is the assessed curriculum that represents what is tested in examinations. This level is smaller than the intended curriculum because it is not practical to test

learners on every aspect in the intended curriculum. The third stage involves teachers coming up with the planned curriculum in their attempt to fulfill requirements of the intended curriculum. It has been established by a number of studies that teachers concentrate on areas they are comfortable to teach and may leave out those in which they lack subject matter knowledge (Kilpatrick & Johns, 2003). Because of this, the planned curriculum is not always the enacted curriculum. What is taught in the classroom is the enacted curriculum and this is the way in which learners can access the curriculum. The final stage is at the level of learners where they engage with the enacted curriculum for learning to occur.

1.12.4 Curriculum responsiveness

The concept of responsiveness when related to living organisms is seen as a prerequisite for survival. According to Ogude et al. (2005) responsiveness is behavioural change when incited by a stimulus. They further note that adaptation to changes in environmental conditions means that 'learning' is an ecological prerequisite of survival. In the same manner, responsiveness can be applied to social structures and other organisations that need to adapt to changes in their macro and micro environment for them to continue to survive. This includes higher education institutions such as universities and VET colleges. The origin of the concept of responsiveness is linked to systems thinking and has strong relations with behaviourist psychology (Holweg, 2005; Scheerens, Luyten, & van Ravens, 2011).

For Moll (2004), curriculum responsiveness suggests the possibility of judging the effectiveness of education programmes to meet the needs of a transforming society and the learner. Moll advocates for a broader view of responsiveness to include labour market responsiveness, socio-cultural responsiveness, broader economic responsiveness and responsiveness to government agendas. Education curriculum needs to respond at government policy level, teaching context, local community and students (Parsons & Beauchamp, 2012). A responsive curriculum involves the ability to change the content of what is learnt at policy level and also in the classroom. As applied to this study, there is need to see how the agricultural VET curriculum in the two colleges under study responded over the years to the learning needs of A1 farmers as well as to suggest alternative ways of responsiveness.

1.12.5 Fast Track Land Reform Programme (FTLRP)

The FTLRP refers to the accelerated land reform programme which was sparked by land occupations in Zimbabwe from around the year 2000 onwards. It involved forced and often violent removals of thousands of former white farmers at the instigation of Zimbabwe's War Veterans (Cliffe, Alexander, Cousins, & Gaidzanwa, 2011).

1.12.6 A1 Farmers

Under the FTLRP, Zimbabwe's Ministry of Lands categorised models of resettlement into two main categories which are the 'A1' and 'A2' models. The A1 model promoted smallholder farmers who are referred to as 'A1 farmers' in this study, while the A2 model was meant for more middle to large scale farmers referred to as 'A2 farmers' (Chavhunduka, 2016) . The latter are not part of this current study. The A1 farmers engage in smallholder production on either small-scale independent farms of, on average, twenty hectares, or in villagised arrangements with shared grazing and clustered homes (Matsa, 2011; Muyengwa, 2013; Njaya & Mazuru, 2014; Scoones et al., 2011). Villagised arrangements have land sizes of, on average, five hectares, and have communal grazing of about twelve hectares. The majority of A1 farmers were former peasants from the overcrowded communal areas and who were mostly of low socio-economic status and often excluded from education.

1.13 Organisation of the thesis

The study was organised into eight chapters as follows:

1.13.1 Chapter One: Introduction to the study

Chapter One introduces the study on vocational education curriculum responsiveness to the learning needs of A1 farmers in Zimbabwe. The chapter presents the purpose of the study, background to the study, objectives and research questions of the study. The chapter further

presents the motivation, significance and delimitations of the study. Finally, it presents the limitations, definition of key terms and organisation of the thesis.

1.13.2 Chapter Two: The study context

Chapter Two presents the study context. It starts by briefly explaining the socio-political and economic background of Zimbabwe and Masvingo province in particular. The agro-ecological zones were also presented with special emphasis on the impact of climate change on agriculture production processes in Masvingo Province. Another aspect looked at in this chapter was the provision of general and vocational education in pre and post-independence Zimbabwe. The chapter ends by explaining the emergence of A1 farmers as a result of the FTLRP as well as the relationship between NGOs and the State in post-independence Zimbabwe.

1.13.3 Chapter Three: Theoretical Framework

The chapter presents the theoretical framework that informs the study. The study is anchored on Critical Realism (CR) as the overarching theoretical framework. CR, as its name suggests, is a realist philosophy, which argues that there is a real world out there that is intransitive in that it exists independent of the researcher's knowledge of it.CR facilitates an understanding of the causal mechanisms of a phenomenon, in this case, curriculum responsiveness. Bhaskar (2010)'s laminations of social phenomena as well as the position-practice system provided the analytic lenses. To complement CR, the researcher also used Ian Moll's model of curriculum responsiveness as an organising framework for the study. The application of CR in studying social structures, and in particular educational institutions, will also be supported from previous studies. The final sections of the chapter discuss the origins and applicability of Moll's model to education as well as its relevance to this study.

1.13.4 Chapter Four: Literature Review

Chapter Four presents the literature review. The chapter is divided into two sections for ease of management. Section A covers current debates in vocational education and training while

Section B covers Agricultural Education and Training in Zimbabwe. The chapter covers the major international and local debates in vocational education and training such as vocational education for productivity and employability (market responsiveness) and non-market responsiveness. The debates on responsiveness are also covered in this chapter.

1.13.5 Chapter Five: Research design and methodology

Chapter Five presents the research design and methodology for the study. This chapter was influenced to a great extent by CR which was used to under-labour for this qualitative comparative case study. It includes the research approach, selection of study sites, comparative case study design, data collection instruments, data analysis and ethical considerations for the study. All the above elements of research methodology sought to apply elements drawn from critical realism.

1.13.6 Chapter Six: The Colleges Responses to A1 farmers learning needs

Chapter Six presents and discusses findings on the two colleges' responses to the learning needs of A1 farmers using the inductive analysis explained in Chapter Five. The chapter offers a rich description of what both Colleges are doing as they respond to the learning needs of A1 farmers. This was done on a college-by-college basis to preserve the individuality of the cases.

1.13.7 Chapter Seven: Curriculum responsiveness through the eyes of VET managers, lecturers and learners.

The first section addresses the experiences of Ministry officials, principals, lecturers and students on curriculum responsiveness to the learning needs of A1 farmers. The second section addresses the challenges to VET curriculum responsiveness from the perspectives of these stakeholders.

1.13.8 Chapter Eight: Study synthesis

Chapter Eight is the final chapter for this study. It presents the summary, conclusions and recommendations of the study based on the research findings. The chapter also looks at the implications of these conclusions on VET policy and practice in the Masvingo province of Zimbabwe. Using critical realist mode of retrodictive inference, the causal mechanisms influencing curriculum responsiveness in VET can be generalised to other contexts in Zimbabwe after testing their applicability in these contexts. Generalisations in CR are at the level of mechanisms having isolated specific ones in a study and then assess their presence or absence in another context.

1.14 Summary

This chapter has presented the background to the study, rationale for the study, key research questions, limitations and delimitation of the study. It justified the need for a study on vocational education curriculum responsiveness to the learning needs of A1 farmers in post-2000 Zimbabwe. The study could inform policy on how VTC's could respond to the learning needs of 'the new farmers', most of whom are first time landowners. The next chapter presents the study context.

CHAPTER TWO: THE STUDY CONTEXT

2.1 Introduction

The previous chapter provided the introduction, background and rationale for the study. It also presented the key research questions this study seeks to answer. This current chapter seeks to discuss the historical context in which the study took place. The chapter is divided into two sections. The first section focuses on the study area. It covers the socio-economic and political history of the country, Zimbabwe. The context of the FTLRP is also explained in relation to the emergence of A1 farmers and their need for training. Special attention is given to Masvingo province, particularly the agro-ecological classification as well as agricultural history and production processes. The study sites are also presented, which are, College A situated in Masvingo District, and College B situated in Mwenezi District. The second section gives a historical account of the provision of VET in pre-colonial, colonial and post-colonial Zimbabwe. It also presents the role of NGOs in VET and the relationships between the State and NGOs in Zimbabwe. Clarifying the setting in which the study takes place assists in understanding the context in which vocational education is provided in the centres under study.

2.2 The study area: Zimbabwe

Zimbabwe is a landlocked country, situated in the heart of Southern Africa, covering an area of 390 757 square kilometres (Zawe, 2006). The country got its name from the Great Zimbabwe monuments in Masvingo province, derived from Shona '*Dzimbadzemabwe*', meaning house of stones. It was previously known as Southern Rhodesia before attaining political independence from the British in 1980 (Mushimbo, 2005; Thondhlana, 2018). Zimbabwe shares its borders with Zambia to the north, South Africa to the south, Mozambique to the east and Botswana to the west (Zimbabwe National Statistics Agency, 2015). The country is divided into eight administrative provinces which are Masvingo, Midlands, Matebeleland South, Matebeleland North, Mashonaland East, Mashonaland West, Mashonaland Central and Manicaland (Katsande, 2016). The country has a wealth of natural resources including minerals and rich soils suitable for various types of agriculture including crop production, horticulture and animal husbandry

(Munetsi, 1996). The current population of Zimbabwe is estimated to be above 13 million of which about 70% live in rural areas (Zimbabwe National Statistics Agency, 2015). The natives of Zimbabwe are Black Africans, the majority of whom speak Shona and Ndebele. Both the Shona and Ndebele people have long histories of agriculture and were tied to the land before colonisation by the British, from 1890 to 1980.

The colonisation of Zimbabwe was led by the British South Africa Company (BSAC), a company owned by Cecil John Rhodes and, under colonial rule, the country became known as Southern Rhodesia (Needman, Mashingaidze, & Bhebhe, 1974).The occupation of Zimbabwe was motivated by the search for mineral resources north of the Limpopo River, following the discovery of massive mineral resources in South Africa. However, it was later discovered that though the country had mineral deposits they were not of the same quantity as those discovered in South Africa. This led to a review of expectations and a greater focus on agriculture since the country had good soils and climate (Mlambo, 2014).

Successive Rhodesian governments institutionalised racial discrimination through policies that gave different rights to blacks and whites, especially in land ownership. The policies were skewed in favour of whites, regarding blacks as second class citizens in all aspects of the economy as well as education, land issues and agricultural production and marketing (Stoneman, 1981). This resulted in successive conflicts over land between blacks and white European settlers. The most significant being the First and Second Chimurenga (or war of liberation), the latter of which culminated in the Lancaster House Agreement and independence (Mlambo, 2014).

Since the ushering in of independence in 1980, the new black government instituted several reforms to redress the racial inequalities inherited from the past minority government. These included the introduction of education for all (EFA) and the improvement of access to education through the construction of schools, universities, agricultural colleges, technical colleges and vocational training colleges (Alam, Hoque, Khalifa, Siraj, & Ghani, 2009). All these institutions were aimed at imparting knowledge, attitudes and skills for development. Apart from education, land reform and resettlement have been of great significance on Zimbabwe's development

agenda from the outset. To that end, the government embarked on a number of land reform programmes upon the attainment of independence.

The first phase of resettlement started in 1980, aimed at distributing 8,3 million hectares to 162 000 families. By 1997, it had managed to distribute 3,5 million hectares to 71000 families, far below its intended target (Chiremba & Masters, 2003). The challenge faced by this programme was that it was market-based. It had been designed by agricultural technocrats of the old Rhodesian institutions; a lot of rules and regulations were put in place which stipulated that the sale of land was governed by the willing seller-willing buyer principle (Dekker & Kinsey, 2011).In terms of coverage, the willing seller-willing buyer model did not reach adequate numbers of the Zimbabwean population and failed to meet the targets of land distribution. The government introduced models of resettlement, based on the agro-ecological regions. The first phase of resettlement made the need for training evident, especially with the increased demand for literacy by the farmers. Mutambara et al (2013) concur that there was an increased demand for extension workers who were now expected to extend their services to the rural communal sectors previously sidelined by colonial agricultural policies. Agricultural training colleges, universities and colleges increased after 1980, in order to cater for the increasing number of people who were in need of training.

2.2.1 Agro-ecological zones and climate change in Masvingo Province

Zimbabwe was divided into five agro-ecological regions, known as natural regions in the 1960s, on the basis of the rainfall regime, soil quality and vegetation, among other factors (Mugandani, Wuta, Makarau, & Chipindu, 2012; V. Vincent, Thomas, & Staples, 1960). Natural regions I and II are the most productive, for they have the best quality land and the climatic conditions suitable for commercial agriculture. The quality decreases as one moves to region III, IV and V (Chikodzi, Zinhiva, Simba, & Murwendo, 2013). This classification was useful in determining the nature of agricultural activities to be done in the respective regions based on their rainfall requirements. Region IV and V, which encompass Masvingo Province, receive the least amount of rainfall and have the highest temperatures. The average annual rainfall varies from below 400mm in the extreme Lowveld to 500mm and 700mm in the Middleveld and between 700mm

and 1000mm in the Highveld (Nhemachena & Mano, 2007). According to a study by Simba, Chikodzi, and Murwendo (2012), Masvingo Province occupies the drier, semi-arid lowveld area in the south-eastern parts of Zimbabwe. The provincial capital for the province is Masvingo city, formerly Fort Victoria. This was the first place of settlement by the British Pioneer Column, making it the oldest city in Zimbabwe ("Masvingo Province," 2017). There are seven administrative districts in Masvingo province, namely; Masvingo, Gutu, Zaka, Bikita, Chiredzi, Chivi and Mwenezi, respectively (Chikodzi et al., 2013)..

In terms of agro-ecological classification, Masvingo Province generally lies within natural regions III, IV and V and is characterised by severe dry spells even during the rainy season, and frequent seasonal droughts with average annual rainfall between 450-650 mm. The wetter parts of Masvingo Province, which lie within natural region III include Gutu and Masvingo Districts and account for only 7% of the total land area. The drier southern districts (Chivi, Mwenezi and Chiredzi) are in regions IV and V and account for 82% and 11% of the total land area in the province, respectively (Mavedzenge, Mahenehene, Murimbarimba, Scoones, & Wolmer, 2006).

Mwenezi District, where one of the VET colleges under study is situated, lies to the southern part of Masvingo Province and is part of the south-eastern lowveld. It falls under agro-ecological regions IV and V which are characterised by below normal annual rainfalls that make the district unsuitable for crop production, unless farmers grow drought resistant crops such as sorghum and pearl millet (Chazireni, 2015; Chikodzi et al., 2013; Manganga, 2007). According to census data, Mwenezi District has a population of about 133 000 people (Zimbabwe National Statistics Agency, 2012). Land suitability classifications as well as rainfall patterns have deemed the region suitable for extensive cattle ranching basing on its dryness. This makes the region more suitable for drought resistant crops, cattle ranching and wildlife (Chikodzi et al., 2013).

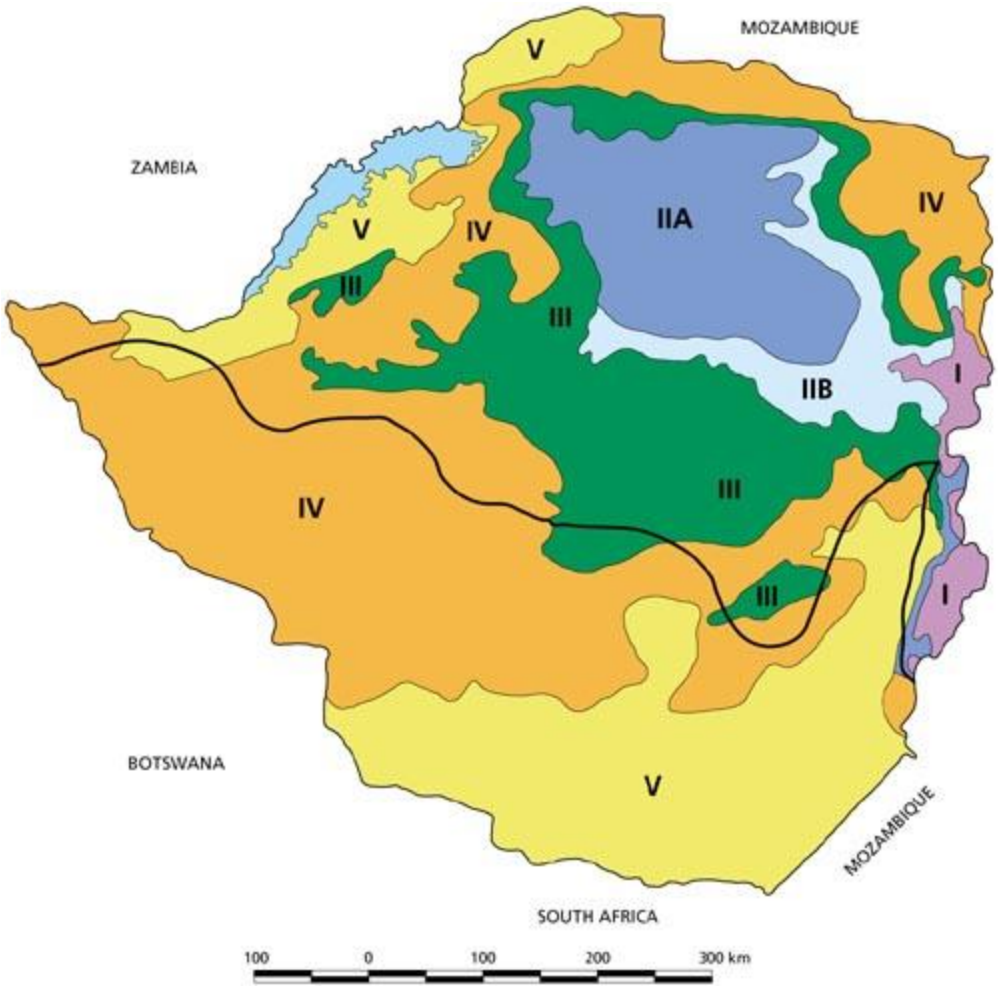

Fig 1: Natural regions of Zimbabwe

Source: www.fao.org

2.2.2 Agricultural history, production processes in the context of climate change in Masvingo Province

Masvingo Province has a long agricultural history. This section will attempt to highlight only the major features of that history as well as agricultural production processes. Due to climate change as indicated in the section on agro-ecological classification, dry land agriculture no longer produces much yield. Climate change has a strong bearing on agriculture, which is the largest sector and principal source of livelihood for most African economies (Mukute, 2010a). Climate change is one of the many risks farmers in Sub-Saharan Africa have to contend with because it

has a bearing on agricultural production processes they engage in. However, farmers are affected differently by climate change induced risks, It is the poorest farmers (smallholder farmers) who are worst affected in most cases. Other risks that smallholder farmers are exposed to include pests and diseases, price changes as well as low levels of knowledge. Notable, however, is a decline in crop output due to increased variability in rainfall and temperatures. Over the past years, annual rainfall patterns have become unreliable, affecting crop farming (Simba et al., 2012). The rainfall received in Masvingo Province is no longer enough to sustain crop production. Under these climate change induced variations, farmers ought to adopt coping strategies in terms of types of crops and varieties they grow (Makadho, 1996). Climate change has affected agricultural production processes across the province and ultimately influenced current agricultural practices. Of interest to the researcher is how climate change influences the learning needs of smallholder farmers, especially in the context of the FTLRP in Zimbabwe. The following section discusses agricultural production processes in Masvingo Province. These processes are rain-fed smallholder agriculture, smallholder irrigation, commercial farming, and small-scale commercial farming and livestock production.

2.2.2.1 Rain-fed smallholder agriculture

The majority of farmers in Masvingo Province practice rain-fed smallholder agriculture. According to Ndebele-Murisa and Mubaya (2015) smallholder farmers are defined as those who own or work on small pieces of land (<6 hectares) practicing either subsistence or commercial farming activities, using mostly unpaid family labour, and in the majority of cases, either using hand held or animal drawn farm implements. It also has a long history dating as far back as during the colonial times. Communal farmers live in formerly Tribal- Trust Lands (TTLs). This farming is often done by the majority of farmers in Masvingo. These smallholder farmers often practice mixed farming, i.e. the production of crops and livestock for family consumption. Communal farmers in Masvingo Province practice rain-fed agriculture. Smallholder farmers live in villages which are under the jurisdiction of a particular traditional Chief based on one's lineage. Some of the chiefs within Masvingo Province include Chief Mugabe, Chief Zimuto, Chief Gutu, Chief Neshuro and many others. Before massive urbanisation that came about due to colonialism, the majority of people were predominantly rural and practiced communal farming.

Notwithstanding the fact that smallholder farmers ought to ensure food security for their families, in some cases they have gone beyond that to contribute grain for sale to the Grain Marketing Board (GMB). The contribution of smallholder farmers to the national grain output as well as to the national herd in terms of cattle is very significant. However, smallholder farmers in Masvingo Province also face significant challenges including climate change. Climate change and variability has been cited as one of the major reasons for poor performance of smallholder irrigation schemes. However, some smallholder farmers have employed adaptation strategies to ensure that they remain food secure. Some adaptation strategies include conservation agriculture, community gardens, livelihood diversification as well as reverting back to indigenous knowledge systems (Gukurume, 2013; Muzawazi, Terblanche, & Madakadze, 2017). According to Mukute (2010a) one of the main strategies to deal with climate change is adaptation. According to the Intergovernmental Panel on Climate Change, adaptation means adjustments in natural or human systems in response to actual or expected climatic stimuli and their effects, which moderates harm or exploits beneficial opportunities (Research Institute of Organic Agriculture, 2017).

Mafongoya et al. (2016) note that conservation agriculture has a potential to improve crop productivity in semi-arid areas, and will be of significance in ecological regions III, IV and V. The practice of conservation agriculture is not uniform because even its meaning differs across different contexts and stakeholders. However, what is common is that conservation agriculture in whatever form is guided by the principle of minimal tillage. Studies have revealed that adopters of conservation agriculture are more food secure than non-adopters (Ndebele-Murisa & Mubaya, 2015).

Climate change has resulted in erratic rainfall in Masvingo Province thereby aggravating food insecurity. Smallholder farmers have not been passive victims of climate change. Gukurume (2013) notes that to reduce the risks associated with climate change, smallholder farmers engage in crop and livelihood diversification. Some farmers in Bikita District of Masvingo Province switched to drought tolerant crops such as pearl millet, rapoko and sorghum. The same can be said for livestock production where there has been a movement towards small livestock (Chazovachii, 2012). Another adaptation strategy employed by smallholder farmers is the community gardens approach. In Masvingo Province, community gardens have been promoted

by NGOs. They have been very popular, especially with women, because of their empowerment potential (Muzawazi et al., 2017).

The adoption of indigenous knowledge systems and promotion of organic agriculture are also other viable adaptation strategies for sustainable agriculture in the context of climate change. Indigenous knowledge has been used in Zimbabwe for sustainable smallholder farming in a number of ways (Mapfumo, Mtambanengwe, & Chikowo, 2016; Soropa et al., 2015). According to Soropa et al. (2015) the majority of smallholder farmers in Tsholotsho, Murehwa and Chiredzi District used indigenous weather indicators to predict rainfall amount in the following season as a response measure to minimise the risks associated with either too little or too much rainfall. Similarly, a study by Mapfumo et al. (2016) revealed that smallholder farmers largely depended upon indigenous knowledge to indicate climate change and make decisions on adaptation strategies. However, the indicators of climate change vary from observations of trees, birds, insects and wild fruits depending on available natural resources in the area concerned.

2.2.2.2 Smallholder Irrigation Schemes

Masvingo Province is home to several smallholder irrigation schemes. Smallholder irrigation has been a central feature of Masvingo Province as far back as 1961 when the first scheme was established at Chilonga in Chiredzi District (Gwanzura, 1987). Several other schemes were established in various parts of the province in post-independence. Some of the schemes include Mushandike, Rupike and Fuve-Panganai. These smaller irrigation schemes have contributed to enhanced food security for family units. According to Chazovachii (2012) the argument for setting up smallholder irrigation schemes was to enhance food security among rural communities by meeting the needs of growing rural and urban populations. It was also believed that small-scale irrigation schemes had the potential to empower people (especially women), who constitute the majority of members in these establishments (Jaison, 2015).

Studies in Masvingo Province have revealed several challenges that hinder effective performance of faced smallholder irrigation schemes (Chazovachii, 2012; Munzwa, 1981; Rukuni, 1988). A study by Munzwa (1981) highlighted the challenges facing smallholder irrigation schemes in

Masvingo Province. Some of the identified challenges were lack of infrastructure and transport facilities. In a similar way, the study by Chazovachii, noted that lack of adequate transport affected the movement of produce to the markets. Other major challenges identified in this study were the shortage of labour, water, and destruction of property by thieves and wild animals (Chazovachii, 2012). Competition for water is a real threat to sustainable smallholder irrigation farming. For example, in Mushandike irrigation close to Masvingo City, there has been an influx of A1 farmers after the FTLRP who are in close proximity to the scheme. Some of these new farmers compete for water and grazing with members of the long established irrigation scheme. In another study, Mutambara and Munodawafa (2014) noted that despite apparent benefits that the country and farmers have enjoyed from irrigation schemes in Zimbabwe, smallholder irrigation schemes have proved unsustainable without external support. The study focused on three smallholder irrigation schemes in Chiredzi, which is located in agro-ecological region V. The study revealed that the three irrigation schemes were under performing. Some of the reasons cited include limited access to agriculture inputs, shortage of irrigation water and shortage of capital among others (Mutambara & Munodawafa, 2014). The above factors contribute to lack of sustainability of these small-scale irrigation schemes.

2.2.2.3 Commercial farming

Commercial farming in Masvingo province was designed to occur at two levels, either as large scale commercial farming or as small-scale commercial farming. Large scale commercial farming was done exclusively under irrigation. Irrigation farming in Masvingo Province is made possible by the presence of massive water bodies and dams such as Mutirikwi, Bangala, Runde, and Tugwi-Mukosi and many others. However, commercial irrigation is central to the economy of Masvingo Province in the lowveld where intensive sugarcane farming occurs around Chiredzi town. Commercial crop production, by its nature, occurs under irrigation, especially in the drier regions such as Masvingo Province. The growing of sugarcane is restricted to the lowveld in Chiredzi, an area under ecological region V. Sugarcane is a sub-tropical and tropical crop that needs a lot of sun and water to thrive (Hess et al., 2016; Nhiwatiwa, Dalu, & Brendonck, 2017). Chiredzi area is characterised by very high temperatures but it has very rich soil conditions suitable for sugarcane growth, provided there is plenty water supply. Hence, in this case, the

availability of irrigation water would make growing sugarcane in this region possible. Irrigation water that is used on sugarcane plantations is pumped from Lake Mutirikwi (formerly Lake Kyle), Manjirenji and Siya and Tugwi- Mukosi (Dasva, Mapira, & Ngaza, 2018).

Sugarcane plantations and processing mills demand high capital investments; hence it is usually done by large companies. This buttresses the fact that the production of export crops in the Global South is largely driven by transnational corporates (Little & Watts, 1994). In the case of sugarcane farming in Masvingo Province, Tongaatt-Hulett, a large South African based conglomerate, produces about 80% of all the sugar grown in Zimbabwe at its Triangle and Mkwasine Estates, which are wholly owned and it also has a 50,35% stake in Hippo Valley Estate (Dasva et al., 2018). Sugarcane is the biggest cash crop in Masvingo Province since most of it is for export. The bulk of the sugar produced is for export, contributing 1, 4 % of GDP. Tongaatt-Hulett is the biggest employer in Zimbabwe outside government with a staff complement of about 18000 plus several hundreds of casual workers.

The remaining 20% of sugarcane grown in Zimbabwe was historically contributed by 'Settler-outgrowers' linked to Mkwasine and Hippo Valley since the 1960s (Scoones, Mavedzenge, & Murimbarimba, 2017). The Settler- outgrowers' model was set up to spread risks in sugarcane production. This model operates through contract farming as an attempt to empower smallholder farmers (Hall, Scoones, & Tsikata, 2017). The setting up of settlers was also an attempt to play a political balancing act by the conglomerate operating estates in the lowveld. This is because sugarcane farming was and continues to be highly political (Muchetu & Mazwi, 2015). Settler-outgrowers emerged as part of attempts to create a Black middle class of farmers and reduce political pressure on conglomerates.

The FTLRP brought in a new breed of farmers into sugarcane production in the form of A2 farmers. The period of the FTLRP was a time of significant restructuring of the agriculture sector, generally, as it brought changes to land ownership. Other details on the FTLRP are referred to later in this chapter. With specific reference to sugarcane farming in Masvingo province, the FTLRP led to the subdivision of some Settler-outgrower farms to over 800 new farmers under the A2 model of resettlement. Sugarcane farming is not done under the A1 model.

The plots for A2 farms ranged from 10 to 20 hectares per farmer. The FTLRP brought significant decline in sugarcane production as a result of low fertilizer application by new farmers as well as the economic crisis of 2008 (Scoones et al., 2017). Though it is still debatable, the new outgrower system for A2 farmers seems to have been successful, overall.

2.2.2.4 Small-scale Commercial Farming

Masvingo Province is home to thousands of small-scale commercial farmers. Situated adjacent to communal farmers in the former TTLs are small-scale commercial farms formerly known as native purchase areas that came into being through the Land Apportionment Act of 1930 (Scoones, Mavedzenge, & Murimbarimba, 2018; Shutt, 1997). Scoones et al. (2018) note that there has not been any serious research on activities in purchase area farms, hence, not much information on their contribution to agricultural production is documented. The purchase area farms were meant to compensate Africans for the loss of their right to purchase land anywhere else in the country. Politically, purchase area farms were meant to create a Black middle class of farmers and act as obstacles to fair land distribution among Africans (Shutt, 1997). The purchase area farms have not been successful on the commercial side. The absence of success in purchase area farms is because, initially, most of their original owners were either middle class or worked in urban areas. Farming was secondary to them. Scoones et al. (2018) note that most purchase area owners are 'absentee farmers', similar to 'cell phone farmers' cited earlier who are based in Zimbabwe's towns and cities while others live abroad. Another challenge was poor investment in agricultural infrastructure because the farmers would not easily access loans for development. The most critical challenge, however, was the over reliance on rain-fed agriculture. Climate change and variability have affected the agricultural performance of purchase area farms.

In Masvingo Province, some examples of purchase area farms are Mushagashe, Mushawasha, Nyahunda and Nyazvidzi to name a few. The majority of the farmers practice mixed farming; growing crops and rearing livestock. Climate change has already worsened the already poor conditions for meaningful agriculture activity in purchase area farms. A study by Scoones et al. (2018) revealed that Mushagashe purchase area farms are situated in agro-ecological region IV, implying marginality for cropping. Climate change worsened the situation in that the soils have

become weaker and rainfall more erratic. Some farmers made adaptation strategies to reduce the impact of climate change on their agricultural production including drilling boreholes and engaging in horticulture activities. Other enterprising farmers with connections to family members in the Diaspora have engaged in bigger projects such as commercial broiler production, pen fattening, fish farming and greenhouse horticulture (Scoones et al., 2018).

2.2.2.5 Livestock Production

Masvingo Province was historically regarded as the 'cattle country' of Zimbabwe (Mavedzenge et al., 2006). This is also supported by Mudzengi (2014) who notes that livestock production is a vital part of the culture of people in Masvingo Province. Farmers in the province raise a range of livestock, including cattle, donkeys, goats, sheep, pigs and poultry. These animals have different uses including draught power and meat either for family consumption or commercial purposes.

The main economic activity in Mwenezi District is cattle ranching, which occupied about 83% of the land before the FTLRP, while the remaining 17% was occupied by communal areas (Manganga, 2007). Before independence, based on the agro-ecological region classification, 63% of commercial animal production was done in the southern drier parts of Zimbabwe in Midlands, Matebeleland and Masvingo provinces. The situation, however, changed in the post-independence era following successive climate change induced droughts in the southern regions as well as the spread of foot and mouth disease in these areas that decimated livestock herds and threatened export beef markets. Commercial livestock production moved to the natural regions I and II, accounting for 65% of the total herd. This left Masvingo Province mainly with game ranching. Livestock in Zimbabwe was significantly reduced after the FTLRP. During that time there was massive movement of cattle across the country, even from 'red zones' where foot and mouth disease was rife (Mavedzenge et al., 2006). This contributed to the spread of the disease to other areas which used to be free from foot and mouth disease. Apart from human activity, livestock production was also heavily affected by climate change.

Climate change associated with droughts in Masvingo Province affected cattle production as the pastures were affected, especially in the 1991-1992 season. Some farmers had to move their

cattle from the worst affected areas to safer ones while others provided supplementary feeding (Mavedzenge et al., 2006). Climate change also exacerbated livestock diseases. The high costs of modern veterinary medicines make it impossible for farmers to access them. A study in Masvingo Province by Mudzengi (2014) notes that in light of animal diseases, farmers resort to ethno-veterinary practices for livestock health management.

2.2.3 Socio-economic context

Masvingo Province is also home to about twenty-six vocational training colleges as well as research and experiment stations under the Ministry of Agriculture. The focus of the study is on Masvingo and Mwenezi Districts since they house the two vocational training centres under study. The administrative capital of Masvingo province is Masvingo city. It is also the centre of commerce and trade and many other services. On the education front, Masvingo Province has several institutions of higher learning, the biggest being the Great Zimbabwe University (GZU) followed by the Reformed Church University. There are also teachers' training colleges in and around the city, including Masvingo Teachers College, Bondolfi Teachers College and Morgenster Teachers College and Masvingo Polytechnic College. Centre A, the government owned training centre is located within Masvingo District.

This distribution reveals that Mwenezi District is predominantly rural in outlook. The district is the poorest in the Masvingo Province with 80% of the population living in conditions of household poverty (Zimbabwe National Statistics Agency, 2015). Poverty in Mwenezi district reflects a vicious cycle that is evidenced by the low education status of the majority of people, high school drop outs, migration of mainly the youth into South Africa, early marriages and high HIV and AIDS infections (Tembo, 2017; Zirima, 2016). The high incidences of migration to South Africa is attributed to the proximity of the district to the neighbouring country as well as the fact that the main road to South Africa cuts through the district. High numbers of households in Mwenezi district are also food insecure, resulting in high rates of child malnutrition (Chazireni, 2015). It has always been the case that the district lags behind in terms of opportunities for skills training for its people and the area has long been vulnerable to droughts and disease, hence a number of NGOs operate in this district to improve livelihoods of the

people. The majority of NGOs in Mwenezi District are involved in poverty alleviation projects, mainly related to agriculture, such as fish farming, bee keeping and water management, and also vocational skills training programmes (Chazovachii et al., 2013; Manganga, 2007; Mufudza, 2016). It is in this context that one of the vocational training centres for this study, College B, is located.

2.2.4 The Fast Track Land Reform Programme and the emergence of A1 farmers

In the year 2000, the Zimbabwean government embarked on the accelerated land reform programme as a way of decongesting the overpopulated rural areas (Makanyisa, Chemhuru, & Masitera, 2012). The rapid speed of reforms earned the process the name FTLRP. The land reform, embarked on around the year 2000, can be regarded as a knee-jerk response from the government, since it was not institutionally planned. The radical nature of the land reform after the year 2000 brought significant changes in land ownership and use in Zimbabwe. A lot has been written on the FTLRP, which has generated much controversy and polarisation among academics (Mabhena, 2010; Matondi, 2012; Zamchiya, 2011).

Despite the arguments for and against the FTLRP, there is consensus that the skewed land ownership of the past represented a social injustice. According to Utete (2003), before the FTLRP, the commercial farming sector, which was controlled by mostly white farmers, occupied 56% of the total arable land while the subsistence sector (mostly black and the majority), occupied 44%. The land reform programme saw an increase by area and numbers in smallholder subsistence agriculture to 74% while commercial agriculture fell to 26% of land occupation. As a result of the FTLRP, more than 4 million hectares of land was made available as small farms (from the commercial sector) not serviced by the agricultural extension agents (Mutambara et al, 2013). This justifies the need for training and skills development of newly resettled farmers apart from recruiting more extension workers.

Across the country, the formal land reallocation since 2000, has resulted in the transfer of land to nearly 170 000 households by the year 2010 (Scoones et al., 2011). The need for training is also supported by a number of studies. Zamchiya (2011) notes that since the year 2000, the FTLRP

has radically transformed the structure of land ownership from one dominated by white owned large scale farms to one controlled by a large group of smallholder farmers. The coming in of a large number of people (who previously were either in different sectors of the economy, or who were not into serious commercial farming) justifies the need for training. A study by Mutambara et al. (2013) found that the FTLRP resulted in a change in the typology of farmers. This has implications for training. There has been an increased number of women allocated land during the FTLRP. The policy framework included a quota system whereby 40% of beneficiaries were supposed to be women. All agricultural training post FTLRP was supposed to ensure that there was gender balance in order to drive inclusive agricultural development (Mutambara et al., 2013).

In the first phase of resettlement, over 40% of agricultural land was utilised by experienced and trained commercial farmers who were mainly producing for the market. More than 90% of the new farmers brought in by the FTLRP (both A1 and A2) were mainly not-experienced or were semi-commercial farmers who were barely market oriented (Mutambara et al., 2013). These findings by Mutambara et.al, suggest that new farmers need to be trained adequately in technical, commercial and entrepreneurship aspects of agricultural production. This kind of training should be offered at grassroots levels and in VET colleges that are accessible to farmers. In Masvingo Province, a significant number of former farm workers were allocated land in the A1 category. This is of particular importance to this study on vocational education and training curriculum responsiveness to the learning needs of A1 farmers in the Masvingo Province of Zimbabwe.

2.3 Historical and policy context of VET provision in Zimbabwe

This section traces the historical and policy context of vocational education and training provision in Zimbabwe from the pre-colonial, colonial to the post-colonial times. It shows how skills' training has always been a part of the way of life of the natives of Zimbabwe. This is important for it sets the base for the current study on vocational education curriculum responsiveness to the learning needs of A1 farmers in post-2000 Zimbabwe.

2.3.1 Pre-colonial VET in Zimbabwe

'VET' in Zimbabwe was a central feature of the economy before colonial occupation of the country by the British. Such was also the case in other traditional African societies before colonisation. In these societies, education systems existed with the role of passing knowledge and skills to the young members to enable them to play adult roles for the continuity of the societies (Busia, 1968). Teaching in these traditional societies was mostly informal and followed an apprentice-type of programming. The economic activities of these traditional societies determined what was taught and, in most cases, they included farming techniques, hunting, food preparation and building (Busia, 1968).The training was often sensitive to gender, age and family status in society (Munetsi, 1996).

In the same way, in the Zimbabwean traditional society, education for production was a feature during pre-colonial times and this ensured the survival of the local people. According to the Ministry of Higher and Tertiary Education (2005), VET long existed in pre-colonial Zimbabwe through organised apprenticeship training among the Rozvi and Mutapa people. This debunks the myth that VET was a European invention; it was the way of life of the Africans before any contacts with the European settlers were established. There is archeological evidence to support the fact that the Shona people engaged in iron smelting well before colonisation. In those communities of ancient Zimbabwe, experts in fields such as sculpture, forge-work, basketry and agriculture would get assistants whom they would train through apprenticeship. Training in traditional Zimbabwean society was done by elders and skilled craftsmen who would have also acquired these skills through apprenticeship training (Reinhart & Rogoff, 2010).

2.3.2 Colonial VET in Zimbabwe

Britain colonised Zimbabwe as part of the general partition of Africa following the 1884-5 Berlin Conference (Ndlovu-Gatsheni, 2015). Colonisation meant the introduction of colonial education that was informed by British education policies. The earliest attempts at establishing a VET policy in colonial Zimbabwe was the Master and Servant Act of 1891 followed by the Education Ordinance of 1899 (Zengeya, 2007). While the Master and Servant Act stipulated conditions for

apprenticeship training, the Education Ordinance specified the need for industrial training and laid the foundation for teaching low level skills along racial lines. The Education Ordinance of 1891 set up two separate systems of education for whites and blacks, just nine years after the occupation of Rhodesia. Education for Africans was offered exclusively by missionary churches with minimum government support through grants. The curriculum for African students was purely vocational with half the time allocated to industrial training (Siyakwazi, 2014). The purpose of this curriculum was to make Africans manual workers in the fields of building, carpentry, bricklaying and agriculture and thus prevent them from competing for 'white jobs'(Mandiudza, 2015; Zvobgo, 1994). African education designed by the colonial government was therefore meant to produce workers who would operate at the fringes of the capitalist system as well as keep the majority of Africans in the rural economy. However, missionaries had a different goal to that of the colonial government. The education that missionaries provided to Africans sought to empower them with knowledge and skills to improve their livelihoods (Dorsey, 1989; Thondhlana, 2018).

The earliest attempt to establish vocational schools in colonial Zimbabwe was through the Jeanes schools. The Jeanes schools in Africa were introduced in 1924 as an initiative to encourage growth of the sector as a result of the Phelps Stokes Commission. Several Jeanes schools were opened in African countries including Kenya, Nyasaland, and Northern and Southern Rhodesia(Brown, 1964). In the then Southern Rhodesia, two Jeanes schools were opened at Domboshawa and Hope Fountain. Training for men in the Jeanes schools focused on agriculture (both crop production and animal husbandry), building and woodwork. Women (in most cases wives of Jeanes students) were also trained in Jeanes schools. They were known as home demonstrators. These women were trained in personal and community hygiene and first aid. The training had both theoretical and practical components needed by all Jeanes students (Brown, 1964).

The vocationalisation agenda dominated debates on curriculum in colonial Zimbabwe. This is evidenced by the several commissions of inquiry set to investigate ways of vocationalising the school curriculum (Mandiudza, Chindedza, & Makaye, 2013).The commissions set up by the colonial administrations include the Frank Tate Commission of 1929, the Fox Commission of

1935, the Kerr Commission of 1952, the Judges Commission of 1962 (Mandiudza et al., 2013). The Judges Commission made recommendations that led to the introduction of different technical and vocational education curricula for blacks and whites (Mandiudza, 2015; Nherera, 1994). The Judges commission contributed to the transformation of VET in Zimbabwe. This signaled the start of a practical/vocational curriculum for blacks in the F2 system running parallel to the prestigious F1 'academic' system for whites. The F2 system was introduced under the 1966 Education Plan with a heavy bias towards practical subjects for Africans(Ndebele, 2014). The curriculum in the F2 schools was not meant to lead to further education. Just like general education, VET in colonial Zimbabwe was racialised. Industrial education (for elementary skills whereas specialist skills were left for whites) was the main focus. Not much progress was made in this sector, however, because of serious under funding (Zvobgo, 1994).

Colonial VET in Zimbabwe was racialised in order to prepare European children for superior positions in industry compared to their black counterparts. The policy ensured that the Africans would not compete with the Europeans for employment (Reinhart & Rogoff, 2010). There existed separate education systems whereby African education was the responsibility of the Ministry of Native Affairs and later the Department of African Education. Kanyenze, Kondo, Chitambira, and Martens (2011) note that a dual system of education existed; one for blacks and the other for whites. The VET sector in pre-independence Zimbabwe operated in the same framework with that of the 'general' education sector which was dualised on the basis of race.

There were two separate systems of VET. Whites had the superior system while the blacks had an inferior one. The major motivation for that distinction was to avoid at all costs a situation whereby blacks would compete for jobs with their white counterparts (Kanyenze et al., 2011). Little investment was made in the area of VET, especially for blacks. Vocational education in colonial Rhodesia was highly stigmatised as inferior to academic education. This label still persists in post-independence Zimbabwe. VET provision for the Europeans (including Coloureds and Indians) was offered in two forms, either as industry-based apprenticeship which took about five years to complete, or institution-based VET offered in schools at secondary school level and credited by professional bodies registered in South Africa and the United Kingdom (Katsande, 2016; Munetsi, 1996).

2.3.3 Post-Colonial VET in Zimbabwe

Post-independence Zimbabwe can be categorised into three distinct phases for ease of analysis, based on the socio-economic and political developments which had influence on VET provision in the country. Before the phases are presented, the policy context that guides VET provision is given. VET provision is enshrined in the constitution of Zimbabwe.

The constitution of Zimbabwe is the supreme law of the country (Government of Zimbabwe, 2013).The Constitution Amendment Act number 20 of 2013 replaced the Lancaster House Constitution of 1979 as the law in Zimbabwe. The provision of Vocational Education and Training in Zimbabwe is provided for by the country's constitution (Government of Zimbabwe, 2013). This is stipulated in Part 2 under Fundamental Human Rights and Freedoms. The government of Zimbabwe notes that every citizen of the country has a right to education, including basic education and further education that subsumes Higher and Tertiary education. In addition, citizens have a right to establish and maintain independent educational institutions provided the institutions do not discriminate on any grounds as prohibited by the constitution (Government of Zimbabwe, 2013).

VET in Zimbabwe is governed by an Act of Parliament that empowers the Ministry of Higher and Tertiary Education with the responsibility to superintend all human development issues and oversee implementation of the Manpower Planning Development Act of 1996. The Ministry of Higher and Tertiary Education, Science and Technology Development through the Manpower Planning and Development Act 28; 02 is responsible for the establishment of a centralised bureaucratic control over VET in Zimbabwe (Government of Zimbabwe, 2002). The Act empowers the Ministry with the registration of VET institutions in the country. It also provides for the government to establish VET colleges, training centres and universities (Bennell et al., 1999; Government of Zimbabwe, 2002). The Act provides for the establishment, maintenance, and operation of technical vocational institutions, universities, funding and certification for the development of human resources in Zimbabwe (Government of Zimbabwe, 2002).

Funding for VET in Zimbabwe is provided through the Zimbabwe Manpower Development Fund (ZIMDEF). ZIMDEF was established in terms of the MPDA (28;02) under the trusteeship of the Minister of Higher Education Science and Technology Development. The primary source of ZIMDEF funds is 1% levy on all employers (Government of Zimbabwe, 2002).

2.3.3.1 VET provision from 1980 to 1990

The newly independent government of Zimbabwe is credited for democratising education provision in Zimbabwe (Kanyenze et al., 2011). In the first decade of independence, the country witnessed significant growth in most sectors of the economy including agriculture, mining, and industry and in social services including education and health (McGrath, 1993; Mlambo, 2014). These developments saw improvements in the living standards of people. Studies of Zimbabwe's post-independence economic history have revealed that the country was on a path of growth and progress and was the envy of many on the continent and beyond (Kanyenze et al., 2011; Vurayai & Muwaniki, 2016).

The new government of Zimbabwe sought to rationalise the VET system, firstly by de-racialising it. This was achieved by the merging of structures which had long been divided along racial lines (Munetsi, 1996). The government of Zimbabwe embarked on VET policy reforms which managed to produce large numbers of skilled graduates. This, however, did not result in the anticipated growth due to a mismatch between the skills the graduates possessed and the needs of the labour market (Dorsey, 1989; Munetsi, 1996; Zengeya, 2007). The National Manpower Survey of 1981 set the tone for skills development interventions aimed at improving the manpower requirements of the country. The survey exposed the critical shortage of skilled manpower in Zimbabwe due to the out-migration of skilled personnel to South Africa, the United Kingdom and Australia (Kanyenze et al., 2011). At independence, the VET workforce was composed of 8% professionals, 12% skilled, 20% semi-skilled and 60% unskilled (Government of Zimbabwe, 1981).

The post-independence expansion of both general and vocational education provision was guided by the Education Act 5 of 1987 with several amendments (26 of 1991; 24 of 1994; 19 of 1998;

22 of 2001; 25 of 2004 and 2 of 2006). This Act and the amendments were used to formulate a number of policy objectives including the need to provide relevant curricula for both the pathway of vocational and technical education and the academic pathway (Nherera, 2014). The other objective was to improve the match between skills demand and supply by encouraging stakeholder participation in the design and provision of education and training, (Kanyenze et al., 2011).

This was a departure from colonial education and training (which focused on the formal sector at the expense of the non-formal sector) which emerged and grew fast after 1991, the period of economic liberalisation and structural adjustment programmes (Bennell, 2000; Kanyenze et al., 2011). VET in post-independence Zimbabwe is guided by the Ministry of Higher Education and Technology, which is responsible for policy formulation and quality control. However, it is now implemented by a number of government ministries such as the Ministry of Youth, Indigenisation and Employment Creation,(formally known as the Ministry of Youth Development, Gender and Employment Creation), the Ministry of Agriculture as well as NGOs, churches and other private sector providers (Kanyenze et al., 2011).

Upon attaining independence, Zimbabwe introduced reforms in VET. Most notable was ZIMFEP, which was a response to the shortcomings of the colonial education inherited by the new government (Chinyamunzore, 1995; Dorsey, 1989; Kasambira, 1987). The ZIMFEP programme also sought to deal with the challenges of structure, content and methods used in the delivery of practical subjects under the F2 system that was used during colonial times (Government of Zimbabwe, 1985). ZIMFEP, with its emphasis on the need for manpower skilled in several vocational trades, led the government to establish technical colleges to train vocational teachers, especially in trades not offered at the only university then, the University of Zimbabwe (Ministry of Higher and Tertiary Education, 2005). The government increased the numbers of technical colleges by five between 1980 and 1990. These were later upgraded to poly-technical colleges in 1991 to expand the training of technicians and artisans.

In 1990, the government of Zimbabwe introduced the Rationalization of Technical and Vocational Education and Training policy document in order to structure VET into levels for

easier progression in professional development (Kanyenze et al., 2011). The lowest level was the pre-vocational level, followed by the National Foundation Certificate (NC), the National Diploma (ND) and the highest level was the Higher National Diploma (HND) which was equivalent to an undergraduate degree (Ministry of Higher and Tertiary Education, 2005). From the above discussion it has emerged that there was significant progress in VET provision and policy formulation during the first decade of independence. The government took a central role in both the quantitative and qualitative expansion of VET in the country.

2.3.3.2 VET provision during Economic Liberalisation

Zimbabwe adopted the policy of economic liberalisation from 1991 onwards at the instigation of the Bretton Woods institutions, namely; the World Bank, and the International Monetary Fund (Chinyamunzore, 1995). These institutions encouraged governments of developing countries to adjust their economies arguing that local currencies were overvalued. In the Zimbabwean case, the programme was named the Economic Structural Adjustment Programme (ESAP). The programme aimed at reducing government expenditure. Therefore, it encouraged the privatisation of most government enterprises, public sector reforms and reduced government participation in social services such as education and health (Kanyenze et al., 2011; Nyazema, 2010).

Economic liberalisation had an effect of increasing the demand for VET skills in Zimbabwe because many people who were retrenched from government needed to develop skills in order to participate in the informal sector. With limited government participation in social services, including VET, as part of liberalisation efforts, private sector provision of VET expanded, facilitated by practices such as the removal of registration restrictions (Bennell et al., 1999). Economic liberalisation had conflicting consequences on VET provision in Zimbabwe. On the one hand, private sector provision was expanded. On the other hand, ESAP had more negative consequences for the country than benefits. Notable among these include massive job losses through retrenchments as a result of de-industrialisation. During the ESAP period, private funding for VET was affected and this led to poor VET provision as training institutions could no longer sustain investment in training facilities, infrastructure and human resource

development (Kanyenze et al., 2011; Nziramasanga, 1999). Curriculum development during the ESAP period as well as after the introduction of its successor, Zimbabwe Programme for Economic and Social Transformation (ZIMPREST), was compromised by lack of funding. The education sector as a whole remained depressed during this period. This resulted in the government instituting the Presidential Commission of Inquiry into Education and Training in 1999 popularly referred to as the Nziramasanga Commission (Nziramasanga, 1999).

Post-independence Zimbabwe inherited some challenges in VET faced by the colonial government. Most of the challenges were linked to lack of financial resources to support the sector such as dilapidated infrastructure and equipment and lack of qualified trainers (Muwaniki & Wedekind, 2019; Nziramasanga, 1999). The other finding of the Nziramasanga Commission was that the school curriculum in Zimbabwe was by and large academic in outlook. The report recommended the adoption of a vocational curriculum at all levels of education in Zimbabwe to ensure that all categories of learners were catered for. However, the implementation of the findings of the Nziramasanga Commission was delayed for more than two decades. The introduction of the Zimbabwe Curriculum Framework for Primary and Secondary Education in 2016 was the first major effort in its implementation (Ministry of Primary and Secondary Education, 2016). Vocational education is central in this new curriculum.

2.3.3.3 VET provision during the crisis period, 1999- 2009

From 1999 to 2009, Zimbabwe experienced some of its worst crises (politically, economically and socially) in its post-independence history. Participation in the war in the Democratic Republic of Congo and the payment of gratuities to veterans of the Second Chimurenga (from an over stretched fiscus) and the FTLRP are factors often associated with the economic decline in Zimbabwe (Mabhena, 2010; Raftopoulos & Phimister, 2004). The effects of ESAP were still felt across the economy even though it had officially ended in 1996.

The FTLRP programme resulted in the displacement of former white commercial farmers from their farms without compensation. These farms were redistributed to the black majority (Scoones et al., 2011). The FTLRP seriously affected relations between Zimbabwe and Britain, her former

colonial master. This resulted in Britain cutting diplomatic relations with Zimbabwe, as did other countries in Europe, Australia and America. This resulted in economic sanctions being imposed on Zimbabwe. The sanctions meant that most companies of European and American origin had to relocate from Zimbabwe to neighbouring countries such as Zambia, South Africa and Mozambique (Duri, 2016). Farm seizures through the FTLRP led to the condemnation and isolation of Zimbabwe from the international community. This led to investor flight and company closures ultimately leading to the shrinking of the Zimbabwean economy and de-industrialisation (Duri, 2016; Mlambo, 2017). Ultimately, massive job losses ensued. The companies that continued operating reduced their spending on industrial training.

Post-secondary educational institutions, including vocational training centres, lost qualified and experienced personnel during the massive brain drain that characterised the crisis period. Kanyenze et al. (2011) note that the brain drain has resulted in acute depletion of skills, with Medicine, Applied Sciences such as Agriculture and Engineering the worst affected. In universities, absconding constituted 52.7 % of staff losses, while resignations constituted 41.1 % of the same. Vacancy rates shot up to 73 %. The situation was not much different in Polytechnic colleges and Vocational Training Centres (Kanyenze et al., 2011). In some cases, professionals engaged in survival strategies such as out-migration to neighbouring countries such as South Africa and Botswana while others engaged in money exchange on the black market (Gukurume, 2015).The coming in of the Government of National Unity (GNU) in 2009 brought hope of change to the social sectors of the country including health and education. The economic, social and political landscape of Zimbabwe has since changed, presenting unique challenges in the sector. The Zimbabwean economic crisis has continued to rage on after the end of the GNU in 2013,the latter of which had managed to bring some stability to the economic problems that had characterised the pre-GNU era (Vurayai & Muwaniki, 2016). The stability in the economic environment was a result of dollarisation of the economy which was adopted in 2009 and resulted in the end of hyper-inflation of the '*casino economy'* under the former Reserve Bank of Zimbabwe Governor, Gideon Gono's charge (Gono, 2008).

Numerous studies have been done on the broad challenges faced in vocational training but little has been done focusing on the learners themselves (Ball, 1998; Pillai, Khan, Ibrahim, & Raphael,

2012). The economic crisis in Zimbabwe affected vocational education provision in both government and non-government training centres in many ways and has potential implications for vocational education curriculum responsiveness to the learning needs of A1 farmers.

2.4 NGO and State relations and development in post-2000 Zimbabwe

In most African countries, NGOs play a crucial role in development as a result of failure or lack of capacity of the state to fulfill its obligations. Thus, NGOs have become alternative agents of development in countries such as Uganda, Tanzania, Kenya, Mozambique and Zimbabwe to name a few (Banks & Hulme, 2012; Twine, 2014). In the Zimbabwean case, the implementation of ESAP in 1991 increased the role of NGOs in various spheres of the country. The reduction in state provision of public services such as education and health led to the growth of NGOs to fill the 'service delivery gap'(Mwanza, 2013; Nyazema, 2010). The majority of NGOs operating in rural development in developing countries including Zimbabwe, have an emphasis on poverty alleviation, education and training, agriculture, water and sanitation, health care and credit support (Twine, 2014).

Like in most other African countries, the relationship between NGOs and the state in Zimbabwe is often a complex one. Relationships between NGOs and local and national governments vary from place to place and from time to time based on several factors such as the nature and mandate of the NGO to the government and whether the NGO leans towards democratic ideals or not. However, what is common is that the relationship between most African governments and NGOs is often strained because the NGOs often operate in spheres traditionally viewed as government responsibility. The relationships between NGOs and the state can range from overt and hidden tensions and active hostility to cooperation and collaboration (Nair, 2011; Rose, 2011). Chimanikire (2000) argues that NGOs and other civil society organisations have not been welcome in African societies that are typically single party states which do not want the emergence of other colleges of power separate to the government and the ruling party. This has created a situation whereby NGOs are not seen as partners in development but rather as working in opposition to government and as anti-government organisations.

In Zimbabwe, there is often great tension between NGOs and the government. The tension has been pronounced through scathing attacks and condemnation in the state-controlled media. The majority of NGOs which support political pluralism have often been on the receiving end of these attacks (Michael, 2004; Mwanza, 2013). Even though NGOs have contributed immensely to the development of the country, their relationship with the government has never been a good one. It has been characterised by hostility and overt conflict since the late 1990s (Tarisayi, 2012). At one time, NGOs were banned from operating in Zimbabwe and registration of NGOs has become a complicated process due to strict government control.

The FTLRP implemented by the government of Zimbabwe worsened its relationship with NGOs. Prior to the FTLRP, NGOs had played a central role in development, especially rural development, in the provision of essential services (Mabhena, 2010). Currently, where NGOs are allowed to operate, government interference has become a common occurrence. There is general distrust of NGOs by the Zimbabwean government; in most cases NGOs are 'linked' to a regime change agenda by the government. As such, they are seen as the bridesmaids of opposition parties, especially the Movement for Democratic Change party (MDC). This linkage is attributed to their similar sources of funding which are in most cases western countries in Europe and America.

There have been several laws passed by the Zimbabwean government in the past to curtail the activities of NGOs including the Public Order and Security Act, and the Access to Information and Protection of Privacy Act (Chakawarika, 2011). Masvingo Province has been one of the most difficult places for the smooth operation of NGOs. On 14 February 2012, the former Governor of Masvingo Province, Titus Maluleke, announced a ban on all NGOs operating in the province, demanding that for the ban to be lifted all NGOs should work with his office after signing a Memorandum of Understanding with his office (Mabhena, 2010; Tarisayi, 2012; www.crisiszimbabwe.org). Given the context of often conflictual relationships between the State and NGOs in Zimbabwe, it is interesting to explore the responsiveness of an NGO run college (College B) to the learning needs of A1 farmers.

Despite the challenges in relations between the State and NGOs in Zimbabwe, NGOs play a central role in development in general and contribute in the provision of VET. King (1993) observes that in most developing countries there are significant increases in NGO provided VET targeting rural and urban youth. In Zimbabwe, NGOs, both domestic and foreign, have made significant contributions to community development over the years, both in areas of projects and training (Kasambira, 1987; Matsvai, 2018). In Masvingo Province, both local and international NGOs provide VET. Some local NGOs include Driefontein Mission, Mwenezi Development Training Centre and Holy Cross Sisters. International agencies contributing to VET include Care International in Zimbabwe, Plan International, World Vision and the European Union (Hlungwani, 2018).

2.5 Summary

This chapter discussed the context of the study. The chapter managed to set the tone for an analysis of VET curriculum responsiveness to the learning needs of A1 farmers in Masvingo Province of Zimbabwe. The chapter was divided into two sections. The first section focused on the study area. It covered the agro-ecological zones of Zimbabwe with particular attention being given to the implications of climate change on agricultural production processes in Masvingo province. The second section presented a historical account of the provision of VET in pre-colonial, colonial and post-colonial Zimbabwe. It also presented the role of NGOs in VET and the relationships between the State and NGOs in Zimbabwe. Clarifying the context in which the study takes place is important for an understanding of the environment in which vocational education is provided in the centres under study. It emerged in this chapter that VET in Zimbabwe is provided in a complex context as shown by the economic, social and political experiences of the country. It emerged from this chapter that the influence of climate change on agricultural practices and farmer learning cannot be ignored by providers of agricultural training in Masvingo Province. This environment has the potential to influence VET curriculum responsiveness in the colleges under study. The next chapter presents the literature review.

CHAPTER THREE: LITERATURE REVIEW

3.1 Introduction

The previous chapter presented the study context. It covered the historical and political context of VET provision in Zimbabwe. This chapter presents the literature review. The purpose of the review is to highlight major international, regional and local debates in vocational education curriculum responsiveness. The review of empirical studies would also show the gap that this study seeks to fill. The literature review is done in three separate sections for ease of management. The first section focuses on vocational education and training policy and systems. The second section reviews literature on agriculture education and training. The final section focuses on curriculum issues in vocational education. The literature review on these issues seeks to address the debates as well as contributing to a new body of literature on vocational education and training curriculum responsiveness. In the Zimbabwean context smallholder farmers learn differently since their learning takes place in VET colleges and agriculture training colleges, through agriculture extension programmes as well as through indigenous knowledge systems (Hanyani-Mlambo, 2002).

3.2 Vocational education and training policy and systems

This section reviews literature on VET policy and systems. The review is intended to show the level of development of VET globally as well as the position of Zimbabwe on the global VET map.

3.2.1 The purpose of Vocational Education and Training

The major purpose of VET at the international level has generally been agreed by scholars as that of providing the needed human capital in the form of manpower with the required skills for development and the reduction of poverty in nations (Eichorst, Rodriguez-Planas, Schmidl, & Zimmermann, 2012; Sauffie, 2015). Lucas, Spencer, and Claxton (2012) argue that the overarching goal of vocational education is the development of working competence in a chosen

vocational area, or enabling people to learn how to do things to a standard set by experts from the occupation into which they are progressing. In this regard vocational education differs from general education which is academic and therefore more theoretical and focuses on understanding concepts.

VET is viewed as an approach to increase economic competitiveness and reduce poverty in the triangle of productivity, employability and sustainable growth (Middleton, Ziderman, & Adams, 1993; Wallenborn, 2010). Apart from these three aspects, there has emerged a significant interest in the fourth aspect; responsiveness. The four main themes have continued to emerge and dominate in international VET discourse. This has been evidenced by numerous studies in the areas mentioned. Billet (2011), identifies four aspects that are central to most VET programmes; these are the selection and preparation for a 'vocation' or occupation, the development of capacities to perform in the chosen occupation, the ongoing development to meet new demands in the workplace and the ability to transform individuals to engage in new areas of work.

The fourth purpose relates well to this current study in that some of the A1 farmers were new to farming, coming from other areas of specialization. Due to the diverse purposes of VET, it is offered differently, and by diverse institutions, from schools, universities, colleges such as poly-technical colleges, training centres and community centres depending on the part of the world one is in. Serven and Solimano (1993) note that VET seeks to link education and the labour market and even goes beyond that by having a broader vision in the design of VET systems and also focus on non-market issues. VET is not limited to creating employment; it can be used in transforming society including ensuring sustainability of other enterprises including farms by investing in the training of farmers (DFID, 1999).

In some countries, institutions such as community colleges and training centres offer VET, focusing on learners of low socio-economic status who are in need of skills for survival (Bosch & Charest, 2008). Furthermore, diversity in VET is not only to do with providers but also includes the learners. The learners are mostly adults who vary in terms of their interests, motivation, and experience in line with characteristics of all adult learners (Jarvis, 2004). In Zimbabwe, VET seeks to give students skills for employment and self-employment (Mupinga,

Burnett, & Redmann, 2005). The depth of content, however, depends on the level at which it is offered.

3.2.2 Global Vocational Education and Training systems

Vocational education is a field of study that focuses on developing capacities for working life. Globally, VET is a key component for development in countries such as Australia, the United Kingdom, India and Germany. The literature reviewed in this section focuses on the major themes in VET, without specifically focusing on these individual countries mentioned. There is acknowledgement that these countries have managed to establish efficient and effective VET systems to provide for the skills requirements of their industries and commerce (Misko, 2006).

What is surprising is that there are fewer studies on vocational education and training on the African continent in comparison with other continents. This is articulated byMcGrath (2012c) who notes that in the South there has been a paucity of VET research and little in the way of theoretical exploration. This is in contrast to more serious academic engagement on vocational education in European countries. A few of the studies carried out on vocational education in Africa have revealed that as a development tool, VET has not been efficient and effective enough, despite the significant success it achieved in Asian countries (McGrath, 2011). The general guiding principles informing VET provision in these three countries are mostly similar with just a few differences. In Australia, the United Kingdom and Germany, vocational education seeks to offer relevant training for youth and adults in order to meet the labour requirements of industry.Misko (2006), in a review of VET literature for these countries, notes that there are three common pathways in provision of VET, namely; the school-based system, the apprenticeship system and the institutional pathway. This observation is also supported by Bosch and Charest (2008), who observe that unlike in general education, VET is not organised in a homogeneous system and may be provided by a variety of training institutions such as the state, NGOs, and private providers.

3.2.2.1 Institutional/School based VET

This refers to vocational education offered in schools, colleges and universities. Supporters of vocational education offered at primary and secondary schools argue that VET leads to social inclusion of disadvantaged students (Lauglo & McLean, 2005; Pavlova & Maclean, 2013). Institutionally driven provision of vocational education is now expanding across the world in response to social and economic developments in Asian, African and South American countries. Institutions play a critical role in the provision of VET in Australia, Germany and the United Kingdom. VET, in these countries, starts from the school system. Provision in these countries, however, is not uniform. In the United Kingdom system, for example, vocationalisation of the school curriculum is more evident, with secondary school students being introduced to vocational subjects. Upon completion of secondary education the students are ready for either apprenticeship training or Advanced Level studies and ultimately further education in universities (Billett, 2003).

In Germany, vocational education is introduced earlier in selected schools, whereas in Australia only students in the final year of secondary education complete an accredited VET course (Misko, 2006). The vocational curriculum in Germany is advised by the government but its interpretation is left to the respective training institutions. The German VET system is dualised and represents a responsive localised curriculum (Bauer & Gessler, 2016; Wedekind, 2017). Germany's VET system is dualised in a number of ways in the sense that it integrates theory and practice as well as have close partnership between business and government in the provision and funding of training programmes.

What is common, however, is that all three VET systems in these countries place an emphasis on the issue of labour market responsiveness and the employability of graduates. The Australian VET system is driven by labour market responsiveness. The main emphasis is to meet the needs of employers, hence, it utilises more decentralised competency based training (Dang, 2016; Wedekind, 2017). At the centre of this competency based training is industry.

3.2.2.2 Apprenticeship system

The apprenticeship system is one of the oldest known forms of VET based on medieval guilds of western Europe (Katsande, 2016). According to (Tripney et al. (2013))apprenticeship training combines on-the-job training for a highly skilled craft or trade (from someone who is already a skilled leader in the field) with academic and or theoretical instruction, and ranges from informal work-based 'learning-by-doing' to formal structured programmes sponsored by large industrial firms.

The apprenticeship system is a key feature in VET in Australia, Germany and the United Kingdom. This training is provided for at the work place. Organisations seeking to offer apprenticeship programmes must be accredited by skills councils for the discipline concerned. Apprenticeship focuses mainly on the development of employability skills and is more pronounced in Germany as compared to Australia and the United Kingdom. The dual German VET system allows entry into specific vocational streams from a young age, whereas in the other two countries the youth make their career choices at a much later stage (Bosch & Charest, 2008; Terblanche, 2017).

In Zimbabwe, the apprenticeship system dates back to pre-colonial times evidenced by artifacts from the Rozvi and Munhumutapa empires (Ministry of Higher and Tertiary Education, 2005). Technical education in Zimbabwe has links with the craft education of pre-colonial times; the difference is in the advanced technology used in the modern society. Its provision was in the form of apprenticeship in the classical sense. The apprentices of the time were mainly young men and women trained by their skilled senior kinsmen and kinswomen. The latter were the "trainers", experienced in various trades (Busia, 1968).

At independence in Zimbabwe, the apprenticeship system was revamped. This was done through the industrial training and trade testing system of 1981 which classified workers into Skilled Worker Class 4 to 1, Class 1 being the highest in the artisan grade (Nherera, 1994). Two approaches of artisan training were introduced, one that was through apprenticeship and the other through direct entry into college. Apprentices were recruited by private companies and needed at least four years to finish the programme. One of these years had to be spend at a college or

polytechnic. Direct entry students do the same programme in three years, two of which are spent at the college or polytechnic and one on industrial attachment in commerce and industry. The entry qualifications for both modes remain at least 5 “O” level passes at grade C or higher, including English language, Maths and Science. All the trainees are trade tested leading to the award of a journeyman class (Nziramasanga, 1999). Apprenticeship programmes are generally more responsive to needs of employers than others since they are industry based (Dang, 2016).

3.3 International VET policy

The policy discourse on VET has recently seen significant shifts. At the global level, VET has regained interest from policy makers over the past few years. This renewed interest has resulted in a number of international conferences focusing on the state and future of VET at the global level. A number of scholars have observed that both international agencies such as UNESCO and regional agencies such as SADC have taken a keen interest in vocational education (McGrath, 2012a; UNESCO, 2013c; Wallenborn, 2010). This is a result of the continued realisation of the key role vocational education plays in the development of nation states. In the following sections these key policies on VET are explained. International VET policy is shaped by international organisations such as UNESCO as well as continental bodies such as the European Union (EU) and the African Union (AU) and regional bodies such as Southern Africa Development Community (SADC).

3.3.1 VET and Goal 4 of the Sustainable Development Goals

At the global level, Sustainable Development Goal number 4 (SDG4) on Quality Education, which is part of the United Nations Agenda 2030, seeks to ensure inclusive and equitable education and promote lifelong learning opportunities for all (Doyle & Stiglitz, 2014; UNDP, 2016). Furthermore, the motivation for this goal includes arguments that education enables people to break cycles of poverty, reduces inequalities and provides access to ‘better jobs and better lives’ (UNDP 2016). Unlike the previous Millennium Development Goals (MDGs), SDG4 makes an explicit commitment to equal access to affordable and quality TVET for all, and specifically seeks to “substantially increase the number of youth and adults who have relevant

skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship" (UNDP, 2016).

SDG4 is also central to the achievement of many other goals including Gender Equality, Decent Work and Economic Growth, Responsible Consumption and Production and Climate Change Mitigation. The SDG4 continues the EFA focus on quality basic education for all and broadens the agenda further to include concern for equitable access to post-basic education and training for youth and adults through equitable access to appropriate learning opportunities (UNDP, 2016).

3.3.2 UNESCO TVET strategy

In light of the adoption of the Sustainable Development Goals (SDGs), and the end of EFA, the United Nations, Scientific and Cultural Organisation (UNESCO)introduced a Technical Vocational Education and Training (TVET) strategy for 2016 to 2021 (UNESCO, 2016).The new TVET strategy aims to reflect the current social, economic, and environmental landscape which includes changes in technology, the labour market and skills patterns (UNESCO, 2016). The strategy prioritises transformation of the TVET sector to maximise its potential to respond to these developments in the world economy. In view of these changes, there is a renewed sense of urgency and a need for the TVET to adapt, respond and transform itself to be relevant and valuable (UNESCO, 2016). The UNESCO TVET Strategy focuses on the following six key areas which are: Access to TVET, Quality of TVET provision, TVET Governance, Private sector involvement, TVET Institutions, and Funding. Improving the quality of TVET provision resonates well with Sustainable Development Goal number 4, the Education 2030, which seeks to ensure inclusive and equitable education and promote lifelong learning opportunities for all (Doyle & Stiglitz, 2014; UNDP, 2016).Central to the UNESCO TVET Strategy is the responsiveness of the VET sector to changes in the labour market as well as other social and economic issues on a global level. It is thus of relevance to this study. The influence of the UNESCO TVET Strategy is also evident in the AU's Continental Education Strategy for Africa as well as regional and country specific TVET strategies.

3.3.3 The African Union's Continental Education Strategy for Africa (CESA)

The AU adopted the Continental Education Strategy for Africa (CESA 2016-2025) in 2016 as the framework for a transformative education and training system in Africa. The strategy makes an explicit appeal to African countries to adopt policies that align with the CESA, including expanding VET opportunities at both secondary and tertiary levels and strengthening linkages between the world of work and education and training systems (African Union Commission, 2017). The CESA follows an earlier 2014 AU resolution that adopted a continental TVET Strategy, calling on member states to enhance support and investment for TVET as it was seen as fundamental for skills development for the youth, a means to promote employability and entrepreneurship through innovation and a way to align their national TVET strategies to the AU Continental TVET Strategy for effectiveness. Clearly, at the level of the continent, TVET is seen as being key to education and development (African Union Commission, 2017).

According to the African Union (2007), policy makers in Africa are increasingly aware of the critical role played by TVET in national development. This is reflected in most TVET systems that emphasise giving the youth employable skills. The majority of African TVET systems are school based and delivered at different levels of sophistication to make them more responsive to the needs of learners. Generally, TVET systems in Africa are offered by different institutions including both public and private technical and vocational schools such as polytechnics and through apprenticeship in industries (Oketch, 2016). There has also been a sharp increase in NGO provision of TVET across the continent. The colonial legacy is, however, apparent in these TVET systems. Former British colonies, for example, have systems which highly resemble the former colonial masters. This is also the case for general education. According to Nherera (2014), in most developing countries including the majority of African countries, attempts to vocationalise the school curriculum, especially at secondary school level has remained persistent. This is the reason why there has been so much research on vocationalising the curriculum in countries such as Nigeria, Ghana, Kenya, Zimbabwe and many others.

The African Union strategy promotes the development of non-formal modes of TVET, top on its priority being agriculture, followed by public health and water resources (UNESCO, 2013c). The

implementation of non-formal TVET is for both governments and NGOs. In the Zimbabwean context non-formal TVET has given attention to agriculture in the context of the FTLRP. The policies explained above are unambiguous on the important role played by VET in development. That is why in most countries there has been more recognition by policy makers and national governments of VET as a key strategy to address a range of social and political concerns, including but not limited to, growing youth unemployment, addressing stagnating economic growth, gender inequality and environmental concerns (UNESCO, 2016).

3.4 International debates in VET

There are a number of debates in VET that have caught the attention of scholars internationally. Because of their importance in the field of VET, these debates have continued among scholars. These include the relationship between vocational education and development generally, vocationalisation of the school curriculum, vocational education and productivity and vocational education and employability. In this section, some of the current debates in VET are analysed.

3.4.1VET for productivity and employability

VET has been linked with productivity and employability both in developed and developing countries (Nwogu & Nwannoruo, 2011; Seddon, 2009). The link between vocational education and productivity is embedded in the human capital school of thought. The argument by the human capital school is that an educated workforce leads to increased production. VET is strongly linked to increased productivity and economic performance, mostly in countries with serious investments in apprenticeship such as Germany, Denmark and the Netherlands (European Centre for the Development of Vocational Training, 2014).

A number of scholars have devoted much attention to the issue of VET, especially its relationship with employability (Cummings, 2005; Cuzzocrea, 2014; McGrath, Needham, Papier, Wedekind, & Van der Merwe, 2010b; Pillai et al., 2012; Pool & Sewell, 2007; Wedekind, 2013). Employability refers to a person's capability of gaining initial employment, maintaining employment (including the ability to make transitions between jobs and roles within

the same organisation in order to meet new job requirements) and/or obtaining new employment if required (Hillage & Pollard, 1998; Weligamage, 2009). Employability is, however, a complex concept that depends on a number of factors such as employability skills and personal circumstances. The focus on employability is because of very high numbers of unemployed youth, especially in developing countries (Oketch, 2016). According to the International Labour Organisation (2019), an estimated 172 million people worldwide were unemployed in 2018, which corresponds to an unemployment rate of 5.0 per cent. The number of people unemployed is projected to increase by 1 million per year to reach 174 million by 2020 as a result of the expanding labour force (International Labour Organisation, 2019). Developing countries contribute higher percentages to the global unemployment index. The unemployment problem has been attributed to skills shortages among the youth population. This has been worsened by the global economic crisis that has seen the decline in formal employment opportunities.

The role of VET in raising the opportunities of people for productivity and employment has also been acknowledged. Through VET, productive capacities of people and companies are improved and this also enhances employment opportunities(Agrawal, 2013). VET has been seen as one of the available options to impart skills to people in developing countries faced with the challenge of unemployment (Wedekind, 2013). Internationally, the growing youth unemployment rate has become a major concern for many countries (Tripney et al., 2013). These millions of unemployed youth present a challenge for those interested in skills development and VET is recognised as a possible way of improving employability status, especially in developing countries. The promise of creating employment for millions on the African continent has occupied the first pages of most political party manifestos in Africa. However, the challenge of unemployment on the continent will have no quick fix solutions in the foreseeable future.

Studies carried out in twenty countries in Europe, Latin America, Asia and sub-Saharan Africa revealed that VET has a positive and significant impact on paid formal employment (Tripney et al., 2013). Responding to the issue of employability has become an imperative for providers of education and training at all levels including vocational and higher education. From studies by McGrath et al. (2010b) in South African FET and British VET colleges, achieving employability has become a challenge because there are limited opportunities for apprenticeship training. In

the South African context the challenge of employability in FET institutions has been characterised by a lack of relevance between the skills developed and the realities in the world of work, the high cost of provision, an ever changing industrial sector and the legacy of apartheid (McGrath et al., 2010b). The players in the education sector of South Africa have since made a deliberate drive to improve FET college responsiveness to employability (Cosser, McGrath, Badroodien, & Maja, 2003a; McGrath & Akoojee, 2007; Wedekind, 2013).

3.5 VET systems in Africa

VET systems in Africa have generally inherited a colonial legacy of inequality of provision and access to VET based on race (McGrath et al., 2006). For example, in Mozambique, the Portuguese colonial experience is evident while in South Africa and Namibia the legacy of colonialism was exacerbated by Apartheid. In Zimbabwe, the same situation of unequal provision and access based on race existed. This has influenced the focus on increasing access and equity in the post-independence era. These inequalities meant that blacks would not get similar chances in employment as whites. This, in turn, informed post-independence VET policies to focus on giving skills for employment.

The main objective of VET in Africa is to reduce the problem of youth unemployment. Historically, governments have been the biggest providers of VET in Africa, but because of challenges associated with government provision, there has been a policy shift towards promoting private provision following the liberalisation agenda of the IMF and World Bank. The World Bank encouraged the Zimbabwean government to liberalise the economy by adopting a policy known as ESAP which sought to reduce government's participation in social aspects of the economy, including education (Kanyenze et al., 2011). Economic liberalisation sought to deal with the debt crisis faced by most sub-Saharan African countries (Oppong, 2014). A study by Mudukuti and Miller (2002) reveals that private provision of VET is an increasingly important component of the overall training system in sub-Saharan Africa. It has also emerged that as a result of the diversity of private providers, programmes offered in these centres are quite heterogeneous. There has also been a notable increase in unregistered training centres which raises quality issues in terms of provision of services, especially in countries such as Senegal and

Mali (Mudukuti & Miller, 2002). Private providers of VET in Africa include, among others, NGOs, faith based organisations and non-religious private organisations. Though private sector provision has succeeded in expanding VET provision, reaching some corners that were previously hidden from government institutions, it could not be established whether private provision was more efficient when compared to government provision.

3.5.1 Challenges faced by the African VET system

Generally, VET provision in Africa is faced with common challenges which include the following: weak national economies, shrinking wage employment, high youth unemployment and uncoordinated and unregulated VET systems (African Union, 2007). VET in Africa is generally underfunded compared to general education provision as a number of studies carried out on the continent have revealed. According to the World Bank (2013), the underfunding of VET programmes is a result of a lack of consensus on government support.

Poor funding mechanisms for VET have been attributed to the weak political economies of Sub-Saharan countries (Lolwana, 2016). Measures adopted in some countries for funding VET such as cost-sharing between governments and students have not been effective. Funding for VET remains inadequate in Sub-Saharan countries ranging from 1% to 4% of national budgets (Oketch, 2016; Papier, 2016).

Apart from the weaknesses in VET systems in Africa, on the positive side it has been observed that African VET systems are undergoing reforms that are aimed at strengthening provision. Notable among the reformation process has been the setting up of national training bodies in most countries such as the Council for Technical and Vocational Education and Training (COTVET) in Ghana, the National Qualifications Framework (NQF) in South Africa and the National Manpower Advisory Council (NAMACO) in Zimbabwe among others (African Union, 2007; UNESCO, 2013c).

Other characteristics of the VET system in Sub-Saharan Africa include lack of practical relevance, poor responsiveness to the labour market and challenges with infrastructure and

training equipment (Lolwana, 2016). Because of these and other challenges, VET systems within this region operate below capacity.

In the Zimbabwean education set up, vocational education was traditionally offered at three levels; secondary schools, vocational training centres and technical colleges (Mandiudza, 2015). It was only in 2016 that agriculture was introduced as a compulsory vocational subject in primary schools, following the introduction of the new Curriculum Framework for Primary and Secondary Education, 2015-2022 (Ministry of Primary and Secondary Education, 2016).

Of particular interest to this study is the vocational education offered in vocational training centres with specific reference to agriculture. Vocational training centres were set up in most districts of Zimbabwe in both rural and urban areas to equip people (mostly school drop outs) with skills for the informal labour market (Mandiudza, 2015). In most cases, they targeted those without five Ordinary level passes who would therefore be ineligible for higher education. Due to their flexible entry requirements and accessible locations to A1 farmers, these institutions are best positioned to offer training programmes to the farmers in their communities.

A study by Katsande sought to establish the place of VET in rural Zimbabwe from the perspective of students, teachers and education inspectors in the Murewa District of Zimbabwe (Katsande, 2016). The study focused on student attitudes towards vocational subjects and how those attitudes change with progression from primary to secondary school (Katsande, 2016). Katsande's study was of particular interest in this study for it exposes some weaknesses in VET provision in Zimbabwean rural areas. These findings can assist in identifying potential blind spots on factors that may potentially affect VET curriculum responsiveness. Of particular interest was the finding that rural based students have high motivation to enroll in VET. To that end, if opportunities are presented, some learners may enroll in agriculture related programmes. .

Another study by Mandiudza focused on investigating instructional guidance policies and practices that are provided to support the teaching and learning of vocational subjects in secondary schools in Zimbabwe. Mandiudza's study is of interest to the current study because it established the need for clear policies to guide curriculum implementation in teaching vocational

subjects in Zimbabwe (Mandiudza, 2015). The study further revealed that, currently, there was discord in instructional guidance policies for VET subjects. The current study differs from the other studies in that these studies were situated in schools whereas this study is a comparative study of two vocational training centres. Katsande's study focuses on attitudes of students towards vocational education while Mandiudza focuses on instructional guidance of teachers in those subjects.

3.6 AET policy, provision and challenges

The previous section presented a review of literature on VET, focusing mainly on the international and local debates in the field. In this section, the researcher reviews literature on Agriculture Education and Training AET at three levels, namely; the global level, Africa and finally, Zimbabwe. The researcher decided to review literature on AET because it is a sub-category of VET and this study is on the responsiveness of the VET curriculum (focusing specifically on agricultural training) to the learning needs of A1 farmers. The main argument in this section is that agriculture education and training are critical components for the successful implementation of the FTLRP, especially if it focuses on meeting the educational needs of A1 farmers. This study focuses on vocational education curriculum responsiveness to the learning needs of A1 farmers in post-2000 Zimbabwe.

3.6.1 The role of agriculture in national development

Agriculture plays a significant role in the development of nations globally. In the Zimbabwean context, agriculture contributes between 15% and 18% of the GDP, and contributes 40% of export earnings, and is a source of livelihood for 70% of the population (Ministry of Agriculture Mechanisation and Irrigation Development, 2012). Globally, nearly 800 million people live in a state of hunger and food insecurity. A high prevalence of food insecurity and poverty is an underlying factor in developing agricultural countries of Southeast Asia and sub-Saharan Africa (Bruinsma, 2017).

The agricultural sector on the African continent has performed badly in the past years, resulting in the continent importing food worth close to $20 billion dollars annually despite having over two-thirds of the world's arable land (Asenso- Okyere & Jemaneh, 2012). Projections on climate change induced food insecurity are not encouraging. Mapfumo et al. (2016) note that agricultural production is projected to drop by 10–50% by 2050 in major zones of Africa, primarily due to decreased amounts and poor distribution of rainfall under prevailing farming practices; yet over 70% of the continent's human population derives its livelihoods directly from rain-fed agriculture. The situation is even worse for the majority of countries in sub-Saharan Africa where it is estimated that more than 14.9% of the population are undernourished and about 26.8% of the people suffer from chronic malnutrition (Engler & Kretzer, 2014). Climate change and variability has become the biggest threat to food security in sub-Saharan Africa (Mapfumo et al., 2016). Examples of climate change induced droughts include *Elnino* that affected the 2015-2016 farming season. It is often observed that widespread poverty and food insecurity in African countries are inextricably linked to low agricultural productivity and is aggravated by climate change and variability (Gukurume, 2013; Mapfumo et al., 2016).

3.6.2 AET and productivity

Agricultural education and training contributes to reducing poverty levels in rural households and also raising food security. This has been articulated by the World Bank (2007b) which argues that AET has four effects on agricultural productivity which includes improved worker productivity, enabling farmers to select the best combinations of inputs and outputs, improved farmer capacity to deal with new technologies, and enabling farmer interaction with commercial markets. Evidence from research studies suggests that there exists a positive correlation between the level of farmer education and agricultural productivity (Lewin, 1993). The positive correlation between AET and productivity is also confirmed by other more recent findings that show that productivity differences in agriculture are increasingly a function of scientific and industrial capacity and in the education of people rather than natural resource endowments (Mutambara et al., 2013).

Gamble (2010) notes that improving the productivity, profitability, and sustainability of smallholder farming is the main pathway out of poverty in using agriculture for development. Rural livelihoods depend mostly on agriculture, hence the training in new skills can help to support them. The necessary skills include agricultural techniques, marketing and management of farming enterprises especially smallholder farms. According to Marope, Chakroun, and Holmes (2015) one of the main avenues to improving living standards in agrarian economies is increasing productivity in farms. This training can be done by agricultural extension workers and also by vocational training centres.

Mutambara et al (2013) concur with the view that agricultural education is an integral part of human capital development that can improve the quality of human resources and enhance human productivity and prosperity. Knowledge and skills are key factors necessary in the growth of agriculture. However, it should be noted that they are not the only critical factors; there is also need for developments in land, technical innovation, institutional innovation, research and extension, among other factors.

3.7 AET: The global picture

Globally, several countries have made different investments in agricultural education and training and achieved different results. A number of studies have reinforced the important role played by agriculture education and training in the growth of the agricultural sector (USAID, 2010; World Bank, 2007). In most cases, however, those countries that made significant investments have tended to achieve positive results in terms of agricultural productivity, whereas those that neglected investing in AET did not achieve much in terms of increasing their productivity and ultimately food security situation. It is, however, not always the case that investment in AET is directly proportional to the level of productivity because in some cases certain intervening variables are at play. Despite that admission, the argument that a country's investment in AET influences agricultural productivity is tenable to a large extent.

As highlighted in Chapter One, the term Agricultural Education and Training (AET) covers a wide range of mostly public sector education and training programmes provided to those who

work in and benefit from agriculture and rural development activities. AET is broad in scope and is inclusive of activities such as undergraduate and postgraduate degrees in agriculture, diploma qualifications by colleges of agriculture and certificates and sometimes diplomas by VTCs. Education, skills development and technical training are central to agricultural and rural employment (Hartl, 2009). The better the training and the more refined the skills are in terms of human capital, the higher the income and returns and the better the rural livelihoods.

AET growth and development is not uniform across all countries in the world. In this section, a brief history of the development of AET at the global level is presented. Countries across the world that made significant investments in AET have reaped rewards of increased productivity (Eicher & Haggblade, 2013). Their progress has been attributed mainly to such investments. This is summarised by Pardey and Beintema (2001) who note that investment in AET has become the needed 'slow magic' that has enabled sustainable agricultural productivity in the Americas, Europe and Asia.

The United States of America has a long history of AET, dating back to as early as 1862 when legislation that established Land Grant Colleges and paved the way for the establishment of the Department of Agriculture was passed. According to Eicher and Haggblade (2013), the success story of the USA was due to massive investments in education through experiment stations, extension services through the United States Department of Agriculture and scientific research through universities.

India is another country that has been rewarded by its massive investment in AET. The Indian government had been shaken by severe food deficits of about 28 million tonnes in grain supplies in 1959 (Eicher & Haggblade, 2013). In view of this crisis the Indian government tasked a team of researchers on how best to beat the food crisis. In their report the team encouraged serious investments in AET, including technological changes as a solution to the problem. This resulted in a green revolution for India. However, the green revolution in India was not without significant problems because it had been implemented with high political, cultural and economic costs (Frankel, 2015; Shiva, 2016).

A study by Alam et al. (2009), revealed that in Bangladesh intermediate and higher education in agriculture continues to play a decisive role in rural development and sustainable agricultural production. However, investments in AET in Bangladesh have not been followed by growth in agricultural outcomes in the same way as in other countries. Bangladesh sought to improve its agricultural productivity through investments in agricultural education and training as its neighbour India had done. Alam et al. (2009) note that agricultural faculties in universities in Bangladesh were established with the hope that they could enhance farm productivity. The activities in these universities and colleges were to involve local farming communities who would implement scientific findings on their farms (Johnson, 1996). Despite these investments, agricultural production in Bangladesh fell significantly from a 71% contribution to GDP in 1971 to a paltry 22% in 2006 (Alam et al., 2009). This massive decline in agricultural production in Bangladesh has been attributed to the economic crises, failure to respond to the commercial agricultural sector and failure to match curriculum to the needs of farmers (Tilak, 2002; World Bank, 2002).

At the global level, AET currently faces a number of challenges. These have been explained byRivera (2006), and Vandenbosch (2006) who argue that most AET programmes, especially at vocational level, have been criticised for being narrow in scope and misaligned to the needs of the labour market while those programmes in universities and colleges of agriculture at undergraduate level are too theoretical (emphasising academic aspects) and not in line with the needs of small scale farmers and employers. Curriculum challenges in AET have also been noted at the global level. Freer (2015) notes that there is need for curricula and pedagogical updates for AET systems to produce graduates with the knowledge, skills, and attitudes that enable sustainable food security, improve livelihoods, and facilitate natural resource conservation. Generally, the AET curriculum and pedagogy has been criticised as outdated. The agricultural curriculum in institutions in Bangladesh has been viewed as out of sync with the objectives and needs of farmers (Alam et al., 2009; Davis et al., 2007; World Bank, 2002).

The delivery of courses also leaves a lot to be desired, where mostly the traditional methods such as lectures are used in dissemination of scientific knowledge rather than adult education methods more suited to farmers who are mostly adults (Knowles, Holton, & Swanson, 2011; USDA,

2011). The focus by most researchers is mainly on AET in universities at the international level. Little has been done on agriculture training in vocational colleges, especially those based in rural areas. It is the researcher's argument that the latter have a close proximity to farmers, especially, those in smallholder production. This is in line with the argument by Ofir, Swanepoel, and Stroebel (2014) who note that AET systems should bolster the capacity of smallholder farmers.

3.7.1 AET in Sub-Saharan Africa

The African continent is developing at a fast rate. The International Monetary Fund (IMF) estimates that Africa's rate of development has the potential to surpass that of Asia in terms of GDP (Swanepoel, Stroebel, & Ofir, 2014). This anticipated growth in GDP is strongly supported by the continent's human capital resources in terms of the number of people within the 15-49 year age category, commonly known as the productive age category. This huge potential that Africa possesses is a key enabler for agricultural growth, which remains, and potentially will continue to be, a significant contributor to GDP (Swanepoel et al., 2014; UNDP, 2012). The projected growth, however, is not uniform across all African countries as the World Bank (2013) observes that the majority of extremely poor people in the world are found on the continent.

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Agriculture, however, remains a key sector for the development of the African continent following the decline in manufacturing, where giants such as China and the United States of America (USA) have a competitive advantage. In order to improve the agricultural sector,Swanepoel et al. (2014) note that there is need to re-organise the sector. Key to this is an investment in agriculture including agricultural education and training. South Africa, for example, has a shortage of highly skilled personnel needed in the agriculture industry while the demand for such skills will only increase (Earle & Paterson, 2007). Within sub-Saharan Africa, it was observed that there was an under investment in training of farmers and that tertiary agriculture education was not strategic enough to meet the needs of farming communities (Ngugi, Isinika, Temu, & Kitalyi, 2002).

The majority of farmers in sub-Saharan Africa are smallholder farmers of whom 90% are women. This is due to changes in land tenure systems such as the land reform programme in

Zimbabwe. This is a departure from previous systems that over relied on commercial farmers who were largely white and who depended on machinery and human labour in the form of farm workers. The coming in of smallholder farmers, some of whom are in agriculture for the first time in their lives, means that there is need to revisit agricultural education and training practices on the continent at all levels –as provided by extension programmes, vocational training, training in colleges of agriculture and even universities. The situation in Zimbabwe regarding the need for comprehensive agriculture education and training after the FTLRP, shares similarities with Kenya after the subdivision of commercial farms soon after that country's independence.

The subdivision of large-scale farms in Kenya, which were formerly owned by white settlers, saw thousands of African farmers settling on them. Many of the newly settled farmers had not grown cash crops before, nor had they been involved in modern farm management. Most of them came from subsistence farming backgrounds (Ngugi et al., 2002). In the Kenyan scenario, there was a need for those with high-level skills to work in various capacities in agriculture including research, extension programmes and farm management. This also meant that smallholder agriculture became increasingly significant both in terms of social transformation and as a contributor to GDP. Small-scale agriculture was also increasing in significance and its contribution to the GDP was growing. This can be seen in the Zimbabwean scenario where the FTLRP introduced more than 170 000 households to farming (Marongwe, 2011; Scoones et al., 2011). Matondi (2012a), notes that the programme radically transformed society, with former landowners being pushed aside, farm workers having their livelihoods 'withdrawn', and new beneficiaries walking into new commercial land without structured or sustained support. This lack of support includes inadequate and sometimes non-existent extension services. In order to bring back to life the agricultural sector in Zimbabwe, the need for relevant agriculture education and training at all levels cannot be over-emphasised.

3.7.2 AET provision in Zimbabwe

The government of Zimbabwe has an AET policy framework guiding the sector from 2012 to 2032 (Ministry of Agriculture Mechanisation and Irrigation Development, 2012). Among the key issues addressed by the policy is the issue of AET and central to this aspect is increasing

private sector participation in its provision. Under the section on AET, the government proposes to review the existing agriculture courses on a regular basis so as to make them relevant to the needs of the community. The policy also addresses two key issues related to the current study on vocational curriculum responsiveness to the learning needs of A1 farmers in Zimbabwe. These are policy issue numbers three and four. The former focuses on providing responsive education and training while the latter addresses farmer training. In relation to farmer training, the objective is to capacitate farmers to meet the needs of the sector. Though it is a welcome move to have a policy guiding AET in Zimbabwe, what remains to be seen is the implementation of the policy. This is dependent on several variables. The agriculture policy framework acknowledges the need for a responsive AET system in the country with a well-adapted curriculum to suit the level at which the training takes place. In Zimbabwe, AET provision is provided in colleges (agricultural as well as VTCs) and universities from certificate level to doctoral studies (Mugwisi, 2013). These institutions are either public, private or NGOs.

3.7.2.1 University-based AET

Agricultural training in Zimbabwe is classified under three major learning levels, namely, universities, colleges and other farmer training institutions. By 2013, there were 11 universities, 13 colleges and 11 training centres established for agricultural training purposes at various levels in Zimbabwe. Some institutions were established before independence, while others were established after independence and some in post-2000, d during the land reform era (J. Mutambara et al., 2013). The situation has since changed with more institutions offering agricultural education in Zimbabwe.

Currently, Zimbabwe has over twenty registered universities. Most of these, offer agricultural education and training in different areas of specialisation at undergraduate and post-graduate level (Garwe, 2015). The majority of universities in Zimbabwe offer agriculture at undergraduate level. These include Africa University, Bindura University of Science Education, National University of Science and Technology, Great Zimbabwe University, Chinhoyi University of Technology, Lupane State University, Midlands State University, Solusi University, Marondera University of Agricultural Sciences and Technology and Zimbabwe Open University.

The programmes offered in these institutions are quite varied, covering most aspects of agriculture, including the following: Agriculture Economics, Agronomy, Animal Science, Fisheries, Horticulture, Irrigation and Water Management, Wildlife Management and Forestry. Not all these programmes are available in all the institutions. What is, however, noticeable is the limited number of universities offering Master's and Doctoral programmes in agriculture to supply the country with high level agricultural education suited for scientists and researchers. Only National University of Science and Technology and the University of Zimbabwe are currently offering Masters programmes in agriculture (Garwe, 2015; Mugwisi, 2013). Entry into universities in Zimbabwe is based on candidates possessing minimum requirements of five Ordinary Level subjects including English Language and Mathematics, as well as any two Advanced Level subjects in the Sciences for the Bachelors Degree in Agriculture with its variations (Chinhoyi University of Technology, 2017; Great Zimbabwe University, 2017). The degree programme takes four years at most universities for the conventional programme and three years for part-time programmes, which usually enroll people already practicing agriculture at various work stations.

University based agriculture education aims mainly at producing agricultural scientists in various aspects of agriculture whose major role is to lead in research at various research stations, universities and in some cases assist in policy formulation (Mugwisi, 2013). Some of the graduates would go on to specialise in certain areas of agriculture to become lecturers in colleges and universities. This, therefore, suggests that university based agriculture education is rather elitist and would exclude the farmers who work practically.

3.7.2.2 College based AET

Currently, there are six diploma awarding agricultural colleges in Zimbabwe, namely Gwebi in Mashonaland West, Chibero, Mazowe in Mashonaland Central, Rio Tinto in Midlands, Mlezu in Midlands, Esigodini in Matabeleland South and Kushinga-Phikhelela in Mashonaland East. Entry into diploma programmes in Agriculture programmes is dependent on the possession of the Certificate in Agriculture (Mugwisi, 2013). Courses to achieve these are offered by vocational training centres such as Kaguvi in Midlands, Mashayamombe in Mashonaland West,

Magamba in Manicaland and Mushagashe in Masvingo Province, among others. Vocational training centres in Zimbabwe offer agriculture education and training to youths and adults, some of whom join extension work while others become full-time farmers. This is a category of farmers in which most cannot afford employing private extension workers. The researcher argues that in order to meet the needs of these farmers, vocational training centres located in the heart of farmlands should respond to the educational needs of these farmers. Despite that realisation, it appears that provision of education and training for farmers in countries that implemented land reform programmes is not uniform.

There are some countries with elaborate farmer education and training programmes while others are without. The institutions offering these programmes include government, non-governmental organisations, private organisations and church organisations. Of note, however, is that universities and agricultural colleges have mostly tended to focus on people in need of scientific agricultural knowledge and skills such as researchers, scientists and extension workers. Not much training is availed to farmers who cannot access the scientific training due to a failure to meet eligibility criteria (Mugwisi, 2013). Such farmers have emerged in significant numbers after the land reform programme, post 2000. These farmers need the training and it is the researcher's argument that VET should fill this gap by providing training that is responsive to the needs of this ever-increasing population of farmers. College based AET, especially in VTCs, is more accessible to the category of A1 farmers as the entry requirements are more flexible compared to the rigid requirements of poly-technical colleges and university-based education. For enrollment in AET in VTCs there are no strict entry requirements such as the five Ordinary Level subject passes by poly-technical colleges. NGOs in Zimbabwe also play a significant role in the provision of AET.

3.7.2.3 Non-Governmental Organisation based AET

Historically, AET in Zimbabwe was mainly a government responsibility. However, this is no longer the case (Pazvakavambwa & Hakutangwi, 2006). NGOs have taken up some space left by the government and now play an active role in providing AET in Zimbabwe (Davis, 2008). Their efforts complement the work of universities, colleges and the AGRITEX department in

training smallholder farmers in agricultural practice. After the adoption of ESAP in Zimbabwe, the role of NGOs in farmer training became more prominent. It was believed that increasing NGO presence would reduce government expenditure as well as increase the efficiency and cost effectiveness of agricultural extension services (Hanyani-Mlambo, 2000). In Zimbabwe, NGOs have a special role to play in extension services also because of the expanded focus of extension work that includes elements of community development.

NGOs have been influential mostly in introducing sustainable agricultural practices mainly among the 'poor' smallholder farmers who are often left out of AET offered by universities and colleges that target scientists and extension workers. NGOs also play a central role in urban agriculture. Most NGOs focused on rural development in Zimbabwe play an active role in AET. Notable among NGOs that participate in agriculture related activities in Zimbabwe include DFID, Catholic Relief Services, World Vision, Plan International and Care Zimbabwe International. The majority of these organisations have similar interventions and work as implementing partners for the World Food Programme, an arm of the United Nations. Most interventions by these NGOs are similar but they differ in their areas of operation. For example, Care Zimbabwe International has dominated in Masvingo and Midlands Provinces, while World Vision is more active in Matebeleland Province. Agricultural initiatives that have been driven by NGOs include conservation agriculture, small livestock production, small grains farming and nutritional gardens (Chitongo, 2013).

3.8 Learning needs of smallholder farmers

This section reviews literature on the learning needs of smallholder farmers, globally, in Africa and finally in Zimbabwe. Firstly, the section presents the three forms of learning which are formal, informal and non-formal, special reference being given to their application in farmer learning. Secondly, the section presents models of farmer learning usually applied to smallholder farmers, learning for sustainable small-scale agriculture as well as challenges and opportunities. This was done because this study focuses on A1 farmers who are in principle, smallholder farmers. The section assists in exposing the gap that this study seeks to fill, on learning needs of A1 farmers in post-2000 Zimbabwe. Smallholder farmers do not have uniform learning needs

across the board. Their learning needs are mediated by several factors that include, but are not limited to, the following: technological advancement, size of landholdings, as well as farmers' initial education. Mukute and Lotz-Sisitka (2012) note that for sustainable agriculture to be a reality, there is need to establish and expand learning innovations for farmers. In the following section, a review of literature on dimensions of learning followed by farmer learning approaches is given.

3.8.1 Dimensions of learning

Learning takes place through three main sources which are formal learning, non-formal learning and informal learning. The distinction among the three forms of learning are often part of discussions on how farmers learn and this thesis is no exception (Allan, 2005; Kaziboni, 2018). These three dimensions of learning are anchored on different assumptions of what constitute knowledge, the role of the learner, the role of the facilitator and the expected behaviour from someone who has gone through learning. It is important to clarify these three dimensions before introducing farmer learning approaches.

3.8.1.1 Formal learning

Formal learning refers to the learning that takes place in highly institutionalised settings in hierarchically graded systems. Formal learning takes place from early childhood education up to universities. Formal learning often ends with the award of Certificates, Diplomas and Degrees. In the context of agricultural education and training, formal learning takes place in agricultural colleges, universities offering undergraduate and post-graduate degrees in agriculture as well as vocational training colleges (Kaziboni, 2018). Extension workers and agricultural scientists in Zimbabwe are trained in such institutions. However, the model cannot apply in the same way to smallholder farmers. The two colleges in this study would be examples of institutions offering formal agriculture education and training. The formal learning mode is not usually common with farmers, though in some cases smallholder farmers learn through such channels. The more suitable mode of learning which is relevant to the needs of smallholder farmers is non-formal learning (Kaziboni, 2018).

3.8.1.2 Non-formal learning

Non-formal learning programmes refer to educational programmes that are systematically organised but occur outside the classroom setting. Non-formal education refers to any organised, systematic educational activity carried outside the framework of the formal system to provide selected types of learning to particular sub-groups of the population, adults as well as children (Knowles et al., 2011; Tudor, 2013). Non-formal education applies equally to children as well as adults. When used in the context of adult learners such as farmers, non-formal education applies the principles of non-formal adult learning. Kaziboni (2018) notes that non-formal learning plays a pivotal role in sharing agricultural knowledge and skills to farmers. Non-formal learning is sometimes an alternative to formal learning while, in other cases, it can be offered to supplement formal learning. Principles of non-formal adult learning are based on the works of Malcolm Knowles and Alan Rogers (Knowles et al., 2011; Rogers, 1993). Non-formal learning is anchored on the principles of flexibility, learner-centeredness and the use of participatory methods. Within agricultural extension, non-formal education employs strategies such as demonstration plots, workshops, farm field school, among others (Kaziboni, 2018; Rogers, 1993).

3.8.1.3 Informal learning

Informal learning is that learning that takes place without noticing as people live their lives. A number of studies have revealed that farmers do most of their learning informally and, as such, they are more educated than what their formal qualifications suggest (Spielman, Ekboir, Davis, & Ochieng, 2008). Informal learning is central in the acquisition of Indigenous Knowledge Systems. Beckford and Barker (2007) note that local knowledge consists of dynamic and complex bodies of know-how, practices and skills developed and sustained over time on the basis of local people's experiences in their environmental and social realities. Local farmers have intimate knowledge of negotiating their terrains based on their experience over years. Informal learning can take place through socialisation as well as through self-directed learning. Self-directed learning has been explained in the above section on non-formal learning. Within IKS, socialisation is knowledge passed on by elders to younger community members. Makondo

(2012) notes that among the Shona community, for example, the leaders and those tasked with knowledge generation were experienced individuals in the name of *Vanasorojena* (grandfathers and grandmothers). IKS has the potential to assist in responses by smallholder farmers to climate change. The growing of small grains by smallholder farmers is dependant on local knowledge that is shared by the farming community (Ajani, Mgbenka, & Okeke, 2013; Rusinga, Chapungu, Moyo, & Stigter, 2014). Šūmane et al. (2018) observe that integrating informal and formal knowledge of farmers enhances sustainability of agricultural enterprises. In most cases, informal knowledge took a subordinate role to formal knowledge, in some cases abandoning aspects that contribute to sustainability. Other researchers even claim that sustainable agricultural practices are better learnt through informal learning rather than formal channels (Curry & Kirwan, 2014). Establishing knowledge networks through integrating the formal and informal channels is a key consideration for sustainability (Šūmane et al., 2018). Self-directed learning is another way IKS are learnt by farmers. This refers to independent learning characterised by self initiation and self motivation, often associated with adult education (Schaap, Baartman, & De Bruijn, 2012).

3.8.2 Farmer learning approaches

Globally, farmer learning approaches have a long history. The approaches in agriculture research, development and extension are in four broad categories. These approaches are embedded in the politics of knowledge and also reveal their assumptions about farmers (Mukute, 2010a). In this thesis, the following approaches are considered: Transfer of Technology, Farming systems research, Train and Visit Approach and Farmer first participatory research and People Centred Learning and Innovation (Mukute, 2010a; Scoones, Thompson, & Chambers, 2009; Whiteside, 1998).

3.8.2.1 Transfer of Technology

The transfer of technology model approach has a long history. It emerged and grew in popularity in the 1950s. Transfer of technology is a result of modernisation theory of development which was predominantly top-down (Babikwa, 2003). Scientists are considered by this model to be the 'knowers', who ought to deposit scientific knowledge in farmers, using the banking concept in

Paulo Freire's terminology (Freire, 1970). The transfer of technology approach assumes that for farmers to develop they must do away with their traditional ways of knowing, and adopt the scientific and modern. Agricultural extension practitioners play a central role in technology transfer to convince farmers to adopt new agricultural technologies.

Agricultural extension model is synonymous with transfer of technology. According to Hanyani-Mlambo (2000), in Zimbabwe, agricultural extension can be traced back to 1927 when it was introduced among Black farmers by Emory D. Alvord. It was in the context of a dualised (separate extension system for Blacks and Whites) agricultural training system (Hanyani-Mlambo, 2000; Mukembo & Edwards, 2015). Alvord was a champion of agricultural extension services in Zimbabwe and his work was recognised by naming an agricultural training centre near Masvingo City after him. The aim of agricultural extension was to enhance food security to meet the growing demand. Alvord employed the Master Farmer scheme which sought to provide extension services that led to increased productivity (Pazvakavambwa & Hakutangwi, 2006). Extension services before independence faced challenges of inter- institutional rivalry since funding was not uniform between the providers of extension services (Pazvakavambwa & Hakutangwi, 2006).

Upon attaining independence, the separate extension systems were merged to form the department of Agricultural, Technical and Extension Services (AGRITEX). According to Mukembo and Edwards (2015), the AGRITEX department has been helpful to smallholder farmers in adopting new farming practices, for example, conservation tillage introduced in 1988 as an adaptation strategy in light of climate change.

Agricultural extension has also been popular in Uganda. During the colonial period, extension services were offered by Chiefs, with the assistance of a few trained agriculture personnel (Bukenya, 2010). Government agricultural extension services were offered through District Farm Institutes between 1957 and 1962 under the Ministry of Agriculture (Busingye, 2011). These institutes were mandated to conduct short courses for the Chiefs and other progressive small-scale farmers. The activities of District Farm Institutes were also complemented by Rural Training Centres which also offered community based extension services. The training centres

became demonstration centres for new methods and technologies in agriculture (Busingye, 2011). There was a belief that agricultural knowledge and skills would trickle down from the few trained personnel to the rest of the farmers, consistent with the assumptions of the modernisation theory. In post-independence Uganda, the national government took over extension work with the assistance of USAID, which emphasised market driven extension (Bukenya, 2010; Busingye, 2011). The introduction of market driven extension was, however, unsuccessful because extension in Uganda continued to emphasise diffusion of new technologies.

However, despite the noted successes, technology transfer has been criticised for failing to respect communities' indigenous knowledge systems. This has been one of its greatest undoing. According to Mvumi, Morris, Stathers, and Riwa (2009) technology transfer has failed in Tanzania and Zimbabwe, especially within smallholder farming systems. This is because it placed emphasis on technology development instead of focusing on doing things differently in order to overcome institutional constraints. Chambers and Jiggins (1987) note that technology transfer has often failed smallholder farmers who are resource constrained mainly because its strategies are often capital intensive, high input and market oriented and the technologies suggested are usually inappropriate for these settings.

Another challenge with the Transfer of Technology approach is related to its collaboration with commercial farmers as well as with out-grower schemes. This is a cause of bias towards farmers in these categories at the expense of smallholder farmers who may not be part of these. In Zimbabwe, for example, demonstration plots are owned by seed supplying companies and this has led to demonstrations of high input techniques at the expense of low input alternatives within the reach of smallholder farmers (Whiteside, 1998).

3.8.2.2 Farming systems research

Farming systems research emerged in the 1970s out of systems thinking. In this approach, relationships between parts are critical (Wilson & Mukute, 2006). Within the farming systems research, farmers became objects of study and sources of information. This was an attempt to deal with weaknesses of the Transfer of Technology approach. According to Chambers and

Jiggins (1987) Farming systems research approach sought to understand systematically complexities of farming systems focusing on farm households and their needs- both economic and human dimensions.

Farming systems research employed the survey methods following steps of diagnosis of the problem through understanding the local context in which farmers operated in. Wilson and Mukute (2006) argue that the approach noted the importance of local realities and connections between social and ecological tools as well as appreciation of farmer abilities and the complexity of small-scale farming systems. From the above, it appears the approach was well intended. However, Chambers and Jiggins (1987) further note that farming systems research is another top-down approach where university trained scientists believe that their knowledge is superior to that of farmers and hence they determine what agriculture research should be done in what manner. The weaknesses of the farmer systems research pointed to the need for a more inclusive approach that places at the centre interactions between scientists and farmers – hence the Train and Visit Approach (Mukute, 2010b).

3.8.2.3 Train and Visit Approach

The Train and Visit Approach was promoted by the World Bank and was applied in over 70 countries between 1975 and 1995. In this approach specialists and field staff provide technical information and conduct village visits to selected communities. The Train and Visit Approach was highly decentralised and offered intensive training and follow-ups by extension workers. However, Mukute (2010a) notes that the Train and Visit Approach was based on similar assumptions to those of the Transfer of Technology Approach. In Zimbabwe, the Train and Visit Approach was piloted in the Midlands Province, however, with limited success. According to Pazvakavambwa and Hakutangwi (2006) the main challenge faced by the Train and Visit Approach was its lack of flexibility to the needs of smallholder farmers.

Another challenge of this approach is that it is gendered. Studies on agriculture and gender in Zimbabwe have revealed that generally women farmers face discrimination from extension workers. Extension workers do not prioritise visiting female farmers due to perceptions that

women are not serious as farmers (Chingarande, 2008; Hanyani-Mlambo, 2000; Kaziboni, 2018). Because of the prevailing gender stereotypes typical of patriarchal societies such as in Zimbabwe, the Train and Visit Approach predominantly favours male farmers. Farming is considered a 'male' terrain. As such in most cases the selection of demonstration farms is biased in favour of already progressive farmers who are predominantly male. The biases identified by Robert Chambers can easily be applied to the context of agriculture. Most extension officers and fieldwork researchers are men who easily establish contact with male farmers at the expense of female farmers (Chambers, 1980).

3.8.2.4 Farmer First Approach

From 1990 onwards, research on extension focused on collaborative learning. According to Chambers (1994) farmers were considered to be colleagues and learning about agriculture must be farm based, leading to joint production of knowledge. This contributes more to sustainable agricultural practices. Farmer First approaches are anchored in a set of assumptions about farmers. Whiteside (1998, p. 20) identifies some of the following assumptions:

- Farmers and farming communities are knowledgeable about local conditions;
- Indigenous Technical knowledge can be used with more recent forms of knowledge from other sources;
- The participation of farmers in identifying and overcoming their problems is essential.

NGOs and even governments have adopted different versions of participatory techniques and these have been given various names though the central principles are the same. Participatory techniques are borrowed from other philosophers such as Paulo Freire who was disturbed by the ''Banking concept" of education which he considered as dehumanising and a form of violence against learners (Freire, 1999). This approach has no place near adult education, for example, agricultural extension. Another important contributor to Farmer First Approaches is Participatory Rural Appraisal (Mukute, 2010a). When used well Participatory Rural Appraisal is not only cost effective but also works as an empowering tool especially among the 'illiterate' farmers who are in most cases women (Chambers, 1994). There are a number of variants of Farmer First Approaches such as Participatory Agricultural Learning, Participatory Technology Development,

and Farmer Field Schools. Another more recent approach is People Centred Learning and Innovation (Mukute, 2010a).

3.8.2.5 People Centred Learning and Innovation

People Centred Learning and Innovation, emphasises the importance of putting farmers at the centre of identifying research needs and co-developing knowledge and technologies to address them (Mukute, 2010a; Mukute & Lotz-Sisitka, 2012). A people-centred strategy is more appropriate to cope with a diversity of issues in both agro-ecological and socio-economic terms, because it leads to an understanding that agricultural practices are intrinsically linked to local customs and culture (Stoop & Hart, 2005). Mukute (2010a) cites key features of the people centred learning and innovation which include that, it is a collective approach to learning and innovation as well as that it has an explicit interest in engaging policy and structures that have a bearing on knowledge generation. Mukute further notes that, the people centred learning and innovation approach is critical in learning for sustainable agriculture in that it draws on various knowledge sources.

3.8.3 Smallholder farming practices in Africa

Circumstances of smallholder farmers are context specific and may be unique from one country to the other. Vanlauwe et al. (2014) observes that African farming systems exhibit a high degree of heterogeneity. The heterogeneity of smallholder farming landscapes suggests the need for high levels of flexibility when dealing with these systems. The major variations in farming landscapes relate to differences in population pressure, livelihood strategies of the farmers, national policies, and agro-ecological zones. Kristjanson et al. (2012) conducted a study on changes to farming practices of smallholder farmers and their influence on food security in East Africa, focusing on four countries, namely; Tanzania, Kenya, Uganda and Ethiopia. Climate change has also influenced the changes to these farming practices. Training is needed in the development of smallholder farmers in order to sustain their practices (Maponya et al., 2015). Smallholder farmers can benefit from training in crop production, livestock production and health, post-harvest management, agricultural entrepreneurship and marketing. If these training

needs are not met, the productivity levels of smallholder farmers will remain limited (Maponya, Venter, Plooy, Modise, & Heever, 2016).

3.8.3.1 Livestock production

Globally, livestock production is an important part of agricultural production for smallholder farmers. According to Food and Agriculture Organisation (2009) livestock contributes 40% of the global value of agricultural output and supports the livelihood and food security of about a billion people. Livestock production has evolved over the years due to changes in climate, industrialisation and economic conditions of the world. The educational needs of smallholder livestock farmers have also changed over the years. Montshwe (2006) observes that small-scale livestock farmers in South Africa are often constrained by a number of factors that include lack of market information, low production and farmer training.

In East Africa, there are three livestock production systems for small-scale farmers which are crop-livestock farming, extensive pastoral system and the market oriented system (Nalubwama, Mugisha, & Vaarst, 2011). The crop-livestock system is one in which livestock production is integrated with crop production in more diversified forms. Meanwhile, in the arid and semi-arid regions extensive pastoral system is practiced by traditional herdsmen, for example, the Maasai, Boran and Rendille of Kenya. The market- oriented system is mostly found in peri-urban areas where farmers raise cattle and goats for meat and milk production to supply the cities.

In Zimbabwe, cattle owned by smallholder farmers have multiple uses; for draught power, transport, milk, manure, bride-wealth payments and meat (Chakoma, 2012; Mavedzenge et al., 2006). Other livestock kept by smallholder farmers are sheep, goats, donkeys and poultry. These livestock are kept as part of an integrated system. In Masvingo Province for example, livestock production has been falling over the years. The situation worsened during and after the FTLRP. Challenges that affect the livestock sector, especially beef production include poor pastures due to climate change and overgrazing as well as diseases such as Foot and Mouth Disease due to uncontrolled movement of cattle (Mavedzenge et al., 2006). Foot and Mouth Disease is responsible for over one quarter of livestock mortality in Masvingo Province.

Poor forage management practices also contribute significantly to low livestock production among smallholder farmers. Chakoma (2012) revealed that the majority of smallholder farmers in Zimbabwe practice dryland agriculture, relying on rainfall to produce forages for their livestock. High dependency on natural forages in the context of climate change affect livestock output. Chakoma notes that there is need for small-scale livestock farmers to embrace sustainable forages management. Small-scale livestock farmers need training on technical aspects of forage production (Chakoma, 2012).

A study on educational and financial needs of small-scale dairy farmers in Venezuela revealed that the majority of these farmers need training in forages, herd health, reproduction, general management practices, financial management and record keeping (Nieto & Henderson, 1991). The educational needs highly ranked by these farmers were those linked to production operations such as forage management, herd health and reproduction while management related areas were given low priority, including record keeping and housing.

A study by Tham-Agyekum, Appiah, and Nimoh (2010) on small-scale farmers in Ghana revealed the importance of record keeping in poultry farming. Record keeping by these farmers is not an easy task and is often constrained by several factors including high levels of illiteracy, lack of time to update records, and failure by the farmers to appreciate the importance of keeping records. Poultry production by smallholder farmers is often the free range system that utilises indigenous types of domestic fowl. Indigenous poultry in Uganda and many other African countries are left to scavenge to meet their nutritional needs and in the majority of cases and they do not have shelter (Nalubwama et al., 2011). The free range system exposes indigenous poultry to diseases, hence smallholder farmers practising organic poultry farming need knowledge on proper management without compromising organic agriculture. In some cases relying on traditional knowledge may not lead to desired nutritional levels in the poultry.

3.8.3.2 Crop production

Literature has revealed that smallholder farmers need training in crop production(Maponya et al., 2016; Phiri, Chipeta, & Chawinga, 2019). This is especially the case for cash crops as well as

other crops that are newly introduced in their regions. There have also been changes in climate as well as the move towards environmentally sustainable agriculture and these issues have necessitated the need for responsive agricultural practices among new farmers. The need to train smallholder farmers in land preparation, seed sowing, pests and diseases as well as post-harvest storage were also noted within South Africa (Maponya et al., 2016).

A study by Phiri et al. (2019) on information needs of smallholder farmers in Malawi revealed the need for crop husbandry as the one with the highest priority among the farmers studied. However, other needs expressed by the smallholder farmers include pest and disease management, animal husbandry and weather and climate change (Phiri et al., 2019). In order to attain sustainable smallholder farming, there is need to ensure that the above information needs of these farmers are addressed. In Tanzania, a study among smallholder rice farmers revealed the need for information on marketing, pest control as well as animal health.

A study by Maponya et al. (2016) among smallholder farmers in Mopani District of South Africa revealed that management of pest and diseases is a major training need for these farmers. The majority of these farmers had limited knowledge on the cycles of pests, diseases and weeds and often times could not distinguish particular pests.

Another major learning need for smallholder farmers in Africa is on harvest and post-harvest management. Post-harvest losses are significant in sub-Saharan Africa affecting total agricultural production, in some cases accounting for between 20% and 40% of total output (Kaminski & Christiaensen, 2014). In sub-Saharan Africa most post-harvest losses occur during harvesting and post-harvest handling of their produce. In Mopani District of South Africa, post-harvest handling was considered a training challenge for smallholder farmers (Maponya et al., 2016).

In Nigeria, some causes of post-harvest losses are a result of over concentration by farmers on increasing output without improving adequate storage and linkages with markets (Donye, Ja'afar-Furo, & Obinne, 2013). The majority of crop handlers who are mostly women do not have adequate knowledge in harvesting and handling methods, resulting in significant damage to crops by pests.

3.8.3.3 Agricultural Entrepreneurship

Agricultural activities in smallholder farms have in most cases been done on a subsistence level focusing on production of food crops and animals for household consumption (Donye et al., 2013). Studies done in India, Peru, Ethiopia and Sudan have revealed that enterprise training for smallholder farmers especially women (who are the majority of smallholders) has had positive results in improving women's entrepreneurial ability (Leach et al., 2000). This is also supported by (Davis et al., 2007) who note that enterprise training for smallholder farmers provides them with a better understanding and management of their opportunities. Enterprise skills training for smallholder farmers includes training in market analysis and business management and identifying the technologies needed in agricultural innovation (Davis et al., 2007). Studies on smallholder farmers in Ghana revealed that women faced difficulties in marketing their produce, including a lack of market access and an inability to secure fair and consistent prices.

In South Africa, Maponya et al. (2016) state that smallholder farmers considered marketing as an important learning need. The majority of smallholder farmers in Mopani District have challenges in satisfying the market because of lack of consistency on their part. Agro-processing is another training need for smallholder farmers linked to agricultural entrepreneurship. A number of studies have revealed that agro-processing has a potential to increase economic sustainability of smallholder farmers as well as contribute to the reduction of poverty among these farmers (Donye et al., 2013; Mvumi et al., 2009).

In Nigeria, agricultural entrepreneurship is an important component of the training of smallholder farmers. Donye et al. (2013) assert that agricultural entrepreneurship is a major component in training programmes for agriculture extension officers as well as smallholder farmers. The training programme covers among others marketing strategies, budgeting and planning.

Managing finances is an important element of agricultural entrepreneurship required by smallholder farmers, mostly women (Donye et al., 2013). In order to run their businesses successfully, women smallholder farmers need to be able to control and plan their finances. To

do this, they need to be able to price their goods, work out their profit margins, and understand whether they were making a profit. The ability to price inputs (including the cost of labour), establish market prices, and understand the difference between income and profits is also important. Each of the case studies finds it important to deliver training designed to enable farmers, individually or in groups, to improve the financial management of their production. Financial management training is needed more by women farmers across the continent (Bailey, Arnold, & Igo, 2014; Maponya et al., 2016).

Another important learning need for smallholder farmers is related to agricultural business management skills, especially for young and beginning farmers. According to Bailey et al. (2014), the majority of beginning farmers in Montana emphasised the need to learn accounting, record keeping and marketing. The farmers also identified a need for education in the field of legal affairs focusing on issues such as tax laws, contract laws and property rights. In addition to these, the majority of these young farmers indicated a need for training in the use of production technologies due to the increased mechanisation of modern agriculture (Bailey et al., 2014).

3.8.4 Challenges faced in AET

Despite overwhelming evidence on the important role played by AET, this sector remains marginalised and faces a number of challenges in most countries in southern Africa. Swanepoel et al. (2014), note that the AET system in sub-Saharan Africa has suffered from three decades of neglect and as a result faces several challenges. These are presented in the next sections.

One of the challenges faced in AET in southern Africa is poor access to finance. The characteristics of smallholder farmers such as low education and lack of assets for collateral limit their access to loans (Baiyegunhi & Fraser, 2014; Mutero, Munapo, & Seaketso, 2016). The post-apartheid South African government adopted a policy thrust for reforms in the agriculture sector aimed at expanding and maximising the contribution of smallholder farmers (mostly black farmers) to economic development (Aliber & Hall, 2012). In light of that policy imperative, the government of South Africa significantly increased funding for smallholder farmers. Despite the

availability of funding from national government there were, however, significant challenges to accessing these funds by the smallholder farmers.

Poor access to finance by AET institutions contributes to other challenges including the shortage of extension workers and professionally trained lecturers. The first challenge these emerging farmers faced was related to the shortage of agricultural extension personnel, hence inadequate extension services in most provinces of South Africa (Aliber & Hall, 2012). Across a number of provinces, extension departments are top heavy in that they have too many managerial staff compared to the much needed extension workers in the districts.

There have been numerous studies on teacher quality in education generally. It is uncontested that the availability of qualified teachers is a prerequisite for successful educational outcomes at any level. This applies to VET and AET as well. According to the Academy of Science of South Africa (2017), in South Africa teacher quality in AET is an issue of serious concern at all levels of the education system from schools to vocational levels. The challenge is of both supply and quality of teachers/trainers. In the South African context, one of the challenges was to do with the invisibility of smallholder farmers. Aliber and Hall (2012), note that in most cases authorities in the Department of Agriculture do not have up-dated data on the numbers and distribution of these farmers hence the majority is excluded when it comes to financial assistance.

Another challenge faced by AET within southern Africa is curriculum misalignment to skills needed by smallholder farmers. The training curriculum in AET has been criticised for not developing the right technical competencies in the graduates it produces. According to theWorld Bank (2007b), curriculum and teaching methods in AET include little practical training but rather emphasise theory because most lecturers in the sector do not have the relevant practical skills themselves. AET providers in sub-Saharan Africa often face challenges in relation to their curriculum, poor institutional linkages, technology and dilapidated infrastructure and equipment (Freer, 2015; Rivera, 2006). According to theDepartment of Agriculture (2008), in South Africa there is need to align the AET curricula at all levels in the education sector to the key challenges facing the agricultural sector with particular focus on the needs and requirements of emerging

farmers and national priorities such as food security, rural wealth creation and sustainable development.

Another study in South Africa by the Academy of Science South Africa revealed that there is an urgent need to improve the relevance and responsiveness of the agriculture curricular (Academy of Science of South Africa, 2017). Achieving this goal would involve broadening the curriculum to include emerging issues such as climate change and entrepreneurship so as to assist emerging smallholder farmers.

Furthermore, there has been a misalignment between the source of graduates and smallholder farmer populations. Findings from studies by Swanepoel et al. (2014) reveal that most graduates from AET institutions in this region come from urban areas and recruitment of students into these programmes has shown an urban bias. This is because urban dwellers have easier access to the media and, therefore, get information on programmes faster than their rural counterparts. Even if both urban and rural dwellers were to apply for admission into programmes, often the urbanites are more likely to meet admission requirements. This misalignment in recruitment also means that graduates from the urban areas are likely to return to cities and towns upon graduation for employment rather than working in rural areas as extension agents (Department of Agriculture, 2008).

Another challenge revealed by studies on AET is the misalignment between the gender of graduates and smallholder farmer populations. Smallholder production in sub-Saharan Africa is dominated by women farmers. Studies in Central and Southern Africa have revealed that agricultural knowledge is critical for women farmers (Chingarande, 2008; Kaziboni, 2018; Mudege, Mdege, Abidin, & Bhatasara, 2017). A study by Mudege et al. (2017) on smallholder potato farmers in Malawi revealed that woman smallholder farmers face significant challenges. Some of the challenges relate to recruitment of participants in training which usually targets household heads, who, in the majority of cases are men. This affects participation of women smallholder farmers in these training programmes. Another challenge identified by this study was that access to information on training programmes was unequal due to underlying structures governing gender relations, especially norms restricting women's mobility (Mudege et al., 2017).

In Zimbabwe, a study by Kaziboni (2018) on acquisition of agricultural knowledge by women commercial farmers in Zimbabwe revealed that these farmers have knowledge gaps which include technical knowledge, business management as well as human management skills. Some of the technical skills include land preparation, planting, weeding and harvesting. In terms of business management, the farmers sought skills in planning, management as well as financial management (Kaziboni, 2018). Though Kaziboni (2018)'s study focused on women commercial farmers under the 'A2 model' of resettlement; the needs of these farmers can provide an indicator of possible learning needs of farmers in smallholder settings. Apart from that, findings from Kaziboni's study can assist the researcher to note similarities and differences in the learning needs of A1 and A2 farmers.

According to Vandenbosch (2006), women are significantly underrepresented in AET in proportion to their broad responsibilities in farming. There is need, therefore, for gender sensitive recruitment in AET that targets mostly women. Another aspect is the training of women farmers as trainers for other women as this provides an opportunity to share their experience and knowledge (Kaziboni, 2018). Training and micro-credit programs should be interlinked to effectively transfer agricultural technology to women farmers. Marketing, food processing and post-harvest sciences are well suited as areas of specialisation for women who desire a career in extension work (Chingarande, 2008). Strategies can include making extension work attractive to women and promoting the education and hiring of women as extension agents. Relevant expertise includes improved post-harvest handling practices in the local marketplaces where women gather to sell their goods or to shop for food.

3.9 Vocational education and training and the curriculum

In this section, literature on curriculum theory is reviewed within the context of VET. Several scholars have helped in the development of modern-day curriculum theory. At this stage it is important to review literature on curriculum theory, as this informs the conceptualisation and understanding of various theories of curriculum issues. In this thesis Bernstein's pedagogical theory is reviewed in relation to vocational education.

3.9.1 The concept of curriculum

The term ‘curriculum’ can be used in various settings. In this write-up it is used in relation to education (Kelly, 2009). The concept of curriculum has been widely researched in the field of education over many years. However, scholars have not agreed on the meaning of the concept (Hussain, Conner, & Mayo, 2014; Kelly, 2009; Oliver, 2010). In order to make a contextual understanding of the concept curriculum there is need to clarify the concept of knowledge. Curriculum focuses on what is taught and leant in schools. School knowledge, therefore, is the curriculum. It is different from everyday knowledge or what can be considered commonsense knowledge. According to Bernstein (1975) formal education knowledge can be considered to be realised through three message systems: curriculum, pedagogy, and evaluation. Curriculum defines what counts as valid knowledge, pedagogy defines what counts as valid transmission of knowledge, and evaluation defines what counts as valid realisation of this knowledge. The production, reproduction and transmission of knowledge is done by the dominant social classes in society (Bernstein, 1975) .

Broadly, most definitions of curriculum have elements such as content, experiences and behavioural objectives (Lunenburg, 2011).Hussain et al. (2014) identify six partial and coupled facets of the curriculum which occur simultaneously. These facets are: curriculum as structure, curriculum as process, curriculum as content, curriculum as teaching, curriculum as learning, and curriculum as activity. The analysis of the concept curriculum presented above is significant in that it exposes the complexity of the term. In noting that curriculum is a process, Hussain et.al bring out an important aspect of the curriculum; that curriculum is emergent. This means that the curriculum is dynamic and can change in response to new demands. This aspect is of relevance in the study of curriculum responsiveness.

Ideally, a curriculum should respond to the needs of society and individual learners. Any analysis of curriculum as used in education circles needs to clarify that education does not occur in a vacuum. Rather, educational systems are influenced by societal expectations and several social imperatives and aspirations. Kashora (2015, p. 4) states that:

The curriculum constitutes a legal framework for the development of teaching and learning activities. It should respond to the needs of the society and the needs of the individuals. The curriculum development process, therefore, involves close coordination between a variety of stakeholders and institutions. Decisions about curriculum issues are made in close consultation with the learners, parents, teachers, heads of schools, education officers in the regions, the examination council, subject specialists, commerce and industry, teachers' colleges and universities.

Kashora argues that in order to develop a responsive curriculum there is need for key stakeholders to participate in the process of curriculum development rather than having a top-down approach. There is danger in the top-down approach in that curriculum development becomes an exclusive role of politicians.

In this study on vocational curriculum responsiveness to the learning needs of A1 farmers in Zimbabwe it is important to get an understanding of the following conceptions of the curriculum: the official/intended curriculum, the enacted curriculum and the experienced curriculum, focusing on curriculum responsiveness.

3.9.1.1 Intended curriculum

The intended curriculum refers to that which is laid down in the syllabi and official documents of educational institutions (Kelly, 2009).Eisner (1990) notes that the intended curriculum is written, has aims and objectives and that it usually prescribes or suggests a sequence of activities, and is often subject to external evaluation. It shows what the institution intends its students to learn, hence it is also referred to as the official curriculum. In some situations the intended curriculum is determined at national levels by the relevant Ministry of Education in the form of a curriculum framework, lists of subject content taught at particular levels in a prescriptive form. However, when this curriculum is communicated to educational institutions it is interpreted differently by different teachers. Differences in curriculum interpretation results in the same curriculum being taught differently in different contexts. This interpretation becomes the operational or enacted curriculum.

3.9.1.2 Operational curriculum

According to Eisner (1990) the operational curriculum is a result of how teachers mediate the intended curriculum. Teachers interpret the intended curriculum and their interpretation of it is important in what the students will receive as education. Teacher interpretation of the intended curriculum depends on several constraining factors, which differs from one teacher to the other. Variables such as culture, teacher education, gender and differences in contexts of students, among others, have implications on curriculum interpretation (Eisner, 1990).

3.9.1.3 Experienced curriculum

It is idealistic to believe that what is intended in the curriculum is enacted and the same experienced by learners. The practice is that learners experience the curriculum differently from that which the teachers teach. The experienced curriculum is an important aspect, focusing on what experiences generate knowledge, their ordering and learners' readiness to engage in these experiences. In this study the experiences of students on curriculum responsiveness will assist in addressing this aspect of the curriculum.

3.9.1.4 Hidden curriculum

Sociologists of education in the Marxist or Conflict tradition have significant interest in the subject of the hidden curriculum. According to Alsubaie (2015) any educational curriculum, apart from the official/intended curriculum, has, at the same time, unspoken or implicit values, behaviours and norms that exist in education settings. These constitute the hidden curriculum. The hidden curriculum is not only found in primary and secondary education but is also present in higher education settings (Margolis, 2001). This means that even in vocational education settings, apart from the formalised curriculum a hidden curriculum is also taught to the learners. The hidden curriculum is closely linked to the culture and ideology of the institution offering the training.

In the South African context Kraak (1991) shows that vocational training programmes had an ideological character during the crisis years of Apartheid and even beyond. The transition to a post-Apartheid South Africa meant that more semi-skilled and skilled blacks would be required in the labour market. As a result, vocational training shifted to include more of these semi-skilled and skilled Africans in an attempt to stabilise capitalist social relations (Kraak, 1991). The interest of these programmes was not in making the environment better for black workers but rather to make black workers identify with company interests. The hidden curriculum is greatly influenced by the culture, ideology and attitudes of the funders, owners, managers, teachers and learners in educational institutions (Zvobgo, 2007). In this study on vocational education curriculum responsiveness to the learning needs of A1 farmers, the hidden curriculum is an important element to explore because the training centres under study belong to two historically and ideologically different institutions, the government and a non-governmental organisation.

3.9.2 Curriculum theory

Several scholars have helped in the development of modern-day curriculum theory (Bernstein, 1975; Young, 2014). At this stage, it is important to review literature on curriculum theory, as this informs the conceptualisation and understanding of curriculum issues. Bernstein's theory is presented below since it has implications for this study.

3.9.2.1 Bernstein's theory of knowledge

Basil Bernstein is one contemporary sociologist who has made contributions to curriculum theory. Bernstein's pedagogical theory is of relevance to this study on VET curriculum responsiveness to the learning needs of A1 farmers in Zimbabwe. His pedagogic discourse was concerned with how knowledge is produced, distributed and its relation to structurally determined power relations (Sadovnik, 1991). Central to his theory is 'knowledge', and what counts as valid knowledge. It has long been established that knowledge is a social construct and, therefore, what is considered knowledge reflects the power dynamics of a particular society (Apple, 2000). Knowledge is produced socially, but simultaneously possesses the capacity to transcend the social conditions under which it is produced. The emergent property of knowledge

is itself intrinsically social; it is something that people do in a particular, socially organised way (Dreher, 2016). What we then consider the curriculum in education is therefore not neutral. According to Bernstein, curriculum defines what counts as valid knowledge whereas pedagogy defines what counts as valid transmission of knowledge and evaluation defines what counts as valid realisation of the knowledge on the part of the taught (Bernstein, 1975).

3.9.2.1.1 Classification and Framing of Educational Knowledge

Bernstein (1975) introduced the concepts classification and framing to interpret communication between objects in different spaces. According to Hoadley (2006), Bernstein provides a language of description of pedagogic discourse using the concepts classification and framing. Classification and framing are analytical concepts used in pedagogy. Their relationship is a vertical one whereby classification occurs at a higher level (differentiating between disciplines) and framing occurs within a particular subject. Classification seeks to unpack what goes on in pedagogy. It is used to expose the relations and differentiation between subjects. According to Bernstein, classification can either be strong or weak. On the one hand, a strong classification refers to a body of knowledge or subject which is well insulated from other subjects. In other words, the curriculum in strong classification is closed (Bernstein, 1975). For example,, physics is unique from other subjects and so its teaching and learning follows specific methods that are strictly for this subject. The same goes for most subjects in the natural sciences. On the other hand, a weak classification refers to a subject area that is open to other contents. Examples of subject areas with a weak classification are subjects in the social sciences. Subject areas with weak classification are considered open, meaning they can share with other subject areas (Bernstein, 1975).

3.9.2.1.2 Pedagogic device

In the pedagogical device, Bernstein argues that framing refers to the influence of context on how a subject area is taught. Context may influence the differences in the way teaching is done in a particular context. Framing refers to what happens within a particular subject area, how teaching and learning occurs as well as the power and control relations between teachers and

students. The concern with knowledge in VET was ignited by the realisation that this aspect had been overlooked and this oversight contributed to poor performance of British industries (Young, 2013). Bernstein (1975) distinguishes between two forms of discourse: horizontal and vertical. On one hand, horizontal discourse is similar to everyday knowledge which is context specific and dependent on context. On the other hand, vertical discourse takes the form of coherent, explicit and systematically principled structure. The horizontal knowledge structure would include subjects in the humanities which are context specific while the vertical discourse would include the natural sciences. The knowledge structure of a discipline influences the selection and sequencing of learning content to describe the general principles which underlie the transformation of knowledge into pedagogic communication . According to Bertram (2016), for Bernstein, the pedagogic device is made up of three fields of activity which are; a field of production, where knowledge is developed and produced; a field of recontextualisation, where knowledge is selected from the field of production and is pedagogised into curriculum documents and, finally, a field of reproduction where teachers adapt or adopt policy requirements in their teaching in classrooms (Bertram, 2016).

3.9.2.2 Curriculum recontextualisation

For Bernstein, the curriculum is conceptualised and re-conceptualised at three levels. Firstly, at the societal/ideological level; secondly, the curriculum; and finally, the classroom level. According to the pedagogic device, knowledge is converted into curricula following a set of rules or criteria (recontextualising rules) for them to become educational knowledge or school knowledge (Bertram, 2012). Borrowing from Bernstein, Mukute (2014) notes that recontextualisation refers to how the substance and nature of knowledge produced at one site, for example, national VET policy at central government level in Zimbabwe, is recontextualised at a particular vocational training college and then reproduced within the classroom during teaching and learning. Curriculum recontextualisation has been found to enhance curriculum coherence, educational relevance, effectiveness and quality (Bertram, 2012, 2016). The process of recontextualising is influenced by discipline specific requirements (internal dynamics) as well as external requirements by the country concerned. According to Young (2013), in Bernstein's terms, recontextualisation refers to the selection, sequencing and pacing of contents that take into

account both the coherence of the discipline subject and the limits on what can be learnt by students at different stages of their development.

3.9.3 VET curriculum

Vocational curriculum refers to what is taught in institutions offering vocational training that enables the learners/trainees to be able to meet the demands of specific work. Vocational curricula are intended to function as a link between work positions and the qualification structures of institutions offering the training. Vocational curricula are strongly linked to employment and self-employment. According to UNESCO-UNEVOC (1994) the purpose of a vocational curriculum is to describe programmes which take into account the needs and demands of industry, economy and the learners to reduce the mismatch between the supply of workers and the demand in the employment market.

The vocational curriculum should also be flexible in that the employment market is constantly changing. This calls for a responsive vocational curriculum that can respond to, for example, the decimation of the formal employment sector. There has been an increased interest in vocational curricula because of problems of accessing employment and as such, the vocational curricula seek to address the mismatch between what is leant in schools and what is needed by employers (Chinyamunzore, 1995). The vocational curriculum is a combination of theory and practice, whereby practice takes precedence over theory. There has been conflicting views on the role of knowledge in vocational education with some scholars arguing that skills have to dominate while knowledge takes a subordinate position (Wheelahan, 2015; Young, 2013). According to Wheelahan (2015) vocational education curricular can not overlook the knowledge component because by doing so it leads to greater marginalisation of vocational learners. In the Zimbabwean vocational system, theory accounts for 40% of the programme while practice consists of 60%. This allocation of time is based on the view that it is observable performance that counts as the desired outcome of teaching and learning in the vocational domain (Gamble, 2006). According to CEDEFOP (2010) the vocational curriculum includes learning objectives, learning content, learning organisation (such as duration and sequencing).

Vocationalisation of the education curriculum has gained currency internationally with countries and international organisations endorsing it as a way of linking products of education systems with the labour market(Maclean, Jagannathan, & Sarvi, 2013). However, implementation of vocationalisation differs from one country to another with some countries introducing vocational subjects at primary school while others do so at secondary school level (Akyeampong, 2002). Meanwhile, most countries continue to offer vocational subjects at post-secondary school level. Institutionally driven provision of vocational education is now expanding across the world in response to social and economic developments in Asian, African and South American countries. Institutions play a critical role in the provision of VET in Australia, Germany and the United Kingdom. VET in these countries starts from the school system. Provision in these countries, however, is not uniform.

In Asia, vocationalising the secondary school curriculum was adopted as an option for increasing access for more students to skills. It was done by exposing secondary school children to practical subjects (UNESCO, 2013a). Despite this thrust, vocationalising the secondary school curriculum has not been a smooth process. It has been faced with the challenge of attracting students in vocational subjects due to the perception of the inferiority of the vocational subjects to the academic ones. A lack of specialised equipment and facilities and the failure to meet demand has presented another difficulty (UNESCO, 2013a).

Vocationalisation of the curriculum on the African continent existed even before colonisation. It has been a permanent feature of traditional education, preparing generations for productive life in various trades such as basketry, pottery, weaving and others (Urevbu, 1988). However, vocationalisation is often criticised on the basis of the high cost associated with introducing technical and vocational subjects. Nherera (1994) notes that governments of developing countries still insist on vocationalisation despite acknowledging that vocational curricula are more expensive than academic ones. Critics of the vocationalisation agenda have also argued that the World Bank's position supporting vocationalisation has since changed due to the apparent lack of success of these programmes to reduce youth unemployment, improve agriculture productivity and improve rural livelihoods (Katsande, 2016; Nherera, 1994, 2014). In the Zimbabwean case, vocationalisation of the school curriculum was introduced during the early

period of colonial rule from 1890-1923. More serious attention was given to the matter in the 1920s (Zvobgo, 2007)., learning methods, place of learning, teaching media and assessment and certification.

3.9.3.1 VET Curriculum: International perspectives

The effective implementation of VET programmes is dependent on the nature of the curriculum. Great effort is needed in developing VET curricular that is relevant to the socio-economic and policy context in which it is provided. The African Union (2007) notes that the provision of quality TVET programmes should be based in relevant general and theoretical curriculum content. Billett (2003) notes that the vocational curriculum in Western counties, such as the United Kingdom, Australia and Germany is focused on behavioural curriculum. This curriculum emphasises the need to have measurable outcomes in vocational education. The vocational curriculum, therefore, focuses on increasing competency. This approach has led some countries to promote generic vocational competences considered applicable in workplaces. This approach was challenged for its failure to recognise that knowledge is context specific (Billett, 2003).

Billet suggests the sociogeneses of vocational practice. In that approach, the vocational curriculum frameworks functions with a set of generic competences. However, this has to be supported by socio-cultural practice, situated practice and other low level interactions at an individual level. At the international level, there is need for guiding concepts and procedures which identify key competencies that apply to diverse cultural practices. The identified competences can then be transformed by the cultural needs for particular vocational systems. Particular vocational colleges have the ability to interpret the identified competencies based on situational factors to develop institution specific vocational curriculum (Billett, 2003). For acceptability of vocational curriculum, there is need for it to be adaptable to different situations.

3.9.3.2 Competency Based Education and Training

According to Marope et al. (2015) enhancing quality and relevance of TVET has been a goal for many countries, hence curriculum reform has been top of the agenda. This was necessitated by

the concern with poor quality provision and failure to respond to market needs. One of the key reforms was the introduction of Competency Based Training (CBT). CBT identifies the practical skills that make up occupational profiles and standards of performance required for successful employment. It focuses on the outcomes of training, that is, attained competencies (Marope et al., 2015). CBT requires active participation of industry in the development of demand-driven VET programmes in order to meet the needs of the economy. In such VET programmes, work integrated learning (WIL) is of great importance for it provides students with an opportunity to apply theoretical knowledge learnt in classrooms to practical work situations (Arfo, 2015).

CBT has been implemented in UK and Australia as an attempt to recast VET as an instrument of micro-economic reform. CBT is driven by the need to align skills development with the needs of the economy. CBT has been implemented in the majority of countries in sub-Saharan Africa with different levels of success.

3.9.3.3 Curriculum Reform in VET

Curriculum reform is widespread in both developed and developing countries in all levels of education including vocational education. The major drivers of curriculum reform include both external pressures such as the global economy, knowledge economy and technology, as well as internal or local drivers includinglocal economy, institutional requirements and needs of local communities (Adam, 2009). The need for curriculum reform in VET has been well documented (Wedekind, 2016; Buthelezi, 2016; Akoojee, Gewer and McGrath, 2005). In sub-Saharan Africa, curriculum reform has been key in the post-independence period in an effort to redress imbalances and inequalities of the past (Buthelezi, 2018). Curriculum reform in VET has taken many forms over the years including non-formal TVET. The African Union (2007) supports the implementation of non-formal TVET. Such a move offers a flexible curriculum, with variable entry requirements and programmes with short durations. Non-formal TVET is considered as a fast route to impart skills in post-conflict areas for the millions displaced and the many young people recruited as child soldiers. According to the African Union (2007), Rwanda is an example of a post-conflict country that has invested in non-formal VET imparting various skills to youths and adults. Apart from post-conflict areas, people in rural areas need vocational skills

in order to take control of their lives and engage in work to improve their living standards. Hence, curriculum reform in VET should target giving rural people skills for self-employment, especially in agriculture (Cavanagh et al., 2013).

3.9.3.3.1 VET Responsiveness

In the past, VET was narrowly focused on contributing to economic development. This gave it a limited focus to market responsiveness. Marope et al. (2015) note that there has been a shift on the development paradigm, moving from economic development to a more holistic and humanistic approach to development (Sen, 1999). Sen's approach underscored the importance of equity, empowerment and sustainability as key elements of development. Development has been broadened to become a multifaceted concept which goes beyond economic and material progress. In light of the expanded focus of development, VET systems have to adjust and broaden their scope beyond economic and offer a broader range of skills to serve a diverse population. The expanded scope of development also means that VET providers have to be expanded to include a variety of actors including public providers, private providers, NGOs, Community based organisations and youth organisations.. This thesis supports the need for a broadened VET system that also responds to non- labour market issues.

3.9.3.3.2 VET's Contextual Responsiveness

The context in which VET is provided differs from one region to the other. Thus, VET provided in particular places has to be contextually relevant. In sub-Saharan Africa, for example, the VET system has to meet the demands of the following; the informal sector, the rural economy, and the needs of marginalised populations (Marope et al., 2015). The informal sector within Sub-Saharan Africa has become of high socio- economic importance and is fast growing in terms of job creation. VET entrepreneurship programmes have been expanded to respond to the needs of the informal sector. VET curricular have been expanded to include entrepreneurship which focuses on combining the acquisition of business and technical skills (Marope et al., 2015). The majority of people in developing countries live in rural areas and their livelihoods are mainly dependent on agriculture, whether directly or indirectly. In the majority of cases, people in rural areas have

limited access to education and training. The training needs for rural people are mainly in agriculture so as to increase agricultural productivity. Rural based VET providers, therefore, have to focus on providing agricultural skills in addition to other skills that enhance the wellbeing of rural populations leading to transformation and sustainability (Marope et al., 2015). In rural India, for example, Community Polytechnics were established to ensure that rural areas benefit from education through imparting skills to rural populations.

3.9.4 Curriculum development for VET in Zimbabwe

Curriculum development encompasses how a curriculum is planned, implemented and evaluated, as well as how people, processes and procedures are involved (O'Neill, 2010). According to Kashora (2015) curriculum development is a process that involves consultations with multiple stakeholders including teachers, students, learners, subject specialists, industry and the government. The majority of studies on curriculum development in Zimbabwe have focused more on the primary and secondary school curriculum which is in line with the education policy direction that puts more attention on that sector (Chinyani, 2013; Kashora, 2015; Ndawi, 1999). In Zimbabwe, not much research has been done concerning curriculum development in VET.

Curriculum development in VET in Zimbabwe is often a collaborative process. Leading this process is the Ministry of Higher and Tertiary Education Science and Technology Development which is mandated by the Zimbabwean Constitution (Government of Zimbabwe, 2002). A few studies done focusing on VET curriculum development in Zimbabwe have shown that there is a focus on increasing responsiveness to the labour market. The curriculum development process in vocational education is ideally initiated by employers in industry since they are the consumers of vocationally trained personnel. Consultation with industry stakeholders is an important element in the curriculum development process. The stakeholders that should be consulted for effective curriculum development include representatives of industry, vocational teachers, learners and policy makers such as the national government.

There is growing emphasis on the importance of consulting the vocational learners themselves in the early stages of the curriculum development process. This aspect is crucial for this study on

vocational curriculum responsiveness to the learning needs of A1 farmers in Zimbabwe. According to UNESCO-UNEVOC (1994), in developed countries such as Australia, New Zealand and Germany which have strong vocational training programmes, the curriculum development process in vocational training is driven by industry. Meanwhile in developing countries there are challenges in terms of coordination of training institutions with industry stakeholders.

In Zimbabwe, in vocational education at the level of VTCs and technical colleges, there is also a Curriculum Research and Development Unit (CRADU), a department under Higher Education Examinations Council (HEXCO). It does the same job as the Curriculum Development Unit (CDU) in primary and secondary education. CRADU uses senior lecturers in the specific areas of specialisation as discipline coordinators responsible for reviewing the curriculum (Mazani, 2015).

3.9.4.1 Vocational pedagogy

Vocational pedagogy refers to the science, art and craft of teaching and learning vocational education (Lucas, 2014). By virtue of the multiple locations in which it takes place as well as the uniqueness of its learners, there is need for lecturers qualified to teach vocational education. In the Zimbabwean scenario, VET lecturers would first acquire a qualification in the skill from technical colleges, agriculture colleges or through apprenticeship training before going for pedagogy training at Gweru Teachers College.

VET teachers are those teachers primarily responsible for teaching vocational skills. VET teachers have a dual professionalism, that is, the expectation of quality in their technical subject area as well as vocational pedagogy(Andersson & Köpsén, 2015). This means VET teachers are 'janus faced' in terms of focusing on both the educational domain and the world of work, simultaneously. It is well known worldwide that VET teachers work in a variety of educational settings(Billet, 2011; Grollmann & Rauner, 2007). This is also the case in Zimbabwe, where VET teachers are found in primary schools, secondary schools, colleges, universities and work

places. For lecturers in VTCs, the minimum qualification is a Diploma in the practical area as well as a Journeyman Certificate.

Qualified VET teachers are a pre-condition for improving the capacity of the sector to supply skilled workers(Axmann, Rhoades, Nordstrum, La Rue, & Byusa, 2015; Grollmann & Rauner, 2007). The effectiveness of VET is to a greater degree influenced by the availability of qualified VET teachers who have skills that are continuously updated and responsive to the changes in the local and global landscape; hence the need for professional development. Studies done on VET teacher training in the European Union reveal that there is a shortage of vocational teachers (Grollman & Rauner, 2009). Meanwhile, the few available teachers do not possess the required qualifications to teach in vocational settings. Hence, there is a need for constant updating of their skills through professional development. Zimbabwe's colleges have challenges in attracting qualified personnel to work in their training centres. UNESCO estimates that VET teachers in Zimbabwe number just over one thousand. This number is insignificant compared to the number of general education teachers estimated at over one hundred thousand (UNESCO, 2013b).

VET needs qualified lecturers also because in some cases they deal with learners with limited literacy and numeracy. In the Zimbabwean case, most learners in VTCs have limited literacy and numeracy skills. VET often provides an entry point to the education system for individuals who experience barriers to participation in education such as remote locations, low socio-economic status, gender and less than twelve years in school (Griffin, 2014). The vocational training mandate of VTCs in Zimbabwe was pivoted on giving second chance education to less advantaged youths in society who had not achieved the 'O' Level threshold of fivesubjects to garner employment or further their education (Ministry of Youth, 2014). The high failure rate in the Ordinary Level examinations yearly leave over a hundred thousand young people out of school and higher education. Hence, VET plays an important role in ensuring social inclusion of many young people who would ordinarily be thrown out of the largely academic-oriented system.

3.9.5 Summary

The chapter presented a review of literature on VET, AET and curriculum theory in VET highlighting the key issues relating to curriculum responsiveness. For ease of presentation the chapter was divided into three main sections; the first focused on vocational education and training systems and policy, the second section reviewed literature on AET policy, provision and challenges while the final section was on curriculum issues in VET. Literature review fore grounded VET provision globally and in Africa. This was done to lay the foundation of the importance of VET as a viable alternative to general education, focusing on out of school youths and adults who need skills for survival. The chapter exposed the weaknesses of focusing on labour market responsiveness in VET. This has been argued to be unsustainable, especially in weak economies such as Zimbabwe. The curriculum in VET has to be broadened to include responding to non-labour market factors. Hence, this study focuses on VET curriculum responsiveness to the learning needs of A1 farmers in post 2000 Zimbabwe. Having reviewed literature, the next chapter presents the theoretical framework.

CHAPTER FOUR: THEORETICAL FRAMEWORK

4.1 Introduction

The previous chapter reviewed the literature. Having reviewed the literature, there is need to discuss the theory that informs the study as well as the processes of data collection and analysis. This chapter presents the theoretical framework that informs this current study on vocational training curriculum responsiveness to the learning needs of A1 farmers in post-2000 Zimbabwe. The study utilises Critical Realism (CR) as an under-labourer for qualitative comparative case study research. It also uses Ian Moll's model of curriculum responsiveness which provides an organising framework for the study. Moll's model of responsiveness is supported by Bhaskar (2010)'s laminations of reality as well as position-practice system which also provides a language for analysing the multiple layers of reality. The chapter is presented in two sections. The first section presents CR focusing on its origins, use in a diversity of fields as well as in education and its suitability for this study. The second one covers Moll's model of curriculum responsiveness, focusing on the origins of the model, its' application in education as well as its relevance in this study. Moll's model of curriculum responsiveness was used as an organising framework for the study. Curriculum responsiveness according to this model is analysed at policy, institutional, disciplinary and learner levels.

4.2 Critical Realism

CR is a relatively new approach to ontological, epistemological and axiological issues (Easton, 2010; Fletcher, 2017). CR is a meta-theory which provides a comprehensive alternative to positivism and constructivism (Bhaskar, 2008). It covers the gap left by these two paradigms which failed to account for causality. It is an ontological theory that under-labours for other research orientations. According to Price and Martin (2018), CR has the following features: an underlabouring science, aimed at human wellbeing and emancipation as well as being based on an immanent critique of what it examines by looking for internal inconsistencies or contradictions. In this thesis, CR is used as an under-labourer for this inductive comparative case study on vocational education curriculum responsiveness to the learning needs of A1 farmers in

post-2000 Zimbabwe. CR goes beyond facts as claimed by positivists to the transfactual processes behind them. According to Teehankee (2017), CR differs from positivism in many respects. For instance, it moves beyond correlation to focus on explanation and it moves away from scientific detachment towards more engagement in the world. It searches for causation, thereby helping researchers explain social events and suggest practical recommendations to address social problems (Fletcher, 2017).This thesis applies Bhaskarian critical realism. Roy Bhaskar is credited for originating CR philosophy (Wynn & Williams, 2012). Scholars such as Archer (1998); Collier (1994); and Sayer (2004) advanced and developed CR beyond Bhaskar and applied it in different fields of study including economics, sociology and politics among others (Edwards, O'Mahoney, & Vincent, 2014; Mingers, 2014; Sayer, 2004; Shipway, 2010). CR argues that the theory of knowledge (epistemology) is different from the theory of being (ontology). According to Price and Martin (2018), CR has the following permanent characteristics: a commitment to ontology; use of retrodiction and judgmental rationality; use of critical realist approach to structure and agency; and its application to interdisciplinarity.

4.2.1 Ontological assumptions

CR proposes an ontology that assumes that there is a reality out there, independent of observers' knowledge of it (Bhaskar, 1989; Fletcher, 2017). Bhaskar, Danermark, and Price (2017)note that critical realists assume that something has happened, that something is there, and has an existentially intransitive reality. On one hand, by intransitive, CR argues that reality exists whether or not humans are aware of its existence. Therefore, intransitive reality is not socially constructed. On the other hand, the transitive dimension consists of theories and discourses (Danermark, 2002). The differentiation between intransitive and transitive dimension means that how we experience our world should not be conflated with what it is. Critical Realists do not reserve 'real' to refer to the material things that can be seen, rather they include anything that has an effect or makes a difference (Fleetwood & Ackroyd, 2004). According to Bhaskar (2008), CR is anchored on the principle that perception gives us access to things and experimental activity access to structures that exist independently of us. This is the case for all other social systems of the society because they are made up of people. The people in these social systems have powers of creativity and the ability to act intentionally.

CR works well with studies that are mainly exploratory such as the current study on VET curriculum responsiveness to the learning needs of A1 farmers in post-2000 Zimbabwe. This is because CR seeks to identify, discover, uncover and test the limits of structure, (causes and particular sequences of human actions) (Edwards et al., 2014). CR focuses on explanations: how people deepen their explanations so that we really understand what is happening in management, organisations … in terms of underlying causal mechanisms (Teehankee, 2017).

Reality is, however, difficult to access especially in complex open systems such as vocational training centres. An open system does not allow precision such as is possible in laboratory experiments of the natural sciences but it does well in providing explanations of social phenomena. An open system refers to the parts of the universe (or entities), which ultimately interact to cause the events we observe and which cannot be studied or understood in isolation from their environment especially in stratified open systems(Price, 2014). Open systems take inputs from the environment for processing and often do not produce similar results from time to time and place to place. Open systems differ from 'closed' laboratories, in that they contain complex and unpredictable feedback loops that prevent history being conceived as determined or predictable (Edwards et al., 2014).

Another important ontological assumption is that the world is differentiated and stratified consisting not only of events but objects, including real social structures which have powers and liabilities capable of generating events (Bhaskar, 2008). Another critical ontological assumption of CR is that although social phenomena such as actions, texts and institutions are concept dependent, our interpretation of these does not make them exist, rather, they will still exist regardless of researchers' interpretation of them (Easton, 2010; Fletcher, 2017). CR investigates events or outcomes; these are the visible behaviour of people, systems and things as they occur. These events are investigated as they occur. However, non-occurrence of an event that has been expected to occur provides important insights to the researcher (Bhaskar, 2008; Fletcher, 2017). In this study, for example, the lack of VET curriculum responsiveness to the learning needs of A1 farmers could be of interest to the researcher as to why this has been the case. Researchers in CR also investigate the structure of entities and organisations which are made up of departments, resources and people all of which affect each other. In this study, both colleges under study are

made up of different departments that affect each other and influence the process of VET curriculum responsiveness.

CR ontology is best illustrated using the iceberg metaphor which explains the stratified nature of reality using an 'iceberg' of reality which is an illustration that reality is stratified in three layers of the same reality (Elder-Vass, 2005; Fletcher, 2017). The first level of reality is the 'empirical' which comprises the observed and experienced events usually explained using 'common sense' but always influenced by people's interpretation and experience with the events. The second level is the 'actual', where human experience has no part. Events at this level occur whether or not people observe them or not. The third level is the 'real' where causal structures or mechanisms exist that influence what people observe at the empirical level (Bhaskar, 2008; Fletcher, 2017). However, the three domains are not always in synchrony. For example, people's perceptions of the events might not match the actual event due to other factors that influence the empirical and the actual domains. According to Mukute (2010a)critical realism assumes that the surface appearance of experience (empirical) is potentially misleading and insists on getting beyond or behind surface appearances.

The picture of the real is thus one of a complex interaction between dynamic open, stratified systems, both material and non-material where particular structures give rise to causal powers (generative mechanisms) which are properties of an object that cause it to behave in a certain manner (Danermark, Ekstrom, & Jacobsen, 2002). For example, in this study, at college X, what are the generative mechanisms which facilitate or hinder curriculum responsiveness? Figure 4 below illustrates the iceberg metaphor on critical realist ontology.

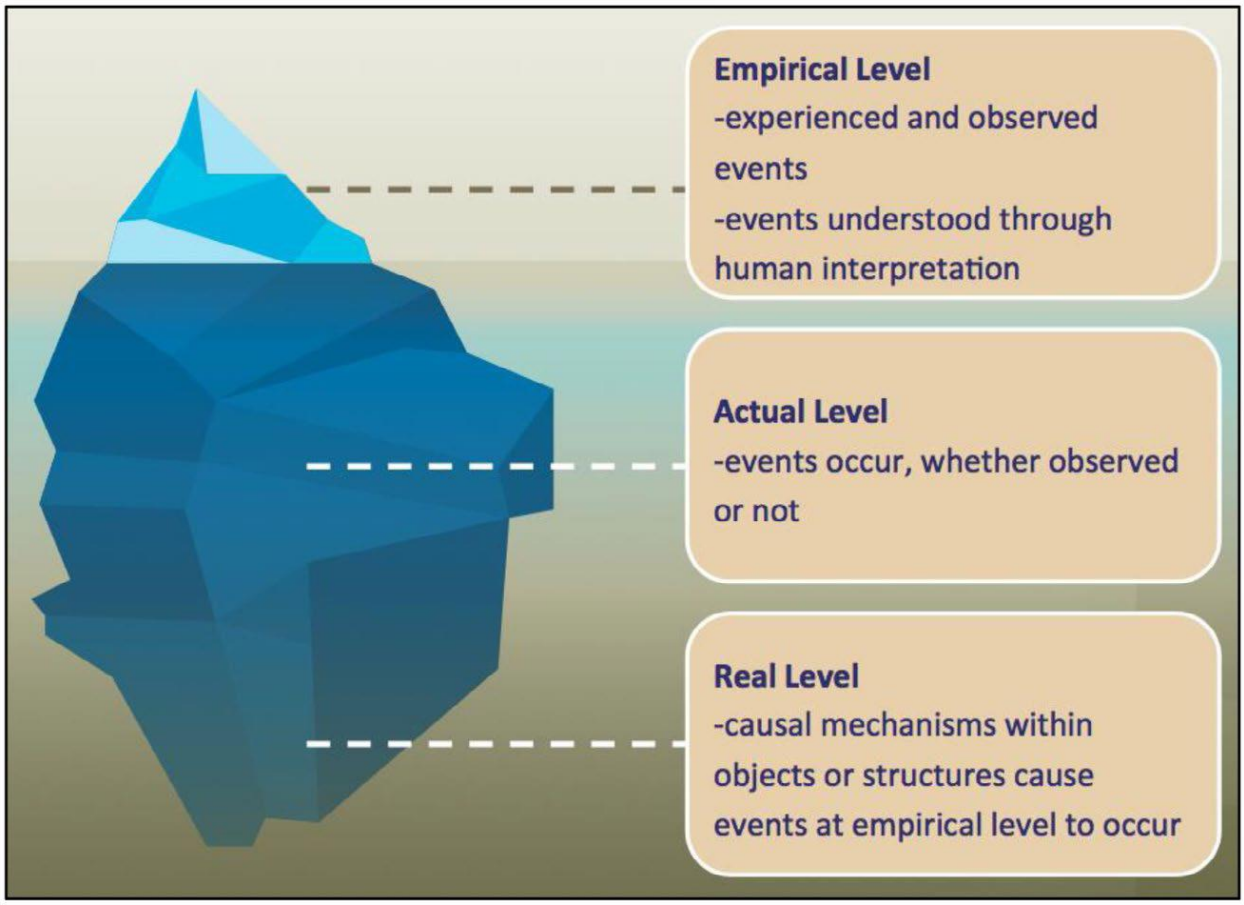

Figure 2:An Iceberg Metaphor for Critical Realism ontology

Source: Fletcher (2017, p. 183)

4.2.2 Entities and their structure

CR is about the study of objects or entities. As Fleetwood and Ackroyd (2004) note, the entities make a difference in their own right without our knowledge of them as suggested by the empiricists. Entities can be human, social or material, simple or complex, structured or unstructured (Easton, 2010). They include individuals as well as organisations. VET colleges under study are the entities of interest in this study. The colleges are an example of structured entities that are stratified, thus organised hierarchically and exist at different levels. Their operation is influenced by other entities such as government policies and regulation, the economy as well as through their interaction with other entities since they exist in an open system. An examination of entities enables us to understand their causal powers. The purpose of

CR is to explain causality. That is, what 'makes something happen', what 'generates' or 'enables' or leads to it (Sayer, 2004).

Entities are made up of people who occupy different positions of power. The actions of these people and their power positions exert influence. The powers of these structures (or mechanisms) are of three types. Powers can be possessed, exercised or actualised (Easton, 2010). Bhaskar's position-practice system is an example of how this process works (Agbedahin & Lotz-Sisitka, 2019; Bhaskar, 2010). Objects can be said to possess powers even if they are not triggered by external circumstances and combinations of other powers they lie dormant (Scott, 2014). The issue of powers and positions is best represented by Bhaskar's position-practice system further explained in the section on laminations of reality (Agbedahin & Lotz-Sisitka, 2019). On the other hand, powers that have been exercised have been triggered and are now having an effect in an open system. Such powers are interacting with other powers or other mechanisms within their sphere of influence.

4.2.3 Emergence

The concept emergence is critical in depth ontology. Price (2014)stresses that CR presents the issue of stratification- multi-tiered stratification, whereby one level of reality is based on top of the other, in principle, indefinitely. This stratification is best understood through the concept of emergence whereby higher order levels emerge from lower order levels. Changes in higher order levels result in changes in lower order levels and vice versa. Each successive stratum possesses properties not possessed by individual entities that come together to form an emergent whole. These properties could be forms of power or social influences not possessed by individuals within the group (Elder-Vass, 2005). CR studies structure and agency through emergence. CR emphasises the need to both structure and agency in order to understand a social issue (Elder-Vass, 2005). Therefore, we cannot understand why people do what they do independently of higher-level social structures. Bhaskar illustrates this process through the position practice system.

4.2.4 Events

For critical realists, events are the subject matter that researchers investigate. This refers to the external, visible behaviours of people, systems and things as they occur (Easton, 2010). According to Bhaskar (2008) generative mechanisms come after events. These mechanisms are at the centre of causal explanation. These mechanisms are the ways in which structured entities by means of their powers cause particular events. The same causal powers can produce different outcomes depending on the interaction of different actors in open systems.

In this study, the focus would be on what leads to curriculum responsiveness. It is, however, not limited to the enablers but goes on to look at what hinders the process. This examination will be done at all levels from the macro level (focusing on national policies, both educational and non-educational), the meso-level (focusing on the provincial dynamics) as well as the micro-level (focusing at the level of each of the two colleges). Moll's model of responsiveness which presents the multiple layers of responsiveness is closely linked with Bhaskar's laminated system which explains social phenomena (Price, 2014). Bhaskar (2010)'s laminations system assists in providing a language of description and complements Moll's layers of responsiveness. The laminated system gives optical lenses for viewing reality at different scales. Bhaskar presented seven laminations for explaining social phenomena and applies to interdisciplinary studies.

4.2.5 Bhaskar's laminations of reality

In this section, Bhaskar's laminations of reality and its mediating system of position-practice system are presented. Bhaskar (2010) presents reality as laminated based on the notion of a scalar reality (Price, 2014). These laminations of reality were applied to explain social phenomenon in interdisciplinary studies. The laminated reality was motivated by the view that basing reality on facts or empirical 'facts' does not project the full picture of what happens in a particular situation. Hence, Bhaskar argues for going beyond the observable patterns to focus on the 'transfactual' or underlying structures and mechanisms (Price, 2014). According to Bhaskar (2010) the laminated system allows for interpreting the emergence of the agency and patterns of dependency and interdependency of social realities at different levels. These social structures at

different levels are continuously being reproduced and transformed through contact between human agency and social structures by individuals acting in those positions- what Bhaskar refers to as position-practice system (Agbedahin & Lotz-Sisitka, 2019; Bhaskar, 2010).

Bhaskar applied his model of seven laminations on gender equality in South Africa as well as 'blood diamonds' in Zimbabwe. Both studies revealed that what is usually considered reified facts were actually contrary to the experiences of people on the ground. This is because of the stratified nature of open system of society which requires interdisciplinarity to fully explore rather than confining reality to the empirical. In a recent study (Agbedahin & Lotz-Sisitka, 2019) applied Bhaskar's seven scalar laminations to education for sustainable development (ESD) in higher education in Zambia. Figure 3 below presents Bhaskar's seven laminations of social phenomena.

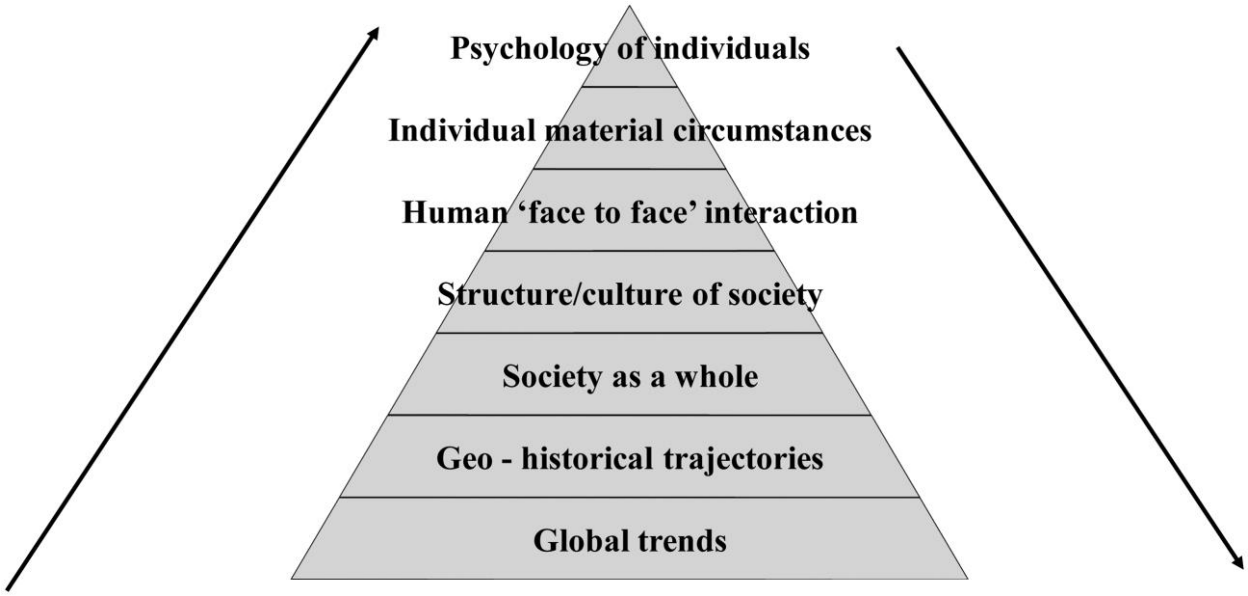

Figure 3: Bhaskar's seven laminations explaining social phenomena.

Source: Price (2014, p. 64)

Bhaskar's laminations assist in understanding complex situations by breaking them down into components. The laminations are closely related, with higher order ones being emergent from, but nevertheless also shaping, constraining and enabling lower order ones (Price, 2014). The

relationship of these seven laminations is represented by the two arrows, one pointing towards the peak of the triangle and the other pointing downwards. Hence, these laminations must be looked at relationally rather than individually. The laminations are arranged based on the size of the units of analysis, rather than on their importance. Bhaskar's seven laminations illustrated in the figure above are briefly explained below. The presentation will start from the biggest unit of analysis (lamination seven) going downwards.

4.2.5.1 Lamination seven: Planetary- Cosmological level

This layer focuses on the influence of globalisation on the activities in local structures. In the majority of cases, the local policies are directly influenced by the global policies, for example, SDGs. Agbedahin and Lotz-Sisitka (2019) in their study on ESD, note that at the global level for example, the highest lamination is concerned with the global environment and sustainability issues such as climate change and food insecurity, among others. These challenges are a result of activities of humans in the lower laminated levels. Players at the global level such as the United Nations agencies conceptualise the responses to these challenges and risks coming up with policy responses such as SDGs.

4.2.5.2 Lamination six: Mega-level- Regional issues

This layer considers how special characteristics of society are affected by their geographical and historical specificities. At this level, focus is at continent level, for example, Africa in recognition of peculiarities of each continent (Agbedahin & Lotz-Sisitka, 2019). For example, though climate change affects all continents, it is more prevalent in some continents than others. As such, even approaches to deal with such problems may be continent and country specific. Examples of regional bodies that make policies include the African Union and the European Union.

4.2.5.3 Lamination five: macro-level – Sub-regional and national

This layer considers how the whole society is constituted. It includes socio-economic conditions as well as relations among racial and ethnic groups in a society (Price, 2014). Sub-regional bodies include, for example, SADC. These bodies influence policy making at national levels. Within particular countries, there are also variations in structures of the economy as well as both the physical and social environment. For example, how the ecological classification of Masvingo Province affects agricultural practices within the province. Another important feature is the historically racialised education system in colonial Zimbabwe and its influence on agriculture curriculum responsiveness.

4.2.5.4 Lamination four: meso-level- Institutional environment

This layer gives structural explanations for characteristics exhibited in the lower three layers, for example, how structural conditions such as gender affect the distribution of women in smallholder practices and their participation in agricultural learning. This level also includes institutional structures and other bodies within higher education such as the Ministry of Higher Education, Science and Technology Development and its arms such as HEXCO and CRADU which shape, control and influence institutional operations and policies in relation to VET curriculum change. The activities of the players in this lamination are influenced and shaped by those of the regional, continental and global bodies (Agbedahin & Lotz-Sisitka, 2019; Price, 2014). For example, the African Union's Agenda 2063, CESA, and SADC's policy on TVET.

4.2.5.5 Lamination three: micro-level- human 'face to face' interaction

This layer of reality is often studied by researchers who focus on interactions between individuals. Examples of such research includes interactionism, ethno methodology and discourse analysis (Price, 2014). The use of language is important in this layer. This lamination is concerned with, for example, the interaction of VET lecturers, students, principals and officials. In this case, power relations play out, which either enable or constrain curriculum responsiveness.

4.2.5.6 Lamination two: Individual material circumstances

This layer focuses on demographic details, for example, poverty and economic situation as education of individuals and its influence on behaviour. For example, a person with bad experiences in childhood as indicated in lamination one, may be influenced by affluence not to engage in undesirable behaviour (Price, 2014). Agbedahin and Lotz-Sisitka (2019) added other contextual factors to include professional qualifications, experience and disciplinary expertise as enabling or constraining a person's state of mind. When applied to this study, this lamination can enable or constrain VET curriculum responsiveness.

4.2.5.7 Lamination one: Psychology of individuals

This layer includes aspects of an individual's personality, their conscious and unconscious motivation, often an area of study by psychologists and psychotherapists (Price, 2014) . This lamination notes the importance of early childhood experience on the behavior of the child in adulthood. This layer depicts personal identities, desires and interests of participants which affect their response to features of other higher laminations (Agbedahin & Lotz-Sisitka, 2019; Price, 2014). For example, in this study, desires of VET learners, teachers, managers/ principals and officials affect curriculum responsiveness.

4.2.6 Application of CR in a diversity of studies

CR is increasingly being used in a diversity of studies on the African continent generally, including in Zimbabwe. Some of the fields that have seen a substantial number of authors applying it include studies in sociology, higher education, vocational education, agricultural education and environmental education (Agbedahin & Lotz-Sisitka, 2019; Jaison, 2015; Mukute, 2010a; Mukute & Lotz-Sisitka, 2012; Pesanayi, 2009).

Jaison (2015) applied CR in Sociology. His study focused on an intergenerational relations to land in small-scale commercial farms in Masvingo Province of Zimbabwe. Apart from using CR

as an under-labourer for qualitative research, this study is of importance to the current study for its similarity in context and interest in smallholder farming.

Pesanayi (2009) applied critical realist ontology in exploring learning interactions in rural community farming practices in Manicaland Province of Zimbabwe. In that study, critical realism was used to unearth the causal factors that influence farmers' learning interactions and the choices of farmers on which crops to grow in the context of climate change.

In another study, Mukute (2010a) applied CR to a study on exploring and expanding learning processes in sustainable agriculture processes. The study by Mukute was a multi-case study, it revealed the utility of CR as an under-labourer for qualitative research. CR as the overarching theory was supported by cultural historical activity theory (CHAT). CHAT worked to provide an explanatory critique which reveals underlying causal mechanisms structuring learning in activity systems (Mukute, 2010a). The study by Mukute is important for this study for it has revealed the possibility of using CR in farmer learning in southern Africa, including Zimbabwe. Mukute's study has some similarities and differences with the current study, from which the researcher can also draw lessons. The first similarity is the interest in farmer learning in Zimbabwe. The current study also uses CR as an under-labourer for qualitative comparative study. However, in this case it differs from Mukute's study in that it is uses CR together with Moll's model of curriculum responsiveness as well as elements of Bernstein's pedagogic device.

CR has been applied in education, especially in management studies, higher education as well as in studies relating to curriculum theory (Adetunji, 2015; Shipway, 2010). Adetunji applied CR to the study of the implementation of quality management in Nigerian universities. CR was useful in this particular study as it helped unveil the causes of events in the implementation of quality management. This is because any talk of curriculum invokes the need for a philosophy informing the curriculum (Shipway, 2010). According to Shipway (2010), CR is useful in curriculum theory, especially the view that reality is stratified as it informs us that the consequences of the curriculum are an emergent property of the educational system that created it as well as the influence of different stakeholders who contribute to it. In studying

organisational case studies, CR is useful in exploring the institutional mechanisms they contain (Vincent & Wapshott, 2014).

More recently, aspects of Bhaskarian CR, (laminations of scale and position practice system) have been applied in Education for Sustainable Development (ESD) within selected African universities (Agbedahin & Lotz-Sisitka, 2019). The study revealed the importance of going beyond policy pronouncements on mainstreaming ESD in universities and paying more attention to position-practice systems of different agents that either enable or constrain ESD mainstreaming.

4.2.7 Justification for use of Critical Realism in this study

The adoption of the Critical Realist theory in this study was based on a number of considerations. According to Shipway (2010) CR has a special focus on social structures and mechanisms and systems in education. The fact that CR goes beyond the empirical, to look at the real- which is oftentimes not observable. This provides good justification for the adoption of the use of CR as an under-labourer for this qualitative case study. This is because CR has the ability to reveal underlying causal mechanisms that either enable or hinder curriculum responsiveness in the two colleges under study. The use of CR is an important step in building responsive educational systems which cater for the needs of learners (Corson, 1997; Shipway, 2010). This makes CR useful in this study on VET curriculum responsiveness to the learning needs of A1 farmers.

In the context of this study, CR, particularly the position practice system as well as laminations of scale by Bhaskar helps in exploring how power dynamics of stakeholders at different levels in the VET system (ministry officials, principals, lecturers and students) have influenced or hindered curriculum responsiveness to the learning needs of A1 farmers. Hence, CR would assist in unpacking the reality of curriculum responsiveness at the colleges under study.

Another justification for use of CR in this thesis is that it allows for generalisability of findings. However, this is not in the ‘usual’ sense of generalisability as applied by empiricists (Danermark,

2002). In this, generalisations in CR research are based on retrodictive inference. Causal mechanisms influencing curriculum responsiveness in VET can be generalisable to other contexts in Zimbabwe after testing their applicability in these contexts.CR works with contextual generalisations because open systems are often unstable and context dependent.

4.3 Moll's model of curriculum responsiveness

In this section Ian Moll's model of curriculum responsiveness is discussed and its use in this study justified. Moll's model of responsiveness which presents the multiple layers of responsiveness is closely linked with Bhaskar's laminated system which explains social phenomena presented in section 4.2.5 above. Another aspect is that CR under-labours for Moll's model of responsiveness, for example, the position-practice system which accounts for the power dynamics that are at play at the different layers of curriculum responsiveness as expounded by Moll.

4.3.1 Curriculum responsiveness: Origins of the concept

The concern with responsiveness in higher education is a recent phenomenon which emerged as higher education institutions grew in influence and have become central in the development of the modern economy (Barnett, 1994; Gamble, 2003). The growth of the knowledge society as an indispensable pillar of the economy has also raised the interest in responsiveness in higher education. Moll (2004, p. 2) argues that " in this situation there is a consistent trend internationally for dominant social interest groups to force responsiveness to the labour market, broader economic responsiveness, cultural responsiveness, responsiveness to government and the like".Wedekind and Mutereko (2016) note that there is now no doubt of the importance of curriculum responsiveness not narrowly to the labour market but broadly to non-market issues, including the needs of learners.

According to Moll (2004) curriculum responsiveness suggests the possibility of judging the effectiveness of education programmes to meet the needs of a transforming society and learners. Responsiveness occurs at different levels. Education curricula need to respond at government

policy level, to the teaching context, the local community and students. A responsive curriculum involves the ability to change the content of what is learnt at policy level and also in the classroom.

4.3.2 Moll's model of curriculum responsiveness: The detail

The concept of curriculum responsiveness is relatively new in education circles and mostly used in relation to the South African environment with little reference internationally. In South Africa, the concept of curriculum responsiveness was introduced in 1997 and later developed in 2003 in relation to further education and training colleges and higher education institutions (Dowling & Seepe, 2003; Ekong & Cloete, 1997; Gamble, 2003). It was, however, Moll who attempted to develop a model of curriculum responsiveness with consideration of inputs from earlier scholars on the subject. Earlier writers on curriculum responsiveness linked it exclusively to economic responsiveness whereby the focus was on making higher education curriculum responsive to the labour market by providing knowledge and skills needed in the modern economy. Moll's model assisted in broadening that view by arguing that curriculum responsiveness must be interpreted in a number of different ways that may include economic, cultural, and disciplinary responses and responsiveness to the learner. Moll argues that all the four levels of responsiveness should be addressed simultaneously. Moll's model suggests that education at any level should respond to the four layers of responsiveness. Moll's model shares similarities with Bhaskar's scalar reality of laminations explained in the above section in its stratification.

4.3.2.1 Economic/ Policy responsiveness

At the highest level of responsiveness is economic/policy responsiveness. This was placed at the highest level because it is the dominant idea of what universities and higher education institutions should do (Moll, 2004). According to the South African National Commission for Higher Education (1996),economic responsiveness is the ability of educational programmes to meet the changing needs of employers and hence provide them with employees who will be able to increase their economic competitiveness. This can also be referred to as market

responsiveness, whereby the needs of the labour market are at the centre of curriculum development programmes. For a university curriculum to be economically responsive it has to produce graduates with attributes such as flexibility, the ability to use information technology, self-motivation, a willingness to learn and the ability to work independently (Griesel, 2002; Makgoba, 2004; A. Smith & Webster, 1997).

4.3.2.2 Cultural responsiveness

The concept of cultural responsiveness was popularised by Erickson (1987) who argues that student failure in schools is largely a result of "cultural" differences between teachers and students, who come from different ethnic and cultural backgrounds. The language used in text books and classrooms is often unfamiliar to students, causing failure. Hence, there is a need to ensure that what is taught in classrooms resonates well with students' lived social and cultural realities (Gay, 2002). This is in a way related to Bourdieu's cultural capital which refers in part to familiarity with the dominant culture and the ability to use the educated language (Bourdieu, 2011; Reay, 2004). Gay (2010) argues that the education curriculum should help in building bridges between the academic and the social-cultural realities of the learners. Whatever is considered the curriculum should embrace aspects to do with the cultural heritage of the learners. The curriculum should, therefore, be in line with the cultural diversity of students and society.

4.3.2.3 Pedagogical/ Disciplinary responsiveness

This refers to curriculum responsiveness to the nature of its underlying knowledge discipline that ensures linking the way knowledge is produced and the way students are trained. Higher education institutions all over the world teach students a wide range of disciplines or subject areas which came about after years of rigorous and systematic approaches to knowledge development (Ogude et al., 2005). Disciplinary responsiveness implies developing high level knowledge and skills which are required in that discipline as well as working closely with other disciplines in a multi-, inter- or trans-disciplinary manner in order to address societal and economic challenges. In this study, it would be interesting to find out what aspects of agriculture

have been added or removed from the VET curriculum in response to the learning needs of A1 farmers.

4.3.2.4 Learner responsiveness

Moll goes on to talk about curriculum responsiveness to the needs of the learner. This is an important element and suggests that teachers need to teach responsively through adjusting the rhythms of learning by using terms more accessible to the learners (Moll, 2004). In this way, learning opportunities are maximised through the use of proactive methods (Nkomo, 2014). Learning responsiveness calls upon institutions of higher learning to give special consideration to the learning styles of students (Ogude et al., 2005). However, this should be done in a balanced manner ensuring effective learning to take place. To achieve learning responsiveness there is a need to give clear purpose and the intended outcomes of learning, the proper selection of content and the use of coherent teaching and assessment methods and give learners opportunities to test and reflect what they learnt in real life situations (Holtman, Marshall, & Linder, 2004). The A1 farmers, who the subject of this study, are the majority of 'learners' in the VET colleges under study. The study focuses more on learning responsiveness though it also includes other levels of responsiveness explained above. Figure 4 below illustrates Moll's model of curriculum responsiveness.

MULTI-FACETED STRATIFIED MODEL OF CURRICULUM RESPONSIVENESS

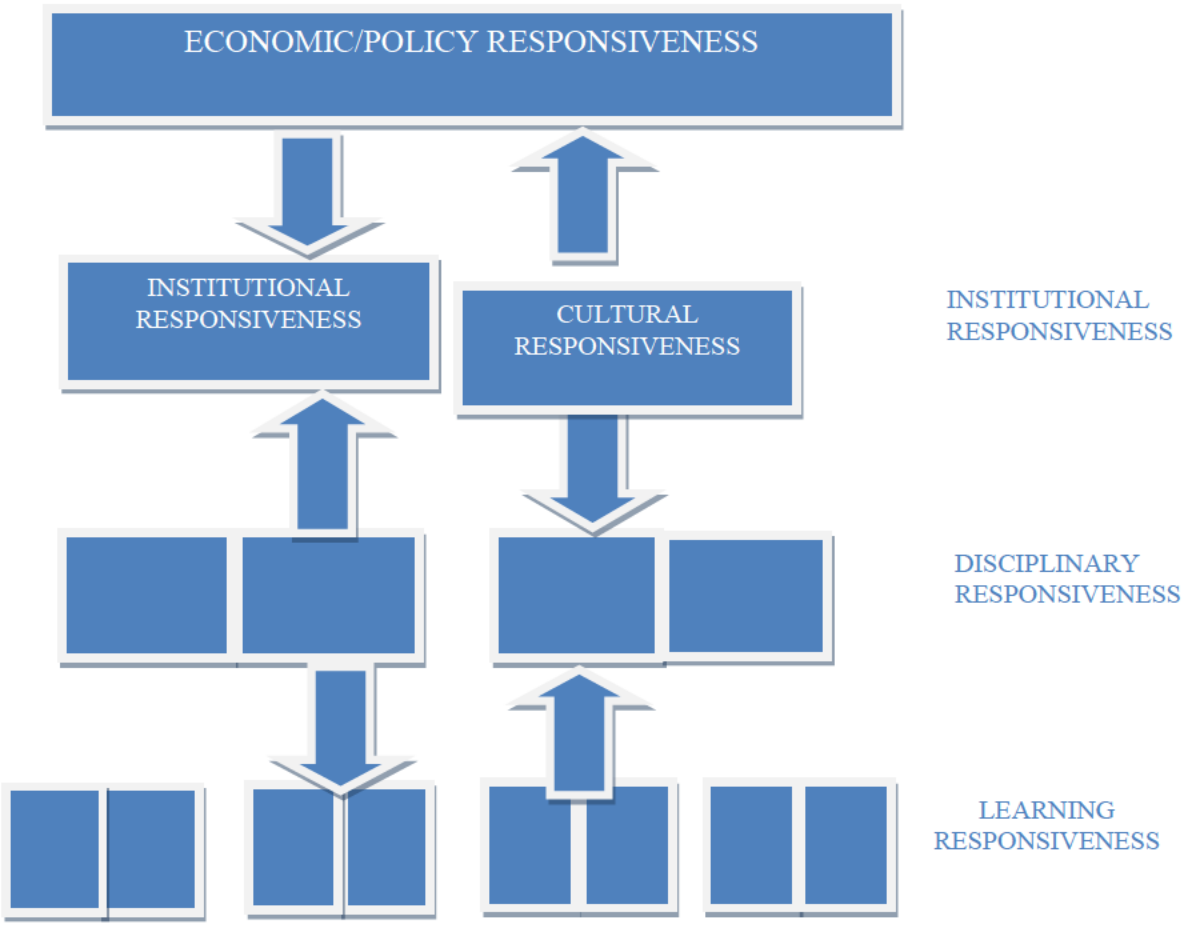

Figure 4: Stratified Model of curriculum responsiveness

Source: (Moll, 2004, p.17)

NB: Moll notes that the hierarchy of his model is tentative. However, there must be a relationship between the various strata.

4.3.3 Application of Moll's model of curriculum responsiveness in education

A number of studies, mostly in South Africa, have made reference to curriculum responsiveness while growing interest in Moll's model of curriculum responsiveness has been exhibited in

education and employment related studies (Nkomo, 2014; Ogude et al., 2005; Wedekind & Mutereko, 2016). In the South African higher education context, curriculum responsiveness should be understood contextually as an attempt to ensure that skills address the needs of society.

A study by Ogude et al. (2005) emphasised the need for higher education institutions in South Africa to be responsive to the needs of the new democratic South Africa, especially in view of the end of apartheid in 1994. The study argues that the higher education curriculum should gravitate towards meeting the demands of the new technological and fast paced global landscape. The study concludes that universities should be responsive to national interests, the country's development agenda and supply skills needed by the labour market taking note of the multi-dimensional nature of curriculum responsiveness as suggested by Moll.

In another study, Maphosa, Mudzielwana, and Netshifhefhe (2014) present key considerations for curriculum development in the South African higher education institutions, central being the need for curriculum responsiveness. Their study reveals the importance of making the higher education curriculum responsive to policy requirements, disciplinary practices and the needs of learners - a clear reference to Moll's model. In addition, Nkomo (2014) applies Moll's model of curriculum responsiveness to the teaching of lexicography in a university in South Africa. This is another example of application of the theory in higher education in South Africa.

Apart from universities, Moll's model of curriculum responsiveness has been applied in VET institutions in South Africa (Akoojee, 2008; Badroodien & Kraak, 2006). In a study on employability and curriculum responsiveness in post-school education and training, Wedekind and Mutereko (2016) note that curriculum responsiveness is influenced by employers, students, policy, societal expectations and training organisations. This, in a way, is an application of Moll's model of curriculum responsiveness.

Despite an increase in studies applying curriculum responsiveness in the South African context, literature on curriculum responsiveness is hard to get because to date there has not been much study on the subject in Zimbabwe. The current study, therefore, sought to fill that gap by applying Moll's model in vocational education in Zimbabwe. The study was on vocational

education and training curriculum responsiveness to the learning needs of A1 farmers in post-2000 Zimbabwe.

4.4 Summary

The chapter presented the theoretical framework for the study. The study utilised CR as the over-arching theoretical framework together with Ian Moll's model of curriculum responsiveness that provided an organising framework with its multi-layers of responsiveness. In order to enrich the analysis as well as provide a language for analysis, Bhaskar's seven laminations of social phenomenon was also added to the mix supported by his position-practice system. At the same time, Moll's stratified model of curriculum responsiveness was used to explain the influences of position-practice of policy makers, principals, lecturers and learners in vocational training on that curriculum responsiveness. The next chapter presents the research design and methodology used in the study.

CHAPTER FIVE: RESEARCH DESIGN AND METHODOLOGY

5.1 Introduction

The previous chapter presented the theoretical framework for the study. This current chapter presents the research design and methodology used in this study. It covers critical realism as an under-labourer for the comparative case study design, data collection instruments, reflections and ethical considerations for the study. This study sought to investigate vocational education and training curriculum responsiveness to the learning needs of A1 farmers in Masvingo province of Zimbabwe. It is a comparative study of two vocational training colleges in Masvingo province of Zimbabwe, namely; College A, a government owned and run college and College B, a non-governmental organisation. The study adopted a qualitative approach within the critical realist paradigm as informed by the theoretical framework adopted in the previous chapter. The comparative case study design was used. The researcher used multiple data collection instruments which are in line with triangulation of data sources, an aspect encouraged in critical realist qualitative research. The instruments of data collection used in this study are semi-structured interviews, focus group interviews, observations and document analyses. The research paradigm adopted, research approach, research design and data collection instruments are adequately justified.

5.2. Critical Realism

CR, as introduced in the previous chapter is a departure from both empiricism and constructivism and an under-labourer for various research approaches. It is against the limits of empiricism that can only describe observable phenomena but fail to explain the causes of these events (Bhaskar, 2008; Edwards et al., 2014; Sayer, 2004) that this theory has been selected.CR, in this study, is used as an under-labourer for exploratory research. CR is a meta-theory which provides concepts which can assist in creating more accurate explanations of social phenomena (Easton, 2010). In this thesis the concepts used in explaining causality derived from CR are laminations of social phenomena as well as the position-practice system (Bhaskar, 2010).

However, CR acknowledges that though it is difficult to have precision when dealing with open systems, it is useful in generating explanatory theories to explain social phenomena. This is best done in the context of the environment in which the entities exist (Fleetwood & Ackroyd, 2004). This is particularly applicable in qualitative comparative case study research such as in this study on VET curriculum responsiveness to the learning needs of A1 farmers in post-2000 Zimbabwe. CR also informed the choices of data collection instruments as well as data analysis.

5.3 Qualitative comparative case study research

CR works well with the case study design, both single case study and the multiple case study designs. Even though, Bhaskar, the originator of CR did not recommend any particular research methodology because critical realism is a heterogeneous philosophy that assists a researcher in selecting a method for study based on a research question and its characteristics (Javidroozi, Shah, & Feldman, 2018). However, a number of CR researchers have commended the case study method as best positioned to explore the interaction of structure, events, agency, and context to identify causal mechanisms (Easton, 2010; Miles & Huberman, 1994). This is partly because the main goal of CR is to identify sequences, taking into account the context in which the causal mechanism is identified and explained. A case refers to a bounded system which is bound by time and place (Creswell, 2013). Easton (2010) believes that the case study is a qualitative approach that conforms with CR philosophy which is well suited for investigating complex events. This current study uses the case study design because it can provide rich insights into particular situations, in this instance, curriculum responsiveness to the learning needs of A1 farmers in Masvingo province of Zimbabwe.

In this study, the qualitative comparative case study design was used focusing on curriculum responsiveness of two vocational training colleges to the learning needs of A1 farmers in Masvingo Province. The two institutions can also be seen as particular cases. Each of the two colleges under study are considered as separate cases and will be treated as such. The case study provides deep insight into a particular instance by providing rich descriptions of the case. Denscombe (2014) notes that when a researcher chooses to devote his attention to one instance, he has a greater opportunity of looking at it in more detail.

According to Danermark (2002) , in CR, all science must have generalising claims. However, what differs are the meanings of the concept generalisation in CR research. In this study, the realist concept of generality is applied, which refers to transfactual conditions for something to be what it is. This differs from the other definition of generalisation which implies an extrapolation applied by empiricists whereby an occurrence within a small population can be generalised to a bigger population. Apart from induction and deduction, CR uses abduction and retrodiction as modes of inference that allows generalisations of findings from case studies (Danermark, 2002). In this study, generalisations based on retrodictive inference show how something might be. Causal mechanisms influencing curriculum responsiveness in VET can be generalisable to other contexts in Zimbabwe after testing their applicability in these contexts. Generalisations in CR are at the level of mechanisms having isolated specific ones in a study and then assess their presence or absence in another context. The importance of recontextualising is based on the fact that reality is unstable and depends on various circumstances in open systems (Danermark, 2002).

5.3.1 Justification of the qualitative comparative case study design in CR research

A case study allows one to examine a particular instance in depth and is therefore an intensive way of studying (Rule & John, 2011). Another justification for using the case study is its flexibility and versatility. The case study's focus on a particular 'case' makes it more manageable. It provides the researcher with a particular unit to study which can be clearly delineated and separated from other units (Rule & John, 2011). The case study has the further advantage of using multiple data collection methods. Denscombe (2010) points out that the case study approach allows and even encourages the researcher to use a variety of sources, a variety of types of data and a variety of research methods. The use of multiple data collection sources from a small number of social entities can best be done through the case study design.

This study used the qualitative comparative case study research approach. The qualitative comparative case study is an important research design in CR research (Ackroyd & Kalsson, 2014).The qualitative approach is more prominent in CR research because it is capable of providing in-depth understanding of phenomena, identifying the complex mechanisms, creating

relationships between different mechanisms, as well as between different mechanisms and structures and describing actual events (Mingers, 2014). This study fits within the expectations of a typical critical realist design because it focuses on only two cases. Bygstad and Munkvold (2011) note that critical realist designs should be intensive studies of limited cases, where the researcher systematically analyses the interplay between the layers. CR works well with intensive case study designs because it allows for analysis of structure-agency relations.

Critical realists seek substantial connection among phenomena rather than formal associations or regularities. In explaining associations, they seek to distinguish what must be the case from what merely can be the case. Explanation of the social world also requires an attentiveness to its stratification, to emergent powers arising from certain relationships, and to the ways in which the operation of causal mechanisms depends on the constraining and enabling effects of contexts (Sayer, 2004).

Rule and John (2011) note that multiple case studies allow for comparison across cases. This is particularly important in the current comparative study. Another advantage of the multi case study is that it enables the researcher to explore differences and similarities within and between cases. From the multiple case study, because comparisons will be drawn, it is imperative that the cases are chosen carefully so that the researcher can predict similar results across cases, or predict contrasting results based on a theory (Baxter & Jack, 2008). In this case, two different VET colleges in terms of ideology, ownership, funding and management were chosen to enhance the comparative study.

The research questions for this study were mostly exploratory in nature, and thus, are best addressed using the case study design as supported by (Easton, 2010; Yin, 2013). Within the case study design, the study focused only on two entities (colleges offering VET) in Masvingo province and used multiple sources of data. This makes it a qualitative comparative case study research.

5.3.2 Selection of study sites

The study focused on VET curriculum responsiveness to the learning needs of A1 farmers in Masvingo Province of Zimbabwe. As such, the selection of cases was limited to a particular geographic region, that is, Masvingo Province. It was also a given that the sites had to be vocational training colleges, which obviously had to be in operation during the particular historical period of interest. Masvingo Province at the time of the study had twenty-six registered vocational training centres.

The goal for selecting the specific study units is to have those that will yield the most relevant and plentiful data (Yin, 2013). In light of the tense and sometimes strained relationship between the government and non-governmental organisations in Zimbabwe as well as the polarisation of land issues especially after the year 2000, it would be interesting to study the responses of, on the one hand, the government training college and on the other the non-governmental training college. It is because of those factors that the researcher chose the two colleges. This is in line with Yin's argument that a researcher should prioritise choosing study sites that might offer contrary evidence or views (Yin, 2013).

In selecting the two sites for study the researcher considered two main factors that justified the choice. This was in line with Denscombe (2014) who notes that a case study should be chosen on the basis of specific attributes found in the case. These should be important to the issue being studied. This study being a multi-case study of two colleges offering vocational education in Masvingo Province meant that the researcher had to choose two different colleges in terms of ownership, funding management and location of the colleges. In Masvingo Province, there are some vocational training colleges which are distinct with reference to the above factors in that the majority of them are government run training colleges while there are a few non-governmental organisations and church run training colleges. The researcher chose to compare the government training college with the non- governmental training college. This is supported by Denscombe (2014) who notes that a case might be selected on the grounds that, far from being typical, it provides something in contrast to the norm.

5.3.3 Study population

Defining the population is important to enable the reader to know exactly to which population the conclusions apply. Population refers to the totality of entities from which a study sample is drawn and from which conclusions can be reached (Palinkas et al., 2015; Yin, 2015). Establishing a population assists in establishing inclusion and exclusion criteria. By the time of the study, Masvingo province had twenty-six registered vocational training centres. The majority of these centres were government owned, followed by non-governmental organisation owned, church owned colleges and, finally, private training colleges.

5.3.4 Sampling strategy and selection of participants

In line with the CR paradigm, the researcher purposefully selected information rich study participants (Pawson & Tilley, 1997). This is also supported by other researchers in qualitative studies (Palinkas et al., 2015; Patton, 2002). This study was no exception with a sample size of twenty-eight participants. Using purposive sampling facilitated easy inclusion of participants from the agriculture programmes at the two colleges. Inclusion and exclusion criteria were clearly spelt out (Robinson, 2014). For the students, only those who had been allocated plots as A1 farmers were included.

Qualitative studies are characterised by small samples of participants generally. Sampling, according to Bertram and Christiansen (2014),involves making decisions about which people or organisations to include in the study. These are selected from a population, that is, the total number of organisations that could be included. This automatically sets inclusion and exclusion criteria for selection of colleges that would have rich data. The sample chosen was based on fitness for purpose as well as the depth of information participants possess (Boddy, 2016). The twenty-eight participants who took part in the study were as follows: two ministry officials, two principals (one from each college); eight agriculture lecturers (four from each college) and sixteen students (eight from each college). Participant selection is further clarified in section 5.5.2 of this thesis.

5.4 Data collection instruments

In this study, the researcher used the following four data gathering techniques: semi-structured interviews, document analysis, focus group interviews and observations. The use of multiple data collection instruments enhances triangulation. These data collection instruments are used as a means to access the most useful data. An exploratory case study on VET curriculum responsiveness to the learning needs of A1 farmers in post-2000 Zimbabwe would be best addressed through multiple data collection instruments. This is in line with the observation made by Yin (2013) that an important characteristic of a case study approach is that it uses multiple data-collection instruments. Table 1 below shows the summary table of data collection.

Table 1: Summary of Data collection

Data Collection Instrument	Government Officials	College A	College B
Document Analysis	Circulars, policy documents, legislation	Circulars, policy documents, syllabi, training manuals, course outlines	Circulars, policy documents, syllabi, course outlines
Semi structured Interviews	Provincial Officer-Ministry of Youth, Indigenization and Empowerment Provincial Officer-Ministry of Higher Education, Science and Technology Development	Principal and Four Agriculture Lecturers	Principal and Four Agriculture Lecturers
Focus Group Interviews	None	One interview with eight Agriculture learners	One Interview with eight Agriculture learners
Observations	None	Lesson observations Farmer field days Infrastructure Equipment	Lesson observations Farmer field days Infrastructure Equipment

5.4.1 Document analysis

Documents analysis is an important source of information in social research (Walliman, 2017) . Documents are difficult to define since they come in different forms and are varied. However, there is agreement that they are social products which serve as receptacles for claims (Prior, 2003). According to Gillham (2000) document search and analysis epitomises case study research. This is because they can be used to corroborate information obtained from other sources, for example, interviews and observations(Walliman, 2017). This is most relevant for case studies. In this study, document analysis was useful in triangulation (Denzin & Lincoln, 2003). When using documents, it is recommended that these documents be assessed for authenticity, credibility, representativeness and meaning (Silva, 2012). Despite the usefulness of documents in qualitative research, there are also limitations associated with their use, such as selective and biased selection of documents since authors may decide to leave out important information due to their biases and also that historical documents may be manipulated (May, 2001; Silva, 2012). In this study, the researcher analysed the following documents: policy documents, mission statements, circulars, training manuals, teaching material and course outlines for the programmes. In the selection and use of the documents, the researcher ensured that the documents were authentic through verifying with authorities. For example, for course outlines, the researcher checked with the concerned lecturers as well as with heads of departments. Using documents after making verifications was done to ensure credibility. Documents which failed the credibility test were excluded from the study.

The purpose of analysing these documents was to assess how they relate to the concept of curriculum responsiveness to the learning needs of A1 farmers. Some of the documents would come from Government Ministries, the two Colleges under study and the agriculture lecturers concerned. Evidence from documents from government and its agencies would assist in informing what Moll (2004) refers to as policy responsiveness. Meanwhile, documents from principals of the two training colleges would inform institutional responsiveness. Also, the documents from agriculture lecturers such as syllabi and course outlines assisted in answering the questions related to disciplinary responsiveness.

5.4.2 Semi-structured interviews

In critical realist case study research, the use of interviews is encouraged (Ackroyd & Kalsson, 2014).This is because interviews are believed to be a route for providing crucially rich textured accounts of events, experiences and processes which represent different facets of complex, multi-layered social reality (Smith & Elger, 2014). Semi-structured interviews were used to collect data. According to Welman et al (2012) in semi-structured interviews the researcher has a list of themes and questions to be covered which are presented in the form of interview guides in appendix 4, 5, 6 and 7. The researcher chose to use semi-structured interviews because they allow for the probing of the respondents for clarity, regarding their responses. Semi-structured interviews also have the advantage of versatility and flexibility which allows the researcher to pursue unexpected lines of questioning during the interview (Grix, 2010). If the same questions are asked to different respondents uniformly, one can use the information for comparison. The researcher intended to have a total of twelve semi-structured interviews as follows: two provincial officers (one Ministry of Youth Indigenisation and Empowerment and one from the Ministry of Higher Education Science and Technology Development, two principals/ administrators (one from each college), and eight lecturers (four from each college).

All the semi-structured interviews sought to address the main research question of the study. In the process, semi-structured interviews would address the top three layers of curriculum responsiveness which are policy, institutional and disciplinary responsiveness (Moll, 2004). Semi-structured interviews with provincial ministry officials sought to target questions on the policy responsiveness of the vocational curriculum, while the interviews with principals sought to answer questions related to institutional responsiveness. The final set of semi-structured interviews with agricultural lecturers would assist in addressing disciplinary responsiveness. Table 2 below presents biographical data of participants in semi-structured interviews.

Table 2: Demographical data of participants in Semi-structured interviews

Participant (Pseudonyms)	Age	Sex	Education	Organisation	Position	Work Experience
Officer 1	59	M	Bachelors	MHESTD	Provincial Head	35 years
Officer 2	56	M	Bachelors	MYIEE	Provincial Officer	30 years
Principal 1	46	M	Masters	College A	Principal	18 years
Principal 2	62	M	Bachelors	College B	Principal	38 years
Lecturer A1	36	M	Certificate	College A	HOD	2 years
Lecturer A2	43	M	Certificate	College A	Lecturer	8 years
Lecturer A3	51	M	Diploma	College A	Lecturer	21 years
Lecturer A4	37	M	Bachelors	College A	Lecturer	9 years
Lecturer B1	45	F	Masters	College B	HOD	14 years
Lecturer B2	49	M	Bachelors	College B	Lecturer	18 years
Lecturer B3	44	F	Diploma	College B	Lecturer	15 years
Lecturer B4	46	M	Bachelors	College B	Lecturer	17 years

5.4.2.1 Ministry officials

Two ministry officials participated in the study. Interviews with the ministry officials helped in understanding the policy framework, legislation and responsibilities as well as the implications of this to curriculum responsiveness. The government officials were regarded as reliable informants about government policy on vocational education based on the respective offices they occupy. Issues of governance, funding, curriculum reforms and development emerged from these interviews as well as the challenges the Zimbabwean VET sector faces. Both ministry officials were males in their late fifties.

Both interviews for ministry officials were held in their respective offices. The office environment, particularly using their official offices was the most ideal environment to conduct the interviews. This was done to show respect for their positions as well as to maintain professionalism. Conducting the interviews in their respective offices also allowed the interviewees to participate in the study with minimum disruption of official business. For both interviewees the researcher made prior bookings for the interviews having secured their consent

during earlier visits to their institutions. However, despite making prior bookings to conduct the interviews, it was not easy to meet for the interview as a result of busy schedules.

Ministry official 1 was the provincial point-person in the MHESTD. He was educated up to degree level having gone through apprenticeship training in the private sector before the country attained independence in 1980. Upon independence, he qualified as a Journeyman and joined in public service in the position of Training Officer working closely with VET institutions. Official 1, in the process of work, experienced both colonial and post-colonial VET in Zimbabwe over a period of more than thirty years. In his position, Official 1 was responsible for registration, supervision and facilitation of certification of all VET qualifications in the Masvingo Province.

The first interview with ministry official 1, from the MHESTD was difficult to organise. When they eventually met the researcher understood the circumstances much more. It was because it coincided with institutional audits that are done at the end of the year. Once the researcher met the participant for the first interview, Official 1 was quite welcoming and happy to show the researcher into his modest office. The initial interview was designed to be wide in scope. The researcher allowed the official to take me through the activities involved in his job, his responsibilities and history. Semi-structured interviews with the two officials from government assisted in clarifying the policy environment of VTCs in Zimbabwe.

Official 1 highlighted that the role of the Ministry is registration, standards development, proficiency testing and quality assurance for all vocational training colleges operating in Zimbabwe. His office has specific jurisdiction over the colleges in Masvingo region. Apart from VTCs, the Ministry also plays a similar role in Technical Colleges. All the VTCs in the province are registered by the MHESTD whether they are government, private or non-governmental run colleges.

Ministry official 2 was the provincial head for the MYIEE. He was also degreed and had over thirty years of experience working for the government in various ministries. He joined the MYIEE as a Youth Officer and rose through promotions to the position of Provincial Officer. His current position involves the management of youth programmes, indigenisation and

economic empowerment in the Masvingo Province. In his current position, Official 2 is responsible for coordinating activities of government owned VTCs under his ministry and reports to the deputy director at head office in Harare.

Just like Official 1 above, setting up the first interview was a difficult process because of the nature of the official's duties. Official 2's responsibilities were more widespread and education was not his main responsibility. This was because his ministry had VET as one of its many mandates. Apart from running VET Colleges, the ministry was concerned with other youth affairs such as economic empowerment programmes as well as other programmes relating to gender issues. Official 2 had a wide range of experience cutting across those areas under the jurisdiction of the MYIEE.

Official 2 also worked closely with politicians who are keenly interested in the politics of Zimbabwe, especially in areas related to youths. VET colleges under the MYIEE were largely aligned to the ruling ZANU PF party. From the interview with Official 2, the influence of political power was felt. Official 2 was very friendly and one could sense the need for 'political correctness' even on his part. It was difficult to separate Official 2's official duties from political party activities. The interview with Official 2 also exposed the rigidity of the VET system offered under the MYIEE.

5.4.2.2 Principals

The principals for both colleges A and B were male. This shows that gender is still a factor that influences management positions in the VET sector. Principal 1, for College A was in his mid-forties. His highest academic qualification was a Masters Degree. He attained a Diploma in Education, Bachelor of Technology in Education Administration and a Master of Technology in Education Administration. His qualifications were relevant to his current position of Principal. He had twenty years teaching experience, having started as a secondary school building studies teacher. Principal 2 for College B was in his early sixties, working towards retirement. His highest qualification was a bachelor's degree in Development Studies. Before independence, he attained a Teachers Certificate that enabled him to teach at primary school. Upon independence

he moved from teaching and worked for a Rural District Council as a community development officer. In that role he worked closely with NGOs in the district and was instrumental in the formation of College B. This resulted in him being seconded by the council to be the founding principal of the College. The qualification and experience of Principal 2 was quite relevant for the position since College B had a broader mandate apart from offering vocational training.

Both interviews were held onsite, that is, at the respective colleges. Principals, due to their position in the respective organisations, are the link between the training colleges and the outside world. They are responsible for the interpretation of policy and its communication to their respective organisation. They also lead policy implementation, monitoring and evaluation of activities at their respective institutions. The principals of the colleges, in other words, are the college managers responsible for the daily operations of the training colleges. They supervise, among other aspects, personnel, financial resources and material resources (such as equipment and facilities) at the colleges.

5.4.2.3 Lecturers

As presented in Table 3 above, eight agriculture lecturers participated in the study, four from each of the two colleges. The table shows that the majority of lecturers (six of the eight) were male while only two lecturers were female. College B employed more educated lecturers compared to those from college A. At both colleges, there were more male lecturers than females in the agriculture programmes. Four of the eight lecturers in the study possessed a bachelor's degree in agriculture. The degree is adequate for lecturers teaching in VTCs as the highest qualification the colleges offer is a Certificate in Agriculture. Two of the four lecturers at College A possessed the National Certificate in Agriculture. Both lecturers were under qualified according to the Zimbabwe Council for Higher Education (ZIMCHE), which sets minimum qualifications for lecturers. One of the lecturers was the Head of Department and the only full-time lecturer at College A. This is likely to affect the quality of teaching and learning. The majority of highly qualified lecturers were at College B, including the one with a Masters qualification. The majority (five of the eight) of the lecturers had over ten years experience teaching agriculture in schools and VTCs. Their experience was important in this study.

Lecturers were seen as an invaluable source of data for the study covering issues to do with curriculum design, curriculum development, material development, curriculum delivery and assessment. The lecturers, in executing their job, have to contend with external expectations such as delivering on policy statements and internal realities they face daily such as resources, facilities and other political issues.

5.4.3 Focus group interviews

Focus group interviews were conducted with students. Focus group interviews are a method of data collection where the researcher engages a moderately sized group of participants together and facilitates a discussion amongst the participants. The number of participants recommended for focus group interviews varies among authors on the subject but usually ranges from six to twelve participants (Denscombe, 2014; Patton, 2002). Focus group interviews are regarded as "focused" because the interviews are done with people who have had some common experiences and are thus relatively homogenous on a particular topic (Dilshad & Latif, 2013; Nieuwenhuis & Smit, 2012; Patton, 2002; Yin, 2013). This is a useful method for collecting data, but their success depends on the facilitation or moderation skills of the interviewer. The researcher took the role of moderator in both focus group interviews.

Focus group interviews have an advantage of flexibility in that they can be used alone or together with other methods of data collection as in this study (Wilkinson, 2004). To be successful one has to be able to manage group dynamics well. The other advantage of the focus group interview is that participants can build on each other's ideas and comments and debate among themselves - something that is missing from individual interviews (Nieuwenhuis & Smit, 2012). Two focus group interviews (with eight learners each) were done, one at each of the two vocational training colleges under study so as to address what Moll refers to as learning responsiveness.

5.4.3.1 Demographics of participants in focus group interviews

The demographic data for students was presented together for the two Colleges A and B, respectively. For easier identification, the symbol A is used for students from College A

followed by a number that identifies the particular student. The same was used for students from College B. The following table presents demographic characteristics of agriculture students at College A.

Table 3: Demographical data of students at College A

Name of respondent	Age	Male	Female	Education
Student A1	28	✓		3 Ordinary level Subjects
Student A2	35		✓	6 Ordinary level Subjects
Student A3	29		✓	4 Ordinary level Subjects
Student A4	21		✓	5 Ordinary level Subjects
Student A5	22		✓	3 Ordinary level Subjects
Student A6	55	✓		5 Ordinary level Subjects
Student A7	25		✓	4 Ordinary level Subjects
Student A8	35	✓		4 Ordinary level Subjects

Table 3 above, shows demographic characteristics of agricultural learners at College A who participated in the focus group discussion. The total number of participants in the focus group discussion was eight. The majority of the respondents were in the category of youth with an average age of thirty-one. The Zimbabwean constitution as well as the youth policy defines youth as any person between fifteen and thirty five years of age (Government of Zimbabwe, 2013). There was only one outlier, who was in his mid-fifties and had retired from the military. The majority of learners in the agriculture programme at College A are out of school youth most of whom have some connection to the FTLRP as children of beneficiaries of the A1 farms. The absence of more people who are adults in the programme could be because the programme is mostly formalised and, as such, it is difficult for adults to enroll in a fulltime programme.

The majority of focus group participants at College A (six of the eight) were female while only two were male. The disproportionate gender distribution of learners in the Agriculture programme is not representative of all programmes at the institution. Participants in the focus

group discussion indicated that the discrepancy was particular to the agriculture programme and in other programmes such as building, metal work and motor mechanics men are over-subscribed. Some participants in the focus group interview noted that more men are interested in working with machines whereas more women are found on the farms engaged in agricultural activities in the absence of men who are usually employed in towns or are in migrant work. Developments in the constitution of Zimbabwe whereby women can now inherit farms, unlike in the past, have also acted as an incentive for women to be formally trained in agriculture.

In terms of education, the majority of learners (five of the eight) had less than 5 Ordinary Level passes. This was reflected in their low levels of literacy. Most of them had failed English Language and Mathematics. These students would not normally qualify for Advanced Level study or other qualifications offered by diploma and degree awarding institutions. The low levels of education of students have implications in terms of the language of instruction used by lecturers. The table below shows the demographic characteristics of students at College B.

Table 4: Demographical data of students at College B

Name of respondent	Age	Male	Female	Education
Student B1	43	✓		Zimbabwe Junior Certificate
Student B2	48		✓	2 Ordinary level Subjects
Student B3	29		✓	4 Ordinary level subjects
Student B4	51	✓		Grade Seven
Student B5	38		✓	3 Ordinary level Subjects
Student B6	52		✓	Grade Seven
Student B7	61	✓		Grade Five
Student B8	37	✓		6 Ordinary level Subjects

Table 4 above shows demographic characteristics of students at College B. At College B the majority of learners are adults, most are over forty and practicing farming full-time as A1

farmers. At College B, learners are much older in comparison to those at College A. The average age of learners participating in the focus group was 44. There was a gender balance between men and women who participated in the focus group interview. At College B there seems to be more interest by men to enroll in the programme. Learners at College B had very low literacy levels. Only one out of the eight learners had more than five Ordinary Level subjects. However, they had more experience in farming. The majority of the learners had migrated from the communal areas in Mwenezi after being allocated land through the FTLRP. These farmers still maintain contacts with their relatives in the communal area with a few still having houses in the communal areas as a way of risk management in case things do not go as planned on the A1 farms.

5.4.4 Observations

Observation is another important method of gathering primary data in qualitative research. It refers to the act of recognizing and noting facts or occurrences or perceiving data through the senses; sight, hearing, taste, touch and smell (Denscombe, 2014; Kawulich, 2012; Marshall & Rossman, 2011). The use of observations has the advantage of actually seeing what people do, rather than depending on what they say they do and it gives access to certain aspects that outsiders cannot see (Kawulich, 2012). It enables the gathering of data that may be difficult to gather using other methods such as individual and group interviews.

In this study observational evidence was be used to verify data collected from other sources. Perspectives of observations can be subdivided into a number of categories such as: complete observer, participant observer, complete participant, structured observations and unstructured observations (Adler & Adler, 1994; Gorman & Clayton, 2005; Kawulich, 2012). Observations were limited to the two vocational training colleges under study. These are the sites where actual learning takes place. The observations sought to address issues to do with institutional responsiveness, disciplinary responsiveness and learning responsiveness (Moll, 2004). The researcher conducted structured observations with the assistance of an observational guide in Appendix 10. In order to have adequate time to make these observations, the researcher made five visits to the study sites when their programmes were in session. These visits were entirely

targeted at giving the researcher an opportunity to make observations of teaching and learning. Of the five visits, the researcher managed to make two visits to College B which was the furthest of the two while the other three visits were to College A.

5.5 Pilot testing

In order to increase the chances of carrying out a successful study, a pilot study was conducted before the actual research. A pilot study entails testing new instruments to a limited number of respondents of a similar population as that of the intended study (Wellman, Kruger, & Mitchell, 2012). Pilot testing helps in demonstrating the feasibility of the actual study. It also has an advantage of highlighting gaps in the design of the study that can be 'filled' before more investment is made in the actual study (Sampson, 2004). Wellman et al. (2012) go on to argue that the main purposes of the pilot study include detecting possible flaws in measurement procedures such as ambiguous instructions and presenting an opportunity for researchers to notice nonverbal behaviour of the respondents. Marshall and Rossman (2011) note that piloting helps in reducing doubt in the ability of the researcher to conduct s credible study using the instruments selected. Other reasons for the use of pilot testing are that 'pilots' can refine research instruments, they can also help in foreshadowing research problems and questions, in highlighting gaps and wastage in data collection and in considering broader and highly significant issues such as ethics and representation (Sampson, 2004).

The pilot test was conducted at Masvingo urban vocational training college – distinct from the two colleges where the actual study was conducted. Though it is situated in town its organisation and programmes are the same as the two colleges under study. The participants in the pilot study had similar characteristics to those who would participate in the actual study: the principal, two lecturers and two students. It is important to note that this was not a full pilot with the same number of participants as in the actual study but rather it was intended to test the research instruments before embarking on the actual study. The pilot study conducted was useful in clarifying some questions that were not clear in the research instruments. For example, the initial interview questions were mostly what… questions. After testing the instruments the researcher observed that such questions would not assist in investigating causal factors in line with critical

realism. The researcher changed the research questions from purely empirical questions to align them with the demands of critical realist causality. For example, the main research question initially was: *What is the responsiveness on the VET curriculum to the learning needs of A1 farmers in Masvingo Province of Zimbabwe post 2000?*The question was changed to**:** *What is the responsiveness on the VET curriculum to the learning needs of A1 farmers in Masvingo Province of Zimbabwe post 2000 and why has it come to be this way?*

Pilot testing also alerted the researcher to the need for probing the participants to reveal more information and go beyond surface appearances in order to understand other non-observable causes and hindrances of VET curriculum responsiveness in line with critical realist thinking.

5.6 Negotiating access to research communities

Negotiating access to research communities has become an important consideration which determines the success or failure of qualitative data collection and this aspect is receiving increased attention by qualitative researchers (Denscombe, 2014; Lampard & Pole, 2015; Merriam & Tisdell, 2015). The processes of negotiating access to research settings are ongoing, from research planning to report writing (Mukute, 2010). In order to facilitate quick acceptance by the two organisations, the researcher made informal visits to these organisations familiarising, building trust and showing an interest in their work (Chilisa & Preece, 2005). This worked to the researcher's advantage when eventually the research process started. In order to be legally allowed to collect data for this study there was need to seek permission from the respective gatekeepers. The details of negotiating access to the two research sites are explained in the following section.

5.6.1 Gatekeepers permission

Gatekeepers' permission is important to obtain before one conducts research in organisations and communities. This is a critical ethical issue in research. This permission is normally given by community leaders and leaders of the respective organisations (Ogletree & Kawulich, 2012). For success in this regard, one has to be familiar with the culture of the respective community or

organisation. In Zimbabwe, government vocational training colleges fall under the jurisdiction of line Ministries such as the Ministry of Youth, Indigenisation and Empowerment as in this case. At the same time, these training colleges are registered with the Ministry of Higher and Tertiary Education, Science and Technology Development. What this meant was that the researcher had to apply for permission to the respective line Ministry. The application to conduct research was approved by the Ministry's Permanent Secretary (see appendix 2). With the permission letter, in line with government bureaucracy, the researcher had to take the letter to the provincial office in Masvingo, where the study was located where he was given another support letter to facilitate his acceptance at the training college. The letters were presented to the Principal of the government training college (College A).This initiated and officially began the process of familiarisation. At College A the gatekeepers were at three levels. At the national level, Permanent Secretaries in the two ministries; Higher and Tertiary Education, Science and Technology Development and the Ministry of Youth, Indigenisation and Empowerment. In Masvingo Province where the college was located, the Provincial Officers for the two ministries were the gatekeepers. Finally, the lowest level of gatekeeping was at the college itself, where the Principal was the local gatekeeper.

Gaining access to College B, the non-governmental organisation run institution, was easier and it took only a few days for the researcher to be granted permission to conduct the study. This was because most of the decisions are made locally by the college Principal together with the Board of Trustees. Getting permission to conduct the study at the two colleges was a significant achievement since it meant that the researcher had secured intended study sites. The letters were significant in that they were needed for the ethical application process that the researcher started after defending the research proposal. At College B, the composition of national gatekeepers was a bit different from those for College A. There were fewer gatekeepers at College B as compared to College A. Only the Permanent Secretary for Ministry of Higher Education, Science and Technology Development was applicable because he has overall control over all training institutions in the country whether public or private. At the provincial level, the Provincial Officer for the Ministry of Higher Education, Science and Technology Development was the gatekeeper. At the college level, the Principal was the local gatekeeper representing the Board of Trustees.

5.7 Data analysis

Critical realism was used as an under-labourer for this qualitative comparative case study. In this study, inductive and abductive modes of inference were used (Danermark et al., 2002). The use of critical realist analysis inductive and abductive analysis) were used to probe shaping generative mechanisms. Critical realists use four modes of inferences which are deduction, induction, abduction and retrodiction. Abductive analysis is concerned with the emergence of themes from the data, when one uses theoretical lenses to make sense of the data moving from the concrete to the abstract (Mukute, 2010a). In this study, abduction was based on the lenses of Bernstein's pedagogic device, classification and framing as well as Moll's model of curriculum responsiveness. Bhaskar's position practice system and laminated system of emergence (Bhaskar, 2010). Abduction relies heavily on theories as mediators for deriving explanations. According to Danermark et al. (2002) abduction is an inference where description and recontextualisation is the central element, in order to understand something in a different context.

Retrodictive analysis was concerned with establishing explanations of what qualities must exist for something to be possible (in this case curriculum responsiveness). Retrodiction posits that events are explained through identifying and hypothesizing causal powers and mechanisms that produce them (Marks & O' Mahoney, 2014). Causality is mediated by contextual conditions because causal powers may only result in an event occurring under certain conditions. Table 5 below adapted from Danermark et al. (2002, pp. 80-81) presents the four modes of inference.

Table 5: Four modes of inference

	Deduction	**Induction**	**Abduction**	**Retrodiction (Also referred to as Retroduction)**
Fundamental Structure/ Thought operations	To derive logically valid conclusions form given premises. To derive knowledge of individual phenomena from universal laws	Draw universally valid conclusions from a number of instances. See similarities in a number of observations (identification of patterns of data)	Interpret and recontextualise individual phenomena within a conceptual framework (theory)or set of ideas. Understanding something in a new conceptual framework	From a description and analysis of concrete phenomena, reconstruct the basis conditions for these phenomena to be what they are. By way of thought operations and counterfactual thinking.
Central Issue	What are the logical conditions for the premise?	What is the element common for a number of observed entities?	What meaning is given to something interpreted within a particular conceptual framework?	What qualities must exist for something to be possible?
Strength	Provides rules and guidance for logical derivations and investigations of the logical validity in all argument	Provides guidance in connection with empirical generalisations	Provides guidance for interpretive processes by which to ascribe meaning to events in relation to a larger context	Provides knowledge of transfactual conditions, structures and mechanisms that cannot always be observed in the domain of the empirical
Limitation	Deduction does not say anything new about reality beyond what is already in the premises.	Inductive inference can never be either analytically or empirically certain (internal limitations of induction)	There are no fixed criteria from which it is possible to assess in a definite way the validity of an abductive conclusion	There are no fixed criteria from which it would be possible to assess in a definite way the validity of a retrodictive conclusion

Apart from the four modes of inference presented in table 5 above, the researcher used thematic analysis for analysing data from semi-structured interviews, focus group interviews and observations. Thematic analysis is informed by the realist philosophy (Vaismoradi, Turunen, & Bondas, 2013). Thematic analysis refers to a method of identifying, analysing and reporting patterns (themes) in data and examining commonality, differences and relationships in the data (Braun & Clarke, 2006; Gibson & Brown, 2009). Thematic analysis works well with narrative materials, breaking text into small units of content. It involves identifying common threads in the data sets and condensing them into analysable units by creating categories from the data (Coffey

& Atkinson, 1996; Miles & Huberman, 1994). The process was done separately for the two colleges under study. This was to avoid losing case specific data in the preliminary analysis.

Commonality is established by pulling together all material across a data set that has something in common. These common elements can also be analysed further. Differences are identified across the data set focusing on the relevance of the differences to the themes being examined (Gibson & Brown, 2009). Identifying commonality as well as differences ultimately allows a researcher to establish the relationship of the data.

The use of thematic analysis allows for the context influencing data to be apparent. Having collected data, the researcher started the process by familiarising with the data through reading and re-reading responses from the data sets. This led to the allocation of codes on the data sets. In order to reduce the data into more manageable sets summarising the main issues, the identified codes were reduced into a few clusters. Data collection and analysis were done concurrently as it is suggested that the process of data collection, analysis and report writing are not distinct steps but rather are interlinked and often go on simultaneously (Cohen, Mannion, & Morrison, 2011; Creswell, 2013; Dey, 1995).

According to Alhojailan (2012) the use of thematic analysis is befitting in qualitative studies in that it allows for interpretation of data which is consistent with the data collected from respondents. Through thematic analysis, the factors that influence VET curriculum responsiveness at the colleges under study, for example, can be identified. Having analysed the data from the two cases separately, a data matrix was used to enable a cross-case analysis that allowed for a comparison of factors influencing VET curriculum responsiveness at the two colleges. The data matrix was used for data display purposes which enables the visualization of data and conclusion drawing (Miles & Huberman, 1994). In some cases the researcher utilised actual quotations from the respondents where necessary. The data matrix used in this study is in appendix 11. The following table presents a summary of data analysis.

Table 6:Summary of data analysis

Research Objective	Research question	Data Sources	For m	Data Analyses
To analyse the causal factors of vocational education curriculum responsiveness to the learning needs of A1 farmers in Masvingo province of Zimbabwe	What is the VET curriculum responsiveness to the learning needs of A1 farmers in Masvingo province of Zimbabwe and why has it come to be this way?	• Document analyses • Semi-structured interview • Focus group interview • Observations	Text	Inductive analysis Retrodiction
To identify ways in which the VET curriculum has responded to the learning needs of A1 farmers in Zimbabwe and why?	How has the VET curriculum responded to the learning needs of A1 farmers	• Document analyses • Semi-structured interview • Focus group interview	Text	Retroduction
To highlight experiences of principals, lecturers and learners on curriculum responsiveness	What are the experiences of principals, lecturers and learners regarding VET curriculum responsiveness?	• Semi- structured interview • Focus group interview • Observations	Text	Inductive analysis Thematic analysis
To highlight the challenges that affect VET curriculum responsiveness to the learning needs of A1 farmers	What are the challenges that affect VET curriculum responsiveness to the learning needs of A1 farmers?	• Semi-structured interview • Focus group interview • Observations	Text	Thematic analysis

5.8 Trustworthiness of findings

Qualitative research is judged for its credibility. This is usually referred to as trustworthiness. The concern with 'trust' in qualitative research was popularised by Guba and Lincoln (1994) who raised the importance of credibility, dependability, conformability and trustworthiness as key constructs on the worth of qualitative research (Denzin & Lincoln, 2003; Marshall & Rossman, 2011; Rolfe, 2006). Knowledge in qualitative studies is multiple and, therefore, there

is no one absolute truth. However knowledge is true to the extent to which it represents the realities as they are revealed by informants (Chilisa & Preece, 2005). Hence, in this study where necessary, direct quotations from research participants are included.

In order to enhance the credibility and trustworthiness of this study, the researcher used multiple methods in data collection: semi-structured interviews, focus group interviews and document analysis. Triangulation is based on the assumption that it can assist in eliminating biases (Chilisa & Preece, 2005). Apart from triangulation of data sources, trustworthiness in qualitative research can also be established from prolonged engagement in the field for data collection. Another important aspect was that the researcher made familiarisation visits to the sites well before data collection in order to appreciate the study context. These visits meant that the researcher was in the field much longer. The researcher was also able to go back to the field after data collection had officially ended to gain clarity in certain areas. In addition, the researcher used member checks after collecting data through interviews at both colleges. This was done to correct interview transcripts. The researcher also held two feedback meetings (one at each of the two colleges) with research participants after consolidating findings from study. These feedback meetings assisted in validating the research findings.

5. 9 Ethical considerations

The need to consider ethical principles in research cannot be over-emphasised. In research, it is important for researchers to consider ethics in order to protect the dignity of research participants involved (Bryman, 2015). The research community and those using the findings have a right to expect that research is conducted rigorously, scrupulously and in an ethically defensible manner (Cohen et al., 2011). In this study the researcher had to consider ethical principles that are critical to research, namely; informed consent, anonymity, no harm to the participants and ethical clearance. Another important ethical issue the researcher considered was dissemination of research results.

5.9.1 Informed Consent

The autonomy of all people participating in this study was respected and this involved getting the consent of all people taking part in the study. The researcher emphasised the point that participation was voluntary and that participants were free to withdraw from the study at any time. Getting participants' consent is critical and this was done without deception in that the purpose of the research was clearly articulated to the participants. Participants were informed on their role in the research. Consent thus protects and respects the right of self-determination and places some of the responsibility on the participant should anything go wrong in the research (Cohen et al., 2011).

Participants filled in a consent form prior to their participation in the study. The consent form was written in simple language, was clear on the purpose of the study and how it would be conducted. Informed consent, that is, expressed in writing is a way of formally recording the agreement to participate and will also protect the researcher against accusations of acting improperly when selecting the participants for research (Bertram & Christiansen, 2014; Denscombe, 2014). All the participants in this study were asked to fill in a consent form in line with the requirements of the University of KwaZulu-Natal's Ethics Committee. An example of the informed consent form used in this study is in appendix 3.

5.9.2 Anonymity

Anonymity is another important element that contributes to doing no harm in research. All the identities of research participants and institutions under study were protected by the use of pseudonyms. Anonymity in this study assisted in dealing with 'fear' exhibited by some participants in the study who were not comfortable in discussing issues around the FTLRP which they considered a 'politically charged issue'. Preserving participants' anonymity goes beyond the use of pseudonyms even though this is important (Barbour, 2014). According to Barbour, where aspects such as gender, age and setting in which data were collected are not important in the study, these can be changed to enhance participants' anonymity. In this study, the real names of the two colleges studied were kept anonymous, as well as names of all participants.

5.9.3 No harm to the participants

Many people have been harmed in the name of research, not only in medical research but also in social research. Non-maleficence is an ethical principle which means ‘do no harm’ (Bertram &Christiansen, 2014).In chapter 1, under section 1.10 on limitations, the researcher indicated that research participants in the study exhibited some level of ‘fear’ when he mentioned that the research was about aspects related to the FTLRP in Zimbabwe. In order to address the participants’ concerns, the researcher was guided by the ethical principle ‘do no harm’. Doing no harm is a critical consideration in this study; the researcher upheld this principle to avoid causing any physical, emotional, social or any other harm. In order to do that, confidentiality was assured and maintained. Data collected from the field were not labeled with identifiable labels that could be traced back to the sources. The researcher also ensured that raw data were kept in a lockable cabinet away from access by a second person. Data in soft copies were not easily accessible as passwords were used to access it. Storage of all data for the study was done by the study Supervisor for a period of five years after the completion of the study as required by the UKZN research ethics guidelines. At the expiry of five years the data will be destroyed.

5.9.4 Ethical clearance

Application for ethical clearance from the university one studies with has become an indispensable element of research in recent years and this is usually done through the university’s ethical committee (Ogletree & Kawulich, 2012, p. 71). The UKZN also has an ethical committee that approves research done by its students to ensure that they comply with best practices. The researcher successfully applied for ethical clearance. The ethical clearance certificate is attached in the preliminary pages of this thesis. .

5.9.5 Dissemination of research findings to research communities

Dissemination of research findings after completion of the research has been observed to increase a researcher’s responsibility for the participants (Flick, 2015). This is supported by a number of studies done under the ethical issue of respect for communities (Fernandez, Kodish, &

Weijer, 2003; Ferris & Sass-Kortsak, 2011). This study will be disseminated in the form of a thesis submitted to the UKZN. The researcher hopes to increase the visibility of the study through publication of findings in peer reviewed academic journals for the benefit of future researchers. Findings from the study will also be presented at an international conference for the benefit of academics in the field of vocational education and training. Apart from disseminating the study to the academic communities, the researcher will fulfill the ethical principle of sharing research findings with the participants themselves, in this case the two colleges studied.

5.10 Summary

The chapter described the qualitative approach adopted in this study. It was considered to be the most suitable for this comparative study on vocational education and training curriculum responsiveness to the learning needs of A1 farmers in post-2000 Zimbabwe. In keeping with the qualitative case study design, the chapter explained the multiple data collection methods used in the process: qualitative data collection through document analysis, semi-structured interviews, observations and focus group discussions. Data were collected in phases and analysed in themes using qualitative data analysis. The next chapter is on data presentation, analysis and discussion.

CHAPTER SIX: THE COLLEGES' RESPONSES TO A1 FARMERS LEARNING NEEDS

6.1 Introduction

The chapter analyses and presents findings on the two colleges under study. A historical background of the colleges, their aims, programmes, and curriculum have a bearing on their responsiveness. These issues are articulated in this section and linked to curriculum responsiveness. Several variables were analysed (using a data matrix, see appendix 11) in each of the colleges specifically focusing on how they influence how the VET curriculum at the two colleges has responded to the learning needs of A1 farmers.

6.2 College A: Historical Background

College A is one of the forty two government vocational training colleges under the Ministry of Youth, Indigenisation and Economic Empowerment in Zimbabwe. It is situated in the peri-urban area of Masvingo. The college is surrounded by small farms that came into being after the Land Apportionment Act of 1931 that gave farms to a few blacks. The college was founded soon after independence in 1982 as a youth training college that housed young farmers' clubs. Its formation is closely related to the liberation struggle in that its early programmes were aimed at re-integrating former liberation fighters back into mainstream society through giving them life skills in a number of trades. The former freedom fighters, after training, had to trade the gun for the plough and contribute to the social and economic development of the new Zimbabwe.

In 1992, the college became a fully-fledged vocational training college offering the following programmes: Agriculture, Carpentry, Building, Clothing and Textiles, Cosmetology, Hotel and Catering, Business Management and Motor Mechanics. All these courses are offered at Certificate level. Early programmes also included youth brigades under the National Youth Service (NYS). The NYS programme was introduced at the instigation of Zimbabwe African National Union Patriotic Front party (ZANU PF) as an attempt to impart technical skills and raise 'patriotic' citizens who have the ideals of the liberation struggle. Ideologically, it was in

response to the lack of popularity of ZANU PF among the youths, most of whom had become sympathetic to the Movement for Democratic Change (MDC) party. The association of College A with party politics and ideology has not endeared it with the majority of youths because of this tag. The College however, is trying to move away from this label to be a more balanced and inclusive training centre.

6.2.1 Local context

The college is situated in Masvingo District in the peri-urban area that is surrounded by mostly small-scale farms. However, the introduction of the FTLRP saw some farms being acquired by the government and redistributed under the A1 model of resettlement. The area surrounding the college has a low population of young adults due to youth urban migration, leaving behind mostly the retired. This region falls within agro-ecological zone IV, characterised by high temperatures and low and unreliable rainfall which make the area unsuitable for intensive agriculture. More details on the agro-ecological classification were discussed in Chapter 2 under section 2.2.1.

6.2.2 Vision and mission

The college was mandated by the Government of Zimbabwe (GOZ) to equip the less privileged members of society with skills for self-employment. After the completion of training, graduates from the college are expected to start their own enterprises in the fields they studied. The target is the huge number of people who cannot ordinarily get access to university education due to their poor academic performance. These people are actually the majority of school leavers.

6.2.3 Funding

Since Zimbabwe's independence in 1980, the government has been responsible for the funding of its VTCs. This was also the case for College A. During the time of sole government funding, students at College A did not pay tuition fees, their education was fully subsidised by the government. This situation, however, ended in 2006 when the government resorted to 50%

subsidy on student tuition fees and the students were now responsible for the remaining 50%. The Principal of College A noted that as a result of increased economic challenges in the country, especially the hyper-inflationary environment of 2008, government funding of the college was terminated. As from 2013 government funding of VTCs ended and students were then responsible for all of their fees. From that time, College A and other government VTCs are operating without any funding from treasury for their operational costs. However, the government is still responsible for the payment of staff salaries. Without government funding, College A is facing serious operational problems, for it now depends on student fees and income generating projects done at the colleges for survival. However, money from such programmes is not enough and this affects the college's viability.

6.2.4 Collaborations

The college has created lasting relationships with various organisations that developed into collaborative partnerships. These collaborations are with government, non-governmental and private organisations. Notable collaborations are with other government departments such as the District Administrator, Ministry of Agriculture and especially the Department of Agriculture Extension services. Collaborations were heightened soon after the FTLRP to assist in training new farmers. One lecturer noted that:

> *a notable collaboration was between the college and Ministry of Agriculture for the training of thousands of extension workers to ensure that each Ward has two extension officers who were to be deployed in A1 farming areas to assist in training of A1 farmers. (Lecturer A3)*

The college has also collaborated with NGOs such as Plan International and Care International in Zimbabwe. The collaborations were in teaching entrepreneurship and business skills training.

6.2.5 Recruitment of staff

Recruitment of staff at College A is a prerogative of the government. Staff at College A are employed by the MYIEE. Recruitment is done by the Public Service Commission, a department

in the Ministry of Public Service, Labour and Social Welfare. All government ministries are given permission to recruit employees by the Ministry of Finance and Economic Development. As a result of these procedures government VTCs cannot recruit employees even if vacancies arise in their organisations. As a result of financial challenges faced by the government, treasury has frozen all recruitment of staff in all government departments. Thus, staff leaving the organisations, either through resignations or through death, are not being replaced. The recruitment freeze has caused most departments to be understaffed in most VTCs. Both the ministry official 2 and Principal of College A were united in their view that a lack of adequate teaching personnel at the college has impacted negatively on VET curriculum responsiveness to the learning needs of A1 farmers.

In some cases, human resources are seconded from other sister ministries through lateral transfers when the need arises. Currently, College A is understaffed with only thirteen lecturers for the eleven programmes on offer. The agriculture programme is the one most severely affected having only one permanent lecturer in post, supported by part-time lecturers. This has a potentially negative influence on curriculum responsiveness.

6.2.6 Recruitment of students

At the time of data collection, the student population for all programmes was 370. Of these, only twelve students were in the agriculture programme. At College A, the majority of learners were recruited from various parts of the country. However, of these, Masvingo District was not well represented despite the proximity to College A. What is of note is that close to the college there are resettlement areas which house a number of A1 farmers in Summerton Resettlement, Mushandike Resettlement and Wondedzo Resettlement areas. The learners from Masvingo province came from agricultural districts such as Chiredzi (most of the learners) and Mwenezi (the former dominated by sugar cane farming while the latter is popular for animal husbandry). On the whole, recruitment of learners at College A is more general and spread with a more national outlook as a result of national marketing strategies engaged by the institution in student recruitment. The college has few students from the local community.

The College Principal said:

> *We advertise for students in the national newspapers annually for our recruitment. As such we have students from all the corners of Zimbabwe. However, we have a shortage of students from the community surrounding the college. Our agriculture curriculum is thus more formal and national in scope. (Principal 1)*

This was supported by another lecturer. The lecturer however, noted that their agriculture curriculum is not entirely rigid but also takes care of the needs of the local A1 farmers. This, they do through community farmer field days.

6.2.7 Organisational structure

College A is run by a management team comprising the Principal, Vice-principal, Accountant, Assistant-accountant and Heads of Departments. These form the core of the management team at the college. The Principal of the college is the one responsible for the day-to-day operations of the organisation. He acts as the link between the organisation and the external world. He has overall responsibility to ensure that the college runs efficiently and has the required resources to carry out its mandate. The Principal reports to the Provincial Officer in the Ministry of Youth, Indigenisation and Economic Empowerment. The following figure shows the organisational structure of College A.

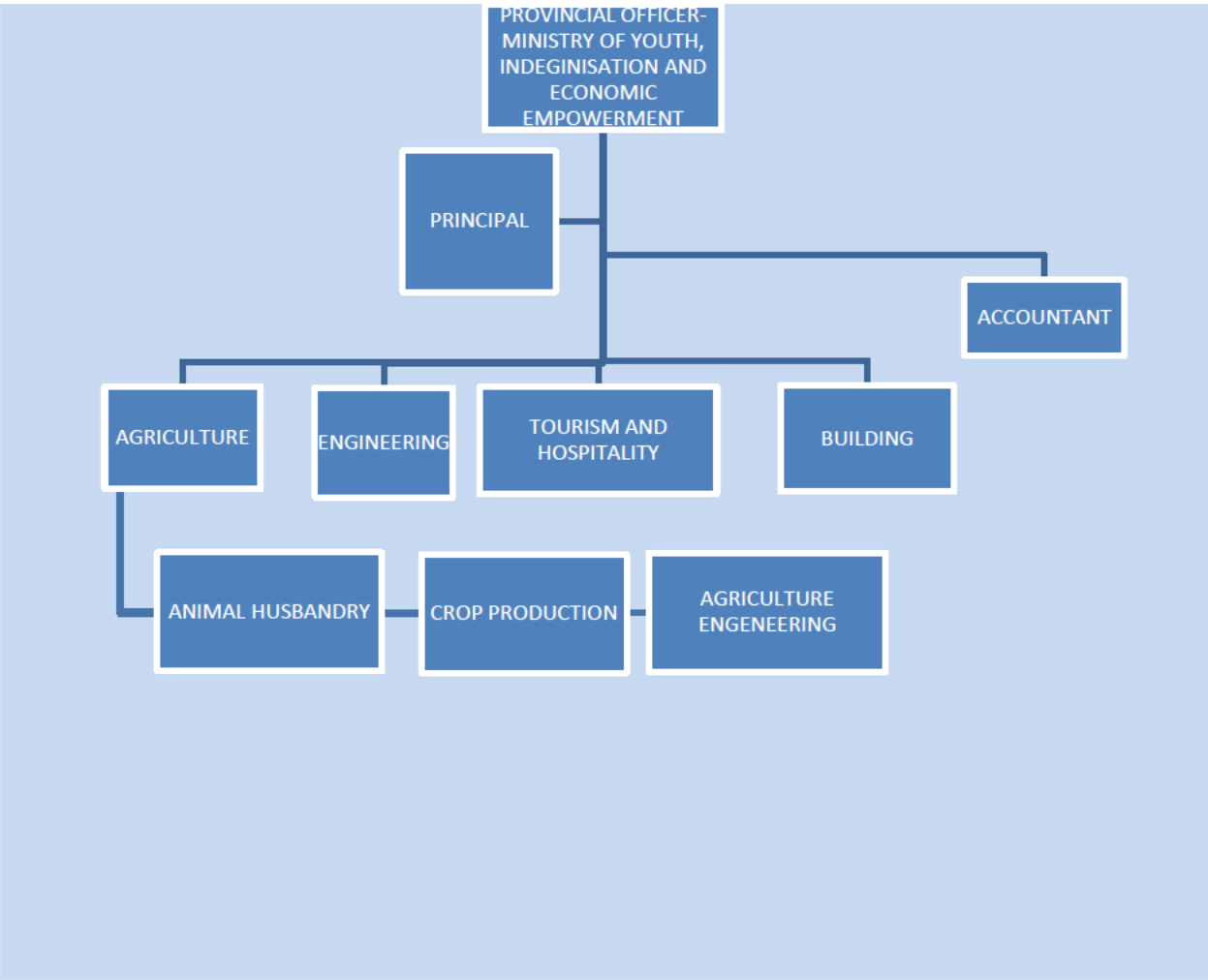

Figure 5: Organisational structure of College A

6.2.8 Programmes

College A has four main departments, namely; Building, Agriculture, Tourism and Hospitality and Engineering. From these four departments the following programmes are offered at National Certificate levels: Agriculture, Building, Hotel and Tourism, Cosmetology, Motor Mechanics and Carpentry. All the programmes offered at the institution are at the National Foundation Certificate as well as the National Certificate levels. After the completion of the certificate courses the participants register for trade tests under HEXCO for Journeyman classes. This study focuses on the agriculture programme and, therefore, does not present activities in other departments in depth since it is not the focus of the study.

6.2.9 Agriculture curriculum

The study focused on the agriculture curriculum. Data on the curriculum emerged from interviews with principals, lecturers, students as well as documents and observations. The college offers the Certificate in Agriculture that is examined by HEXCO at the end of three years. The learners who successfully complete this programme can be absorbed into formal agriculture work, for example, in extension work as well as further studies. The Certificate course is divided into three main subject areas: Animal Husbandry, Crop Production and Agriculture Engineering. Though the Certificate in Agriculture offered at this institution offers relevant courses for A1 farmers, its entry requirements and the use of English hinders access by the majority of would-be A1 farmer-learners.

6.2.9.1 Animal Husbandry

Students are given training on the raising of a number of domestic animals including cattle, goats, sheep and pigs as well as poultry. The content includes both theory and practice. The researcher's observation at the college was that the institution has enough physical infrastructures for animal husbandry which includes fowl runs where both traditional chickens as well as broilers are reared. The institution also has facilities for keeping pigs. The observation was that the pigsty was well utilised and students had practical training. The college introduced a small goat rearing project. There was an observation that goat rearing is more sustainable in the dry region where the college is situated. The animal husbandry course, with its emphasis on small livestock is evidence of climate change adaptation. The course is increasingly responsive not only to climate change, but also to the needs of A1 farmers which are influenced by climate change.

6.2.9.2 Crop production

Crop production was a key component of the curriculum at the college. The students were taught how to grow various crops such as maize, cotton, sugar cane, soya beans and tobacco. Apart from these, the course has more recently included traditional small grains as part of the

curriculum. The researcher observed that there is a plot (one acre) used by the learners for practical lessons. In the five visits the researcher conducted at different times during data collection, I observed that the plot is being adequately utilised by the students for learning as well as income generation. Apart from learning purposes, the students and staff grow crops for sale in the nearby Masvingo city. The crops include vegetables such as spinach, tomatoes and green beans. Though crop production is an element of the curriculum at the college, it has also become an important source of food for the resident students and income for the institution's overheads.

6.2.9.3 Agriculture Engineering

Agriculture engineering was another aspect of the curriculum that is central to the agriculture programmes at College A. The content taught to learners includes construction of fowl runs as well as other animal shelters. Farmers are also taught how to fix farm machines such as tractors, cultivators and other small machinery that they use at their farms.

6.2.9.4 Management

Management of the farm enterprise was a central feature of the curriculum in the agriculture programme. The module covering management at the college is Agribusiness. The module included units such as marketing, financial management, human resources management and principles of management. The college introduced training for enterprise in all its programmes in response to the need for entrepreneurship.

6.2.10 Curriculum development process

The curriculum development process at College A had the following elements: learning needs assessment, selection of learning content, selection of learning experiences, organisation and sequencing, pacing and timing and student assessment.

6.2.10.1 Learning needs assessment

The Principal of the college as well as lecturers noted that the institution offers demand driven courses. The Principal, however, noted that their institution was often constrained by resource scarcity and was therefore unable to offer all courses on demand. Despite this claim, there was no evidence of demand driven courses in place at the college. Rather the college just accepts the curriculum provided by the examination body at national level. Though the Principal insisted that they conduct learning needs assessments there was no systematic approach in place.

6.2.10.2 Selection of learning experiences

The lecturers had total control over the selection of learning experiences. The greater part of learning occurred in the demonstration plots for the practical component where 60% of time was allocated for each module. The remaining 40% was for the theoretical aspects.

6.2.10.3 Selection of learning content

The lecturers had no control over the selection of content for the HEXCO Certificate in Agriculture in terms of the learning areas as the content is pre-determined. The students have no role in the selection of learning content. This leaves little room for innovativeness at the local college and impacts negatively on responsiveness.

6.2.10.4 Organisation and sequencing

The lecturer had more control in the organisation and sequencing of learning content. The student has no role in the organisation and sequencing of content. Teaching was done using mostly the lecture method with little input from the students.

6.2.10.5 Pacing and timing

The lecturer controlled the pacing of lessons taking into account the characteristics of students. The more scientific subjects in agriculture are allocated more lecture times. On the timetable,

scientific subjects are done in the morning. The lecturers noted that students would be fresher and have a longer attention span in the mornings. The practical components of the course are done in the afternoon.

6.2.10.6 Student Assessment

Both continuous and summative assessment is done. Continuous assessment is done through written exercises as well as practical demonstrations. Students are also assessed through Work Related Learning, a component that has become compulsory in the programme. Work Related Learning is assessed through reports from supervisors of the student while attached to their chosen organisation. The Summative assessment is done at the end of the three-year period as candidates write the HEXCO examination. Assessment of students on Work Related Learning is however affected by resource constrains since students are free to choose anywhere in the country for their placement.

6.3 College B: Historical Background

College B was founded in 1991 when it was officially registered by the Ministry of Public Service, Labour and Social Welfare and operates as a Private Voluntary Organisation (PVO) or a Non-governmental organisation. The college operates as a membership organisation and currently has 14800 members mostly from Mwenezi District who participate in its various programmes.

The organisation has a long history. Before 1991, the organisation was running as an extension of Glen Forest, a non-governmental organisation based in Harare. Glen Forest identified the skills gap of people in Mwenezi District and started offering their training as early as 1986. The focus of the programmes offered by Glen Forest was on technical skills such as Building, Carpentry and Dress Making. By the end of 1990, Glen Forest ended its work and decided to move out of the programme. They suggested that it be taken over by Mwenezi District Council, though they continued to support the organisation's efforts. Mwenezi District Council

recommended that the college be a membership based organisation supervised by a board that is constituted by the seven Chiefs from Mwenezi District.

6.3.1 Local context

College B is located in agro-ecological region V, semi-arid region, characterised by poor and unreliable rainfall as well as very high temperatures. This affects intensive crop farming if there is no irrigation. College B developed its Vision, Mission and Objectives based on the social and economic situation of Mwenezi as a District that is characterised by poverty and underdevelopment. People of Mwenezi are of low social economic status and have low skills levels. Even statistics of primary and secondary school completion are very low. Historically, Mwenezi District has been ranked as the poorest in Masvingo Province. It also has the highest level of malnutrition and highest infant mortality rate in the country. The Programme Manager for College B said that poverty, social exclusion and the high prevalence of diseases were the major driving forces that led to the formation of the college.

6.3.2 Vision, mission and objectives

The vision of the college is to be a preferred development organisation facilitating access to water, food, information, business skills and gainful employment opportunities as a way of improving human livelihood. The college's mission is to provide technical skills for self-reliance and business development services to ensure learners have food security, are able to raise incomes and have employment opportunities on a sustainable basis in an HIV/AIDS and gender sensitive manner.

The college was guided by the need to bring about rural community development through self-reliance skills training and the establishment of socio-economic projects for poverty alleviation. In order to achieve the objective, the college assisted the local communities to engage in social and economic projects, namely; vocational skills acquisition and utilisation (to establish small to medium scale enterprises and food security projects), organisational skills development, access to water. HIV/AIDS and gender awareness programmes and environment protection training were other projects undertaken.

6.3.3 Funding

Since its founding, College B has been wholly NGO funded. During the first ten years of operation the college had seven donors contributing finances for the running of its projects. These donors included HIVOS International, Norwegian Agency for Development Cooperation (NORAD), Africa 2000, Plan International, Tools for Self-Reliance,United Nations Development Programme (UNDP)and the Department of Economic Development (DED). From the year 2000 onwards there was a reduction in the number of donors contributing finances to the organisation and the majority of donors withdrew and were replaced by new ones. Of the previous seven donors only NORAD continued its financial support. It was later joined by four more donors, namely; Norwegian Peoples' Aid, Netherland Development Services, CARE Zimbabwe and Liechtenstein Development Services (LED). Since joining the donor community supporting the colleges' programmes, LED has become the biggest contributor to funding for programmes at College B. The reduction of the number of donors and also packages offered by them since the year 2000 coincided with the implementation of the FTLRP which was not supported by most members of the donor community. The Principal of the college made the following comment on funding of VET:

> *In my view, there is a close relationship between the financial resources a college possesses and its ability to respond to the needs of learners. In our case, we have not performed badly in our responsiveness to the learning needs of A1 farmers. By doing that we have managed to endear ourselves to the local community which we have become a permanent part of since our formation. (Principal 2)*

Though the college has received less and less funding from the donor community over the past years, it is still in a better position compared to other colleges in the province. Because of that, the college has been able to execute most of its projects including educational programmes for A1 farmers.

6.3.4 Collaborations

The college has collaborations with both government and non-governmental organisations. Notable collaborations were focused on community infrastructural development programmes.

These include small dam construction as well as bridge rehabilitation. In these programmes the college benefited from the technical expertise of Civil Engineers from the Ministry of Public Works. The Principal and lecturers were united in their appreciation of the role collaborations with other colleges(both government and NGO run) as well as government departments played in enhancing VET curriculum responsiveness to the learning needs of A1 farmers.

6.3.5 Recruitment of staff

The recruitment of staff at the college was based on the expertise needed for each particular job with preference given to locals from Mwenezi District who understand the local context and have a sense of natural belonging to the organisation. On the whole, College B was run by experienced staff qualified for the roles they occupy. The staff work together as a team. The Principal of the college expressed that they supported the professional development of their lecturers so that they acquire the necessary qualifications for their jobs. The Principal said:

> *We have the best personnel in terms of lecturers in our agriculture department. All our lecturers meet the minimum qualifications expected of lecturers by the MHESTD. In the majority of cases, they exceed these expectations because some have undergraduate degrees while one has a Masters degree. (Principal 2)*

The availability of competent staff had the potential to contribute to greater curriculum responsiveness. It also ensures that the colleges' programmes meet the standard requirements expected by compliance officers of the MHESTD.

6.3.6 Recruitment of students

The majority of learners in the various programmes at College B are locals from Mwenezi District. These constitute about 98% of the population, with only a few learners coming from the nearby Chivi District. This recruitment is based on the focus of the organisation as it seeks to improve the knowledge and skills of the people of Mwenezi and subsequently increase their social inclusion. The Principal as well as lecturers concurred that recruiting local students has given the college an edge in being able to be responsive to the learning needs of the local A1

farmers. The Principal went on to clarify that since the college is not only surrounded by A1 farmers but also communal farmers, A2 large scale farms as well as commercial ranches, their programmes also respond to the learning needs of a broader population.

6.3.7 Organisation Structure

The college is made up of 14 800 members drawn from the seven Chiefs in Mwenezi District. The organisation is run by a Board of Trustees which comprises ten board members, seven chiefs, three advisors and one Council representative, the latter of which is the highest decision-making body. However, daily operations are run by a management team comprising a Programme Manager who is assisted in management by a Training and Community Projects Manager, Monitoring and Evaluation Officer, Finance and Administration and Business Development Manager. The figure below shows organizational structure for College B.

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ORGANISATIONAL STRUCTURE FOR COLLEGE B

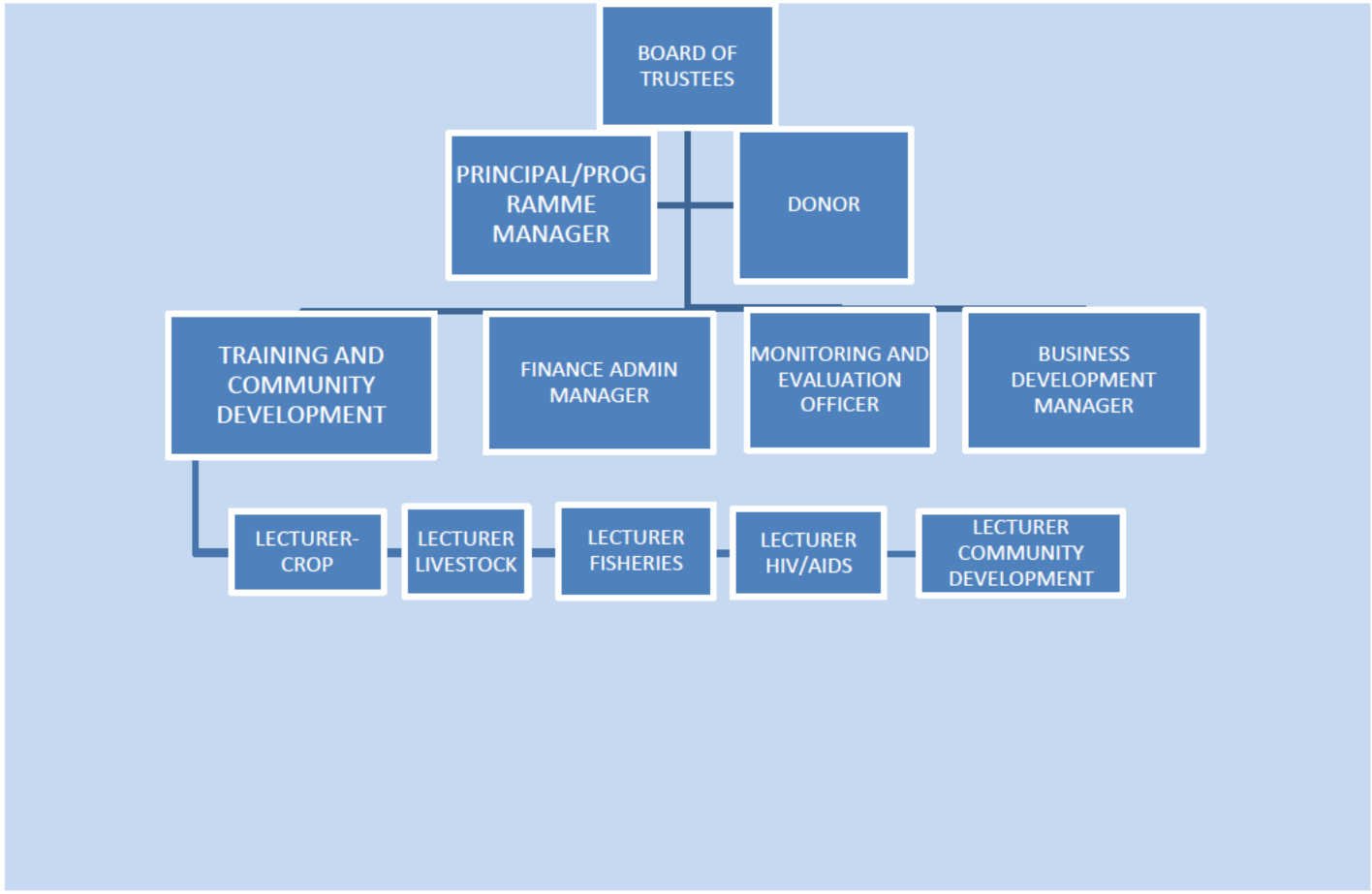

Figure 6: Organisational structure for College B

6.3.8 Programmes

College B offered both formal and non-formal programmes. The formal programmes were mainly vocational skills training that is certified through examinations under Higher Education Examinations Council (HEXCO) while the non-formal programmes are mostly agriculture related projects done under community development projects. Both the formal vocational skills training programmes and the non-formal programmes benefited the A1 farmers as well as communal farmers in Mwenezi District.

6.3.8.1 Vocational skills training

The college offered the following vocational skills programmes from basic levels, advanced level to trade test levels whereby participants are certified: Building, Carpentry, Dressmaking and Metal Work. The majority of participants in these programmes were men. Most women enrolled in these programmes at basic levels whereas men get to Trade Test levels and get certificates. A1 farmers in Mwenezi District constituted a significant percentage of participants in the vocational skills training programmes at the college. A significant number wanted to be able to construct houses in the new resettlement areas, hence they enrolled in Building, Carpentry and Metalwork.

6.3.8.2 Community development programmes

Apart from the formal vocational skills training programmes the college also offered non-formal VET training programmes in the form of agriculture programmes and other community development training programmes. These programmes had flexible entry requirements in that no prior education was required from the learners. This had an advantage of making the programmes more inclusive since Mwenezi District has the highest levels of illiteracy in Masvingo Province.

6.3.8.3 Agriculture programmes

At College B, agriculture, traditionally, was not part of the VET curriculum. The College focused mainly on the skills training programmes discussed above. The Programmes Manager noted that agriculture was introduced after the realisation that most households in Mwenezi District were food insecure. Agriculture programmes at College B are very popular in communities around College B. Agricultural training programmes are the most popular with learners at this college. For the period 2000 to 2016 over three thousand participants had gone through agriculture training. The following table shows participants in agriculture programmes from 2010 to 2016.

Table 7: Number of participants in Agriculture programmes 2010 to 2016

Agriculture Programmes 2010 to 2016	Frequency	
Males	1556	
Females	1686	
Total	3242	

The above table indicates the number of enrolments in agriculture related programmes at College B for the period 2010 to 2016. The data shows that agriculture programmes were equally popular between males and females. However, there are slightly more female than male participants. The statistics reveal an increased number of women A1 farmer participants in non-formal agriculture courses than men since the courses appeal more to women's needs because of their flexibility. The agriculture programmes done at the college are mostly non-formal and not certified by HEXCO. The agriculture programmes offered can be broadly categorised under crop production and animal production.

6.3.8.3.1 Open pollinated varieties (OPVs)

This programme involves the training of farmers in small grain production focusing on those crops with early maturity. The OPVs programme has been implemented in villages under all the Chiefs in the district, including Mazetese, Murove, Mawarire and Chitanga. The introduction of the OPVs programme was in response to worsening climate conditions and

also due to the fact that Mwenezi is in agro-ecological regions IV and V. In this programme farmers are given seed and trained on how to grow and manage these crops. The OPVs which are usually grown include sorghum, pearl millet and cow peas In the early years of its inception there were few participants in the programme but the numbers have significantly increased in response to the increase in A1 farmers after the FTLRP. The OPVs programme is very popular with A1 farmers because it responds to the challenge of climate change that affects agricultural production processes in Mwenezi District.

6.3.8.3.2 Nutritional and herbal gardens

Nutritional gardens were introduced in most Wards in Mwenezi District. This was in response to the high numbers of children with stunted growth who constitute about 34% of all children in the district. The objective of the nutritional gardens project was to ensure that community members have access to balanced diet and to reduce infant mortality. The resettlement of new farmers in the A1 model meant that more people moved into Mwenezi District from outside even though others migrated from Mwenezi communal areas to the farms. This also necessitated the expansion of the nutritional gardens programme to A1 areas. The lecturer responsible for the nutritional gardens had qualifications and experience in Agriculture as well as Nutrition and HIV and AIDS. The lecturer responsible for HIV and AIDS noted that:

> *traditionally we offered the module on nutritional gardens focusing on the food security aspect only. However, with the increased incidences of HIV and AIDS in the district as well as after conducting training needs analysis, the herbal component was added. The focus was on responding to the needs not only of A1 farmers, but the entire population since HIV and AIDS does not discriminate. (Lecturer B4)*

The herbal gardens programme was an expansion of the scope of nutritional gardens introducing herbs to enhance health outcomes. This expansion was necessitated by the realisation that a high percentage of the populations in Mwenezi are people living with HIV and AIDS (Yingi, 2016; Zimbabwe National Statistics Agency, 2015).

6.3.8.4 Livestock production and management

This was another aspect in which farmers were trained in the agriculture programme at College B. Historically, livestock production has always been associated with agro-ecological IV and V due to its unsuitability for intensive crop production. This has seen a number of farmers engaging in cattle ranching in Mwenezi District. More detail on agro-ecological classification has been given in Chapter 2 of the thesis under section 2.2.1.

6.3.8.4.1 Small livestock production

Small livestock production was one of the key programmes that A1 farmers were taught at College B. This programme has significantly improved the livelihoods of farmers and also raised their food security. Goat keeping programme has become central in the small livestock production. The goats contribute more to the nutritional outcomes of farmers and their financial positions. The following figure, illustrates the large number of goats kept by smallscale farmers in Chipwanya with the support of College B. The significance of Figure 7 below is that the number of goats in this project is increasing and the project is showing signs of sustainability.

Figure 7: Goats programme at Chipwanya

6.3.4.1.2 Fishing projects

Fish farming is one of the programmes done at College B. The following figure shows learners participating in a demonstration on using a motorised boat for increased efficiency in fishing. A number of fish farming projects have been started at most dams in the district. In cases where there are no dams, fish ponds have been constructed. Fishing is considered a viable project that assists in youth empowerment (Hlungwani, 2018). Figure 8 below is of significance in that it shows the seriousness of the fishing project which combines the motorised boat with other rudimentary methods of fishing.

Figure 8: Fishing at Manyuchi Dam

6.3.8.5 Curriculum development process

6.3.8.5.1 Learning needs assessment

Learning needs of farmers were identified through a deliberate systematic process called the community level participation planning. Through this process communities were able to identify their own problems and prioritise their most pressing needs.

6.3.8.5.2 Selection of learning experiences

In the formal programmes, the lecturers had total control over the selection of learning experiences. The greater part of learning occurs in the demonstration plots for the practical component where 60% of time is allocated for each module. The remaining 40% is for the theoretical aspects. However, for the non-formal programme, learners had played a role in

the selection of learning experiences. This contributes to greater responsiveness to the needs of learners.

6.3.8.5.3 Selection of learning content

The lecturers had no control over the selection of content for the HEXCO Certificate in Agriculture (formalised programme) in terms of the learning areas as this is pre-determined. The students too, have no role in the selection of learning content. In respect of the non-formal programmes in the form of short courses, both lecturers and students played a central role in the selection of learning content. Non-formal agricultural programmes proceeded in a more collegial relationship with a mutual sharing of knowledge between the facilitator and learners.

6.3.8.5.4 Organisation and sequencing

In the formal learning programme, the lecturer had total control in the organisation and sequencing of learning content. The students had no role in the organisation and sequencing of content. However, the situation was different in the non-formal agricultural programmes where there was greater flexibility in organisation and sequencing of learning.

6.3.8.5.5 Pacing and timing

For the formal certificate programme, the lecturer had control over pacing and timing of content delivered, while for the short courses students played a central role in determining the pace and timing of content. In the case of the latter, there is more flexibility for students to control the speed and timing of learning content. Learners could negotiate with their lecturers about what they were ready to learn and their lecturers were more willing to listen to their needs.

6.3.6.5.6 Student Assessment

For the formal programme, both continuous and summative assessment was done. Continuous assessment was done through written exercises as well as practical demonstrations. Students are also assessed through Work Related Learning, a component that has become compulsory in the programme. Work Related Learning is assessed through reports from supervisors of the student while attached to their chosen organisation. The summative assessment was done at the end of the three-year period as candidates write the HEXCO examination. For the non-formal programmes, student assessment is often continuous. Students also participate in their own assessments.

6.4 Discussion

In this section the researcher discusses the findings presented above. The discussion will also present a form of comparative analysis of the different variables and how they influence the colleges' responsiveness to the learning needs of A1 farmers. Both colleges share a similar agro-ecological classification characterised by poor and unreliable rainfall patterns, high temperatures and poor soils. This classification makes sustainable rain-fed crop production difficult around these colleges. Gukurume (2013) notes that climate change presents insurmountable challenges to the agriculture sector affecting agricultural sustainability. The growing of fast maturing traditional crops such as millet and sorghum is mostly recommended in literature as well as the keeping of small livestock. Learning from IKS is also suggested as a way of dealing with climate change and variability (Mapfumo et al., 2016).

The colleges have different historical backgrounds and were formed in different circumstances. This difference is a source of uniqueness for the two colleges in terms of how they operate as well as their ability to respond to the learning needs of A1farmers. On one hand, College A, (the government owned college) was formed soon after independence soon after the country embarked on the skills audit of 1981 that revealed the skills deficit that the newly independent Zimbabwe faced (Government of Zimbabwe, 1981; Kanyenze et al., 2011). Another important point of note was the need to empower former freedom fighters with productive skills for the development of the newly independent country. College A,

therefore, has a strong political relationship with the country's 'ruling elite' and this would reflect in its ideology and hidden curriculum that informs its curriculum responsiveness to a perceived national agenda. The above analysis confirms Bhaskar (2010)'s position-practice system that takes recognises the influence of power that individuals possess over how they operate in particular contexts.

On the other hand, College B, (the NGO run college) was formed in 1991, coinciding with the implementation of ESAP, a programme that led to massive retrenchment of workers in urban centres leading some to move back to the rural areas. The impact of ESAP on increased unemployment and decline in social security has been well documented in literature (Kanyenze et al., 2011; Nyazema, 2010). Apart from that the local environment in its surrounding area is populated by people of low socio-economic conditions. Evidence from literature also justifies the existence of College B that seeks to improve livelihoods through training and other interventions in Mwenezi(Hlungwani, 2018; Yingi, 2016). The low economic and social status and high levels of food insecurity of Mwenezi District have been revealed by a number of studies carried out in recent years (Chazireni, 2015; Mutopo, 2011; Nyawo, 2015; Yingi, 2016). The poverty in Mwenezi is, to a great extent, a result of its agro-ecological conditions which is almost semi-arid due to poor rains (Chikodzi et al., 2013).

Both colleges share commonalities in their mission and vision. The colleges sought to provide skills for self-reliance and contribute to poverty alleviation, food security and development. The mandate of College A is, however, narrow focusing more on skills for self-employment in many trades including agriculture. College B, however, has a broader mandate. Apart from offering skills just as College A it includes other aspects of community development in its coverage. Though both colleges have almost similar intentions, the implementation of these programmes is mediated by a number of factors. These factors have a bearing on curriculum responsiveness to the learning needs of A1 farmers.

In terms of programmes offered, College A offers mostly formalised programmes at the level of Certificate in different trades, including agriculture. In Bernstein's terminology, the curriculum is more strongly classified and closed (Bernstein, 1975). This has a bearing on the type of students who enroll in the programmes. The entry requirements are often relaxed to

include school leavers with three ordinary level passes and above. Meanwhile, College B has both formalised certificate programmes such as the one offered at College A. The difference, however, is that College B has a more expansive programme apart from the formalised one. In addition to the formal certified programme, College B has a non-formal programme that is more flexible in terms of entry requirements to include people who have never been to a formal school. The context in which the non-formal agriculture courses are offered influences the flexibility in approach in line with Bernstein's framing concept (Bernstein, 1975). It is such programmes that have been very popular with A1 farmer populations. The latter programmes have been very responsive to the learning needs of A1 farmers.

Student recruitment for College A is based on agreed entry qualifications criteria at national level and offers more closed curriculum which is pre-determined. What is taught in the certificate programme is according to national standards. In that case, there is little room for innovativeness at the local college level. Lecturers would want to implement the curriculum in line with expectations of national examiners. This reduces the space for curriculum responsiveness. This is also the case for the formalised programme at College B. However, College B compensates for this by a number of non-formal short courses as well as community development initiatives it offers to the local community including A1 farmers. These programmes have flexible entry requirements in that they are open to all who need the skills. There is therefore greater curriculum responsiveness to learning needs of A1 farmers in the non-formal programmes at College B.

Funding has been very limited at College A due to over-reliance on government funds. This has been worsened by the economic crisis in Zimbabwe in the past two decades. The poor funding has affected operations of the college, human resources as well as curriculum development and innovation. These factors often hinder the college's responsiveness more generally. Attempts at developing local funding through income generating projects have been a welcome development but the funds are often not enough to meet the college's requirements. College B, on the contrary, is often well resourced financially due to the number of donors who support its programmes. However, the financing has of late been affected by the deteriorating relations between Zimbabwe and donor countries after the FTLRP, which resulted in massive land dispossession of former white owners . Even though

donor funding has declined significantly over the past years, College B still operates much better as compared to College A thus providing a more responsive curriculum to the needs of learners. This can also be attributed to the strong human resource base of the college, as well as monitoring and evaluation tools it employs to its programmes combined with local community acceptance (Hlungwani, 2018). These factors have heighted the capacity of College B to be more responsive to the learning needs of A1 farmers.

In terms of human resource composition, both colleges are run by highly educated and experienced principals in skills training. However, they differ when it comes to personnel in lectureship positions in departments. Recruitment of staff at College A is limited by the control exercised by the Public Service Commission, which is often constrained by challenges in government funding in the context of the economic situation in Zimbabwe (Muwaniki & Wedekind, 2019). Hence, there are often shortages of qualified personnel at College A. The usually well resourced (financially) College B has enough personnel in lectureship positions. These lecturers are often well educated and experienced in agriculture and other aspects of community development.

From the above findings, it has been noted that both colleges work collaboratively with other players. Such collaborations in the training farmers were heightened after the FTLRP in response to the need for more agricultural extension workers, post land reform. Inter-organisational collaborations have facilitated greater curriculum responsiveness.

In Bernstein's terminology, the curriculum for the Certificate in Agriculture at both colleges is strongly externally classified and the respective colleges accept the national curriculum (Hoardley, 2006). At both colleges, for the Certificate in Agriculture course, curriculum development is done centrally by HEXCO at the national level, which also standardises qualifications in polytechnic colleges and vocational training centres. The respective colleges and lecturers have no influence in the selection of learning content as well as assessment as these are centrally done. Curriculum responsiveness occurs only through pedagogy where each college has access to different resources in the classroom, for example lecturers with different qualifications and experiences as well as teaching and learning resources.

College B's responsiveness however, is also expressed through demand driven programmes separate from the nationally controlled National Certificate programme. There is however, a unique element at College B because it offers non-formal programmes as well. The curriculum development process for the non-formal agriculture courses at College B follows an NGO programming model that starts with systematic needs analysis. The flexibility in the non-formal courses facilitates collaborative efforts in the selection of learning content as well as delivery. Assessment is mostly continuous in the non-formal programmes and is not examination oriented.

6.5 Summary

The chapter gave an overview of the two colleges from their historical backgrounds, vision and mission, programmes on offer and other key factors that had the potential to influence VET curriculum responsiveness at the institutions. The chapter revealed that both VET colleges under study were responsive to the learning needs of A1 farmers. However, their level of responsiveness was not uniform as a result of various causal factors explored in the next chapter. Though there are some commonalities on VET curriculum responsiveness at both colleges, there are also some indicators of innovativeness in each of the colleges that informed their uniqueness. The next chapter presents findings on VET curriculum responsiveness through the eyes of VET managers, lecturers and learners.

CHAPTER SEVEN: CURRICULUM RESPONSIVENESS THROUGH THE EYES OF VET MANAGERS, LECTURERS AND LEARNERS: RESEARCH FINDINGS

7.1 Introduction

The chapter presents findings on VET curriculum responsiveness through the eyes of VET managers, lecturers and learners. Data that informed this chapter were obtained through interviews with learners, lecturers, principals and ministry officials. The findings presented in this chapter attempt to answer the following research questions:

- What is the responsiveness of the vocational education and training curriculum to the learning needs of A1 farmers in Masvingo Province of Zimbabwe, post 2000,and how has this come to be this way?
- What are the causal factors that influence the learning needs of A1 farmers in Masvingo Province?
- How has the VET curriculum responded to the learning needs of A1 farmers in Masvingo Province and why?
- What are the experiences of VET managers, lecturers and learners regarding responsiveness to the learning needs of A1 farmers regarding curriculum responsiveness to the learning needs of A1farmers?
- What are the challenges that affect VET curriculum responsiveness to the learning needs of A1 farmers and why?

7.2 Data from agriculture learners

Data that informed this write-up emerged from the two focus group discussions as well as interviews with the principals of the two colleges. Focus group discussions with students assisted them to express the learning needs of A1farmers. Two separate focus group interviews were held with eight learners each from the two vocational training colleges under study. All the learners in both focus group interviews were either A1 farmers themselves or children of A1 farmers resident on the farms. From the focus group interviews at both

College A and B the motivations of agriculture learners to participate in programmes were revealed.

7.2.1 Learners' motivation to enroll in agriculture programmes

The majority of learners in the agriculture programme who participated in the focus group discussions at both College A and B were motivated by three main reasons which were categorised as self-employment, employment and a desire for community development. In both colleges there were instances where some participants were motivated by more than one reason to enroll in the programme.

7.2.1.1 Self-employment

The majority of respondents indicated the desire to be entrepreneurs at their farms as the greatest motivation to enroll in the agricultural programme at both colleges. They argued that they hoped the training they received at the colleges would enable them to operate their farms as small businesses and generate money for their households. There was a general consensus that most participants in the agriculture programme at both vocational training colleges wanted the freedom associated with running their enterprises independently without much outside assistance. The students at both colleges noted that they are taught entrepreneurship in one of their study modules. At College A, the module was introduced across all disciplines and is referred to as Training for Enterprise and has since become compulsory. The majority of participants in the focus group interview at College A noted that Training for Enterprise is part of their curriculum in the Certificate course in Agriculture. One of the participants in the focus group interview confirmed this development by noting that:

> *Training for enterprise is an important part of our curriculum whereby students are taught how to operate farms professionally as business enterprises. This part of the course is taught by a professional in Entrepreneurship as an institution wide element. (Student A3).*

College B has entrepreneurship firmly grounded in its curriculum as well. Self-employment is considered important in the VTC curriculum. This was confirmed by interviews with the principals and lecturers at the two colleges. The Principal at college B noted that:

> *At our college, we have a business development department which specialises in community based entrepreneurship programmes for both learners in the college as well as community members. (Principal B).*

There was an interest in agricultural programmes specifically by these A1 farmers who desired to learn modern and professional farming practices. At both colleges, some learners were retired soldiers and policemen who were given farms under the FTLRP and hence wanted to learn the proper way of farming so that they could become more useful and earn income to supplement the pension they get from the government.

Self-employment was an important motivating factor for participation in learning by the A1 farmers because of the economic challenges the country faced since the implementation of the FTLRP. Even though the farmers believed that the qualifications they would acquire from the colleges were relevant for the labour market, they did not have much enthusiasm that they would make it into employment.

7.2.1.2 Certification for employment prospects

The majority of learners at College A hoped to use the qualification for employment purposes. At college B, a few learners were motivated by a desire to look for employment after completion of their certificate course in agriculture. The differences were a result of age differences between students of the two colleges where the students from College A were younger than those from College B. The participants, hopeful of becoming employed upon graduation, were young women in their early twenties. There was, however, a common sentiment that currently, it was difficult to find a job in Zimbabwe due to the economic challenges in the country, hence one has to be ready with a qualification to one's name just in case employment opportunities became available in future. Those from College B were not interested in using the qualification for employment since some of them had retired from formal employment, were much older and had a previous low basic education.

7.2.1.3 Desire for community development

The majority of participants in the non-formal programme at College B had a community development focus. Their main focus was on improving their households' socio-economic situation through improvements in general health, food security and skills. Those who engaged in programmes such as dam construction and gulley reclamation did so to contribute to community development in the district. This was unlike learners at College A, who were younger and more inward looking. The need for VET for community development was also motivated by a realisation that there were few opportunities for employment as a result of economic challenges faced by Zimbabwe over the past two decades.

7.2.2 Learning needs of A1 farmers

Data gathered from the A1 farmers who participated in the study reveal that the participants were interested in the following content areas: farm management and administration, crop production, animal production and community projects.

7.2.2.1 Farm management and administration

Farm management and administration was identified as a learning need by the learners. This includes aspects of basic financial management, business proposal development, marketing and value addition. The learners noted that learning basic financial management would make them more independent in managing the finances of their smallholder plots. They indicated that currently they are inadequate and face problems of budgeting. Some of the learners noted that making good financial decisions was important if they were to be able to assess if their ventures were profitable. An improvement in the financial literacy levels of farmers especially women farmers should be prioritised by VTC curriculum developers for it enhances financial freedom.

Another aspect identified as an important learning area for A1 farmers was on business proposal writing. The majority of the learners highlighted the need for this aspect of learning in the VET curriculum as it would be beneficial to be able to write business proposals that

would potentially gain funding from financial institutions such as banks and microfinance institutions. Meanwhile, only a minority of participants at College A (three of the eight) indicated the importance of learning proposal writing. The ability to write business proposals would enhance their chances of securing the needed finances upon completion of their learning programme. Some of the respondents noted that securing money through loans was important in the success of any business and was also equally important to them as smallholder farmers. For one to be able to access the loans one ought to be able to write convincing proposals for funding. Unfortunately, this was a problem for most of them. Most of the time their business proposals are rejected, the loan officers do not give them enough support in writing the proposals. When the farmers ask the Microfinance Officers to help with proposal writing they are often charged fees which are beyond their reach. In some cases, they are charged as much as $100 depending on the amount needed. The money charged is usually beyond the reach of many farmers.

In addition to the above, marketing of agricultural produce was identified as a key learning area for most learners. The majority of participants indicated that they encountered problems of pricing their commodities and using the right distribution channels. Some of the participants noted that buyers often took advantage of their ignorance of market forces and dictated prices based on what they wanted to pay. After that they inflated the prices when re-selling the products to the market. Education on how market forces play out together with government support linking the farmers to the buyers who are willing to pay good prices is important in this regard. These challenges are also common in the sale of livestock whereby buyers downgrade the livestock without using any standardised measures such as weight. Participants in the focus group were united in raising the need to broaden the VET curriculum in that area.

The above comments indicate that marketing of agriculture produce is a critical component for learning desired by learners at both vocational training colleges. The need to link farmers with relevant buyers is a critical component considering the effect of the economic crisis in the country. The farmers have indicated that they need timely information on the needs of the market so that they produce exactly what the market needs for them to get a good return on

their investment. The farmers also need to be cushioned from late payments by buyers such as the grain marketing board or through financiers such as agricultural banks.

7.2.2.2 Small grains production

The second broad theme identified as constituting the learning needs of A1 farmers was crop production. The participants in the focus groups identified a number of specific content areas: small grains production, sugar cane production and greenhouse farming.

The majority of the participants in the focus group discussion at both colleges (seven of the eight at College A and all at College B) indicated small grains production as an important area they needed to learn about as new farmers. All the participants from the drier parts of the country such as Beitbridge, Chiredzi and Mwenezi preferred small grains because they performed better than hybrid seeds in regions with short farming seasons such as agro-ecological regions IV and V. What was observed is that a farmer's place of origin has an influence on the types of crops they needed to learn to grow. The majority of students noted that in order to attain food security in light of climate change, farmers in the drier regions should be trained in growing small grains. Their feelings are illustrated in the following quotation from one of them.

> *Even if now it's common knowledge that we need to grow small grains, the fact is that we cannot do it successfully until we learn how to produce our own seed varieties as farmers so that we do not depend on buying seed. (Student B7)*

The growing of small grains is an important area new farmers need to learn, especially those coming from the drier regions of the country. This is because small grains are quick to mature; hence they are not affected by long dry spells commonly experienced in these areas, especially in the southern parts of the country. It is therefore important that colleges respond both to climate change and to the needs of the farmers they train. Earlier studies in Masvingo province have confirmed the phenomenon of climate change and its implications on food security (Chazireni, 2015; Chikodzi et al., 2013; Manganga, 2007; Yingi, 2016).

7.2.2.3 Animal Husbandry

All the participants in the focus group indicated that they needed to learn some of the following aspects of animal husbandry: small livestock production, aquaculture, pen fattening, indigenous poultry, apiculture and the treatment of livestock.

7.2.2.3.1 Small livestock production

Learning how to raise small livestock was identified as a learning need by the majority of participants in the focus group interview at both colleges. They indicated that they were interested in learning how to raise goats, sheep and rabbits. One of the learners said:

> *Small livestock production is the way to go these days. It is because they are not expensive to maintain and the decisions to sell can be made much quicker as compared to cattle. (Student A3)*

Another learner said:

> *In Beit Bridge where I come from the dry conditions and availability of small bushes makes goat production quite viable. Goats have an advantage in that they multiply faster than cattle*
> *(Student A5).*

The need for programmes on small livestock production was supported by students in both focus group discussions. The benefit of small livestock production is early maturity of the animals. This means that there is faster income and returns when they are sold. Another advantage is that decisions to sell and slaughter for meat are easier to make with regard to small livestock, compared to cattle.

7.2.2.4 Community infrastructure projects

Apart from the more agriculture related learning needs that were common for students at both colleges, students at College B had other unique needs related to the rehabilitation of community infrastructure. Some learners at the college expressed that in the A1 farming areas, particularly in Mwenezi District there were environmental problems, one of the

menacing problems being gulleys resulting from soil erosion. These gulleys are a threat to farming activities and hence programmes on how to rehabilitate them were considered an important learning area for the agriculture curriculum.

Another important learning area identified was small dam construction and rehabilitation. This was motivated by the fact that there is low annual rainfall in agricultural regions IV and V. Because of poor rainfall patterns, rain fed agriculture was severely compromised, hence the need for damming to ensure that farmers have water supply for the irrigation of their gardens and plots. The other community infrastructure learning area was small bridge construction. Learners realised the need for passable roads to link their farming areas with the market. This was often a challenge because some bridges had collapsed because of cyclones experienced in the past.

7.3 Experiences of Ministry officials, principals and lecturers on curriculum responsiveness

7.3.1 Ministry officials' experiences of VET curriculum responsiveness

This section presents findings on the experiences of ministry officials on VET curriculum responsiveness to the learning needs of A1 farmers. Findings from ministry officials as well as government policy documents assist in evaluating economic or policy responsiveness (Moll, 2004). This represents the highest level of responsiveness according to Moll's model that was used as an organising framework.

Both ministry officials were united in acknowledging that vocational training offered in Zimbabwean colleges was informed by the Constitution of Zimbabwe. The ministry officials noted that their ministry was guided by the Manpower Planning Development Act of 1984 as well as Chapter 28:02 of the Constitution which empowers the ministry to superintend over all human development issues in Zimbabwe. The interview with ministry official 1 confirmed what is enshrined in the Constitution of Zimbabwe and the MPDA that registration of VTCs is the responsibility of the ministry. The MHESTD official also clarified that examinations and certification in VTCs was also the responsibility of the ministry under the

HEXCO. VTCs have a limited role in terms of qualifications they can offer students. They offer only certificates while diplomas are given by Technical colleges.

> *For the greater part of history the MHESTD was the only one running VTCs in the country, however, after independence other line ministries such as the Ministry of Agriculture, Ministry of Gender and Community Development were allowed to operate VTCs with an oversight from the MHESTD. (Ministry official 1).*

Apart from the Manpower Planning and Development Act (28:02), government VTCs were also guided by the Vocational Education Act, the Youth Act as well as the Indigenisation Act. This point was raised by ministry official 2. However, there was consensus by both ministry officials that the overall responsibility for the establishment of institutions of higher learning in the country, and the establishment of the country's qualifications framework, was made possible by the Manpower Planning and Development Act. Ministry official 2 noted that:

> *The operation of VTCs under the MYIEE is regulated by the Vocational Training Act. To date there are 42 government VTCs operating in the country. At least there is one VTC in each of the country's ten provinces. (Ministry official 2).*

The policies governing the operation of VTCs in Zimbabwe in theory apply equally to all VTCs whether government, private or non-governmental training colleges. In practice, however, the policies appear to be strictly applied to private and non-governmental organisation VTCs while the government training colleges seem to operate above these policies and regulations.

Non-governmental organisation owned VTCs are also registered under the Manpower Planning and Development Act 28:02. However, for them to be registered they must fulfill specified requirements to the satisfaction of the Permanent Secretary in the MHESTD. These requirements include having suitable premises, grounds, hostels, equipment, staff with the right qualifications and financial resources (Government of Zimbabwe, 2002).

At the macro-level, governance of VTCs in Zimbabwe is overseen by the MHESTD. Ministry official 1 noted that their Ministry of Higher and Tertiary Education, Science and Technology Development has a unit for Standards Development and Quality Assurance (SDQA) which is responsible for coordinating the design, development and review of vocational and technical curricular. It also monitors programmes in vocational and technical institutions. The SDQA unit specifies the minimum requirements any training college should meet before it can be registered by the Ministry. This includes having the requisite facilities, equipment, human and financial resources in terms of lecturers and support staff, failure to meet these would prevent registration of a VTC. Ministry official 1 expressed his frustration with government colleges under other line ministries for it is difficult to enforce compliance to the required standards. In some cases government VTCs continue to operate without meeting the minimum requirements and at law their operations cannot be stopped.

The inconsistency revealed by the system and the actual practice has implications for curriculum responsiveness of these institutions. The government VTC's ability to be responsive was affected by the fact that it was left to continue its operations even when evidence on the ground showed that it lacked the capacity. The inspection of government VTCs was rarely done and when it was eventually done it was superficial and recommendations were rarely implemented. To ensure quality is maintained the MHESTD is required to conduct routine inspections of VTCs in the province and in the process identify bogus training colleges that may be operating outside the law. These inspections are, however, limited due to resource constraints in the ministry. The problems were revealed by ministry official 1:

> *We are usually hamstrung by shortage of vehicles to conduct routine checks in VTCs in the province. Imagine the whole of Masvingo we have one vehicle to use in the seven districts in the whole province covering over twenty-six vocational training colleges; that makes the job difficult. Training colleges often take advantage of that and some end up operating with unqualified lecturers producing half-baked graduates. (Ministry official 1).*

Ministry official 2 highlighted that the maintenance of standards and quality assurance of VTCs in his ministry were his responsibility and the MHESTD's role was limited to

certification of learners in the various disciplines. From the interview with ministry official 2, it appeared there was an informal agreement on the part of government ministries that it was not necessary to check each other's operations. Both ministry officials concurred that their operational environment was constrained by the economy and that was known in all government departments. Based on the similar constraints, enforcing standards within each other's ministries becomes impossible; they therefore both assume that things are done 'professionally'. These challenges are likely to compromise curriculum responsiveness of VTCs.

Interviews with ministry officials revealed macro-level collaborations by government ministries. They revealed that curriculum responsiveness to the learning needs of A1 farmers had been facilitated through inter-ministry collaborations. The rationale for inter-ministry collaborations was to facilitate the sharing of resources among ministries involved in the vocational training programmes. In some cases, the collaborations extended beyond government institutions to include private institutions. Both ministry officials noted shared experiences of collaborative efforts by government ministries offering vocational training. One ministry official had this to say about inter-ministry collaborations:

> *The MHESTD which I represent was in the past the sole provider of vocational training for many years. However, as demand for training increased a number of other line ministries came on board to offer the training. These include the Ministry of Women Affairs, Gender and Community Development and the Ministry of Agriculture. (Ministry official 1)*

The implementation of the FTLRP and the coming in of A1 farmers increased the demand for the training of farmers. To that end, collaborations had to be made to ensure the full utilisation of trainers. Consultations at ministerial level were done on how best to offer agriculture education to new farmers. Official 2 noted that he has experienced inter-ministry collaborations through attending strategic planning workshops on a number of issues including the training of vocational learners.

I was part of the provincial inter-ministerial team that was tasked with planning the training of agriculture extension workers to meet the demand as a result of the FTLRP. Eventually we implemented that programme with support from the Ministry of Agriculture. (Ministry official 2)

The ministry officials explained collaborations at the macro-level of the VET system. These collaborations assisted in capacity utilisation among government departments as well as VET colleges. They ensured that government departments complemented each other rather than compete. At the macro-level of responsiveness, the government has made legislative changes that have facilitated VET curriculum responsiveness. However, policy changes were affected by the poor state of the economy as a result of increased political volatility, an outcome of the FTLRP.

The interaction between government ministries themselves is not politically neutral. It appears certain government ministries have more political power than others. An example is the influence of the Ministry of Youth, Indigenisation and Economic Empowerment that runs the majority of government VET colleges. In some cases, it disregards the laws and regulations for running VET colleges as driven by the Ministry of Higher Education, Science and Technology Development. The application of CR in understanding the causal powers of government policy, legislation and the economy to drive the process of curriculum responsiveness to the learning needs of A1 farmers is therefore confirmed (Easton, 2010; O'Mahoney & Vincent, 2014).

7.3.2 Principals experiences of VET curriculum responsiveness

The principals of the two colleges shared their experiences of VET curriculum responsiveness to the learning needs of A1 farmers. They also shared their views on VET policy, governance as well as challenges faced by their institutions. The focus was on how these influenced curriculum responsiveness to the learning needs of A1 farmers. Principals operate at the micro-level; they are responsible for the management of local institutions. Sub-

themes that emerged from the broad theme of governance of VTCs cover aspects to do with organisational structures, management of the colleges, funding and collaborations.

Both principals for College A and B were interviewed on micro-level governance of the VTCs they worked for and its implications for curriculum responsiveness. Micro-level governance focused on how the two VTCs were managed and covered issues such as staffing, funding and collaborations. The principal for College A revealed that he reported to the Provincial Officer for MYIEE. The ministry official is not an academic but rather a civil servant. This creates a difficult situation as the ministry official may not always grasp the more academic issues that need his attention. In that regard, issues such as being responsive to the needs of learners are far from his reach. Principal 1 went on to note that his reporting line manager has a tendency to close the discussion on curriculum responsiveness because the college cannot escape from the inefficiency of government bureaucracy within which it is embedded. The principal for college 1 noted that:

> *Though we have a management structure at our college, the bigger decisions are made away from the college, in government offices by people hardly informed on how to run vocational training institutions. This closes down responsiveness. (Principal 1).*

The principal for College B indicated that he reported to a board of trustees as shown in the organisational structure. The board of trustees is composed of technocrats who possess skills and knowledge on several issues. These are mostly successful community members of different expertise. The board of trustees meets regularly at the college to be appraised on the developments at the college and the direction it needs to follow. The board plays an important oversight role to ensure that the principal and his management team operate within their mandate as expected by the board as well as the donor community. The active engagement of the board opens up more space for curriculum responsiveness. The Principal for College B said:

> *Another aspect which enhances greater curriculum responsiveness is that we have a robust management team made up of qualified and experienced personnel who have worked in community development for long. (Principal 2)*

The two college principals concurred on the important role played by inter-college collaborations in assisting their institutions' curriculum responsiveness efforts. College-level collaborations extended across vocational training colleges whether public or private. The principal for College A noted that:

> *Soon after the onset of the FTLRP, around the year 2002, the government realised that the majority of A1 farmers allocated plots did not have farming skills. This was in the backdrop of increasing farmer pressure on the available agriculture extension services. There was need for an urgent training programme to increase the numbers of extension workers on one hand as well as to train some farmers as well. The aim was to eventually have an extension officer in every Ward. Our college was given the task to train ten thousand extension workers. We did not have the capacity to train such huge numbers in a short time hence, we had to invite Makoholi research station and Alvord training centre colleges under the Ministry of Agriculture and Ministry of Public Service, Labour and Social Welfare, respectively, and we managed. (Principal 1).*

The principal of College B also had positive recounts on collaborative efforts in the training of A1 farmers. He revealed that collaborations played an important role in enhancing curriculum responsiveness. He noted that:

> *As a college, we appreciate that no one individual or organisation operates as an island. We need each other. This principle has been evident in our work broadly as a community development organisation. With specific reference to the training of farmers in our agriculture programme, we have worked closely with government and private organisations. A few examples would be in small dam construction and rehabilitation where we use the expertise of engineers from the Ministry of Public Works. Other collaborations have been with ministries of Health, Education, Youth and Women Affairs to name but a few. (Principal 2).*

Data from these interviews confirmed earlier assertions by the ministry officials on the central role played by institutional collaborations in enhancing curriculum responsiveness. The principals of these colleges initiate micro-level collaborations. Micro-level collaborations could either be between government VTCS or sometimes between government and private

VTCs. Collaborative efforts of stakeholders in vocational training such as cited above have been an important catalyst for curriculum responsiveness. Though these findings are not generalisable but they relate to the specific contexts of the two colleges.They are a strong indicator of how working collaboratively can contribute in opening up the way for curriculum responsiveness. Collaborative work was an important feature mostly during the crisis years of 2008 and 2009 where it was difficult for any one organisation to meet its needs independently because of the economic crisis in the country. Collaboration is critical, especially for VET that focuses on community development. In Bangladesh, for example, Public-Private Partnerships (PPP) have had the advantage of organisations sharing their training resources, technologies, equipment as well as improving their training programmes (Tansen, 2012).

7.2.3 Lecturers experiences of VET curriculum responsiveness

Lecturers from both colleges had varying experiences on changes that have occurred in the agricultural curriculum since the implementation of the FTLRP. The lecturers at both colleges agreed that they did not make any changes in curriculum content especially in the early years soon after the FTLRP. However, colleges became more responsive to the needs of A1 farmers asconfidence in the land reform programmegrew among colleges. Initially, there was little responsiveness to the learning needs of A1 farmers at both colleges. Some lecturers made the following comments on their initial hesitation to respond to the learning needs of A1 farmers:

> *During the first five years after the implementation of the FTLRP, we were generally unsure as to how sustainable the programme would be. Some people were not sure if the FTLRP was permanent, this contributed to reluctance by institutions to embrace the new farmers in their programmes. (Lecturer A3)*

Another lecturer noted that:

> *It was difficult to plan educational programmes for A1 farmers because the political environment was not conducive during the early years of implementation of the FTLRP. This was especially so, for institutions such as ours which is entirely donor funded. For the sake of political correctness, VET institutions deliberately ignored the learning needs of A1 farmers. (Lecturer B4).*

Lecturers were given an opportunity to share their views on the micro-level governance of their centres. Most lecturers had mixed feelings on the way the colleges were managed. The majority of lecturers at College A had high regard for the management team of the college. They felt that management was doing its best to ensure that the college was run smoothly. However, some felt that the college did not have adequate external support from the line Ministry to which the principal reports. The reporting lines were not clear cut and this was seen to result in a lack of oversight on the activities of the college management.

Lecturers gave their experiences of collaborative efforts and their contribution to curriculum responsiveness to the learning needs of A1 farmers in the interviews. The majority of lecturers felt that their teaching was improved as a result of support from partner organisations. Benefits accrued included shared teaching and learning material, food, financial resources and professional development. Some lecturers at College B noted thatafter the implementation of the FTLRP, they attended some workshops initiated by NGOs such as Plan International. These workshops assisted in the lecturers' professional development for them to be able teach short courses that benefit A1 farmers. The following comments indicate lecturers' views on collaborations:

> *Together with two other colleagues, I attended a workshop on HIV/AIDS nutritional management. This training has helped me in running the nutritional and herbal gardens programme. Initially it was the nutritional programme only but after needs assessment we realised the need for the herbal component since a number of learners needed the training in response to high rates of the disease in this part of the country (Lecturer B4).*

Working together with other colleges, NGOs and government departments has assisted our college in responding to the need for more trained farmers even though our college is affected by lack of manpower and resources. NGOs have given us vehicles for use during community training programmes as well as teaching and learning material. (Lecturer A1).

In terms of curriculum content, the lecturers at both colleges noted that there were changes in what they taught over the years, especially after the FTLRP. This was done to meet the learning needs of A1 farmers as well as other categories of students.

7.3 Challenges to VET curriculum responsiveness

VET managers, lecturers and learners shared their views on challenges to curriculum responsiveness to the learning needs of A1 farmers. Some of the challenges identified were historical and predated the emergence of A1 farmers. However, there are some challenges that emerged after the FTLRP. Some challenges identified were policy related and more universal (relating to most VET institutions in Zimbabwe), while others were at the institutional level.

7.3.1 Economic challenges

In 1991 Zimbabwe implemented the Economic Structural Adjustment Programme (ESAP) in line with the move towards the liberalisation of the economy following recommendations from the World Bank and the International Monetary Fund (IMF). The implementation of ESAP saw reduced government funding in social services, including health and education and that resulted in the call for the privatisation of education. Both Ministry officials noted that the implementation of ESAP brought new dynamics to vocational education policy in Zimbabwe including the reduction of government funding for VTCs and also the expansion of private VTC provision.

The MHESTD official said:

> *The implementation of ESAP brought mixed feelings to VTC provision; on one hand our government run institutions faced operational challenges, could not replace equipment such challenges as indicated by previous government commissions into education while on the other hand it brought in private providers of VTCs (NGO and church based) to fill the void left by the government (Ministry official 1).*

The introduction of ESAP is the reason why in Masvingo province, for example, out of twenty-six VTCs only four are government owned while the rest are either non-governmental or church run colleges. The MYIEE official concurred that ESAP brought challenges to VET provision as most government training colleges could not sustain themselves and most of them have not recovered since its implementation. The few government training colleges that have remained are facing operational challenges, have obsolete equipment and infrastructure that has been rundown due to wear and tear in the absence of renovations. The government has tried to assist by introducing a policy of 100% fee retention by the VTCs. This is commendable but still the funding is not enough. The end of ESAP in 1995, saw the government of Zimbabwe introducing further economic reforms through another five year programme termed the Zimbabwe Programme for Economic and Social Transformation (ZIMPREST) which emphasised the need for vocational policy reforms to supply human resources for national development (Zengeya, 2007).

7.3.2 Policy challenges

The Manpower Planning and Development Act that guide the operations of VTCs has flaws in that it emphasises the regulation of private and NGO VET institutions while ignoring government institutions. That creates an impression that government VET institutions are above reproach. For example, it states that the registration of any NGO college can be cancelled if it fails to comply with requirements by the Permanent Secretary. What is surprising is that the Act does not have provision for cancellation of registration of government vocational training colleges. What this might mean is that despite being poorly resourced in terms of human and material resources the government training colleges will continue to operate. This can have negative implications on the quality of training offered in

government training colleges. What is clear is that the law is skewed in favour of government training colleges whereas non-government training colleges do not receive an equal treatment.

The Act, however, also states that both government and non-government training colleges can be inspected to check if they comply with the expected standards set by the ministry. The inspections would normally assess the suitability of buildings, equipment and also the conduct of students and staff in terms of their qualifications. In practice, however, only NGO providers are placed under strict supervision by the authorities. The Act is also criticised for its lack of clarity with respect to providing an adequate legal framework for effective and efficient human resource development in the country, especially its failure to harmonise government and private sector training provision (Mazani, 2015; Zengeya, 2007).

7.3.3 Funding

Financial challenges in Zimbabwe have generally been cited as a major challenge that affects VET curriculum responsiveness in the two colleges studied. The economic crisis in the broader economy did not spare the VET sector. One of the key members of College B noted with concern the continued reduction in donor funds at the institution, which he claimed affected the running of projects. On the reasons for donor fatigue the principal said:

> *Most of the donors supporting our institution have a western origin and it is known that Zimbabwe has been under economic sanctions after the start of the FTLRP from most European and American countries. Because of these sanctions and the pulling out of Zimbabwe from the Commonwealth most donors could not continue to offer us support. (Principal 2).*

The challenge of funding has resulted in the college downscaling most of its operations and sometimes aborting projects midway due to lack of financial resources. Apart from donor funding the college also instituted income-generating projects starting in 2004 as a way of generating funds locally to assist the organisation to operate during gap times when there is lack of donor funds.

Both principals of the training centres indicated that the economic crisis in the country has affected the operations of their respective centres. The principal at College A noted that from 2008, the government has ceased to fund the centre in any way other than the payment of salaries of employees:

> *The student fees which we are expected to operate on are not enough and cannot be increased even if we may wish to do so in order to inject capital for new machinery and equipment. Even the encouragement that we start Public Private Partnerships is not sustainable in the current environment because even private companies are operating at a loss. (Principal 1)*

The principal for College B also raised concern with the amount of financial support they are getting from donors as well. The principal said:

> *As you may be aware, the country is under economic sanctions from the same countries which used to be our biggest donors, what this means is that these days there are certain funds which we cannot unlock even if we have the best of proposals. The process of applying for funds has become cumbersome and frustrating because these days we may go for a year without external financial support.(Principal 2)*

Both principals were united in their frustration with sanctions imposed on the country by some western governments and both felt that sanctions have had a negative impact on education outcomes in vocational training centres. This, they argued, affects the operational efficiency of the training centres and also affects industrial growth and consequently employment opportunities for VET graduates. The reduction of both public and private funding of VET is not limited to Zimbabwe alone but has become common in most countries in Sub-Saharan Africa (Durango, 2002). It has thus become common for VET funds to be supplemented by donations. Some donations are in kind, for example, equipment, secondment of staff and fees payment for students. In the Zimbabwean case, economic challenges have resulted in de-industrialisation and the growth of the informal sector which does not contribute to the ZIMDEF training levy (Gurira, 2015).

The limited government support for funding of VET has been the greatest barrier which affects VET provision (DFID, 1999). This is unlike what government does in the funding of

primary and secondary education. Lack of government funding therefore affects VET curriculum responsiveness to the learning needs of A1 farmers.

7.3.4 Infrastructure and Equipment

The limited funds available to support VET at both colleges has a direct negative impact on the infrastructure available for teaching and learning at the VTCs. The majority of participants in the study concurred that the economic crisis in Zimbabwe has negatively affected the facilities and equipment found in vocational training centres. The principals of the two colleges, lecturers and students all agreed that teaching and learning had been compromised since the facilities at the institutions were not suitable for training learners at either certificate or diploma levels. Furthermore, there was concern that if nothing was done to improve the state of facilities and equipment, these institutions would eventually be rendered irrelevant and would have to close. The principal for College A, made the following comment:

> *We have not managed to buy new machines ever since we opened this centre in 1984. That is a very long time. What it means is that we have remained stuck in the past while changes in industry occur. Because of that our graduates lag behind the actual technology being applied in industry.*

7.3.5 Quality of students enrolled in VET

It is clear that the quality of the staff, and consequently the quality of learning and teaching, is affected by the wider economic conditions in the society in which VET is being delivered. If staffing levels are not maintained and the posts are not filled with appropriately qualified lecturers, this negatively impacts on the quality of VET provision. Academic staff is a critical dimension, but in addition VTCs tend to attract students who are academically weaker.

One lecturer said:

> *No matter how innovative and resourceful you maybe as a lecturer, if you have students who have written their Ordinary Level examinations for unlimited number of timesyou willalways face problems, some have even passed on the tenth attempt. It is difficult for such students to perform wonders and excel in vocational training. Yes they may do well in the practical aspects, but the theory part will always haunt them in future. (Lecturer A4)*

The fact that the system is not able to attract experienced and qualified teachers makes the educational challenge of supporting students who struggle with theory that much more difficult.

The economic crisis had clearly placed major constraints on what VTCs were able to offer. The lack of funding and the overall decline in the number of positions that students graduating from the centres could fill had made the centres unable to fulfill their primary mandate.

7.3.6 Quality of Lecturers

There is fairly widespread consensus that the critical factor in quality education generally and quality vocational education in particular is the quality of the teachers (Wheelahan 2010). As has already been noted, Zimbabwe suffered from a significant migration of skilled people and thus many qualified personnel left the country.. Both the staff and students at the vocational training centres under study showed concern with the quality of lecturers they have. What was striking was the fact that even the lecturers currently in the system showed reservations and were not sure if they were the right people for the jobs they were doing. Most of the lecturers in the government run training centre did not have the relevant qualifications for teaching students at certificate level. The recruitment of the lecturers was done mostly to fill the gap left by lecturers who had resigned at the peak of the economic crises in 2008 and the expectations were lowered to ensure that the posts had takers locally.

At College A, there was one permanent lecturer in the agriculture programme whose qualification was at the same level with the students he was teaching. He was expected to run the programme with the help of part-time lecturers. The Principal for College A said:

> *With the current economic crisis, if a lecturer leaves employment for retirement or other reasons we cannot get a replacement. This is in line with the government position that posts in the public service are frozen. Our agriculture department for example has one lecturer in post after the other retired. The retired one has not been replaced. This affects teaching and learning in that department. (Principal 1).*

A number of students at the centres were skeptical of the staff as well and indicated that the lack of qualified lecturers, or the limited number of lecturers in their institutions, overburdened the few who were qualified and compromised the quality of learning. Some students noted that it was not feasible to have a department staffed by one lecturer. One student at College A said:

> *Having one lecturer in a programme that has six modules is unrealistic because it makes it appear as though the lecturer is an expert in everything……which is not usually the case (Student A1).*

From the interviews with lecturers it was clear that those from the NGO training centre were better qualified and more experienced than those from the government run training centre. It was clear that the NGO centre was a preferred employer because of better salaries and benefits whereas in the government run institution the salary was low.

7.4 Discussion of findings

The learners were mostly motivated by the need for self-employment skills and community development while a few needed certification for employment purposes. Skills for self-employment and community development were considered a viable alternative in view of the challenges in the labour market since the beginning of the FTLRP. Skills for livelihood opportunities rather than the obsession with paid work are important in VET. The finding on including non-market responsive VET to the needs of A1 farmers resonates well with earlier

studies (Lim, Anderson, & McGrath, 2012; Tukundane, Minnaert, Zeelen, & Kanyandago, 2015).

In terms of the first research question on the learning needs of A1 farmers, the findings were based on semi-structured interviews with learners, lecturers and ministry officials. The findings were supported by literature reviewed on the learning needs of smallholder farmers (Bailey et al., 2014; Davis et al., 2007). More interestingly, findings from the study may contribute to new literature on the need for non-market related curriculum responsiveness. It must be noted that due to their demographics, history and previous experiences,A1 farmers have learning needs that apply specifically to them, in addition to the usual needs of smallholder farmers in other countries., Learners at both College A and B enrolled in agriculture programmes inorder to learn crop production, animal husbandry and entrepreneurship. These findings confirm earlier studies on the learning needs of smallholder farmers (Bailey et al., 2014; Leach et al., 2000; Nieto & Henderson, 1991). Specific details on the learning needs of A1 farmers in this study reflect the unique needs that are specific to theses farmers. These unique learning needs include the focus on small livestock production, small grain production as well as the focus on community development projects. These learning needs have no particular reference to previous literature and would, hence, constitute new knowledge on learning needs of A1 farmers in Zimbabwe.

Small grains production as well as small livestock production were common learning needs of A1 farmers at both colleges. This was mainly influenced by the climatic conditions in Masvingo province which lies in agro-ecological regions IV and V associated with low and erratic rainfall (Chikodzi et al., 2013; Mukarumbwa & Mushunje, 2010). Mwenezi district, where College B is situated, has failed to sustain meaningful crop production as a result of poor rains and high temperatures. The adoption of drought resistant crops such as sorghum and pearl millet by farmers in the district has been the only way towards meaningful production (Chazireni, 2015; Manganga, 2007).

However, learners at College B had other unique needs that were not present in learners at College A. These included small dam rehabilitation, gulley reclamation and the creation of fisheries and nutritional gardens. The reason for this was that College B programmes had

more of a community development orientation than those at A, hence the VET learners had broader learning needs which focused more on community development. Moll's model of curriculum responsiveness has been a useful analytical tool in explaining these dynamics (Moll, 2004). The foregoing discussion has shown that the A1 farmers who participated in the VET agriculture programmes at the two colleges did so in response to various factors. However, in the context of the study, FTLRP has implications for the unique learning needs of A1 farmers that apply to the situation in the institutions under study. Though the learners at the two colleges had several common learning needs, it must be noted that these were not entirely similar. Hence, learning needs of A1 farmers cannot be generalised and it has not been the aim of this comparative study to do so. There is also need to realise that the learning needs of A1 farmers are not static, but rather would change from time to time depending on what was considered helpful. In light of this, the findings have revealed a need for highly responsive VET curriculum at all levels.

7.5 Summary

The chapter presented findings of the study under the heading VET curriculum responsiveness through the eyes of VET managers, lecturers and students. Learning needs of A1 farmers as well as their motivation to enroll in agriculture programmes were articulated based mainly on the data from students who participated in the study. A1 farmers were motivated by the desire for skills for employment and self-employment depending on their ages and circumstances. A1 farmers had unique learning needs, apart from the common learning needs of farmers such as financial management, general crop production and agriculture engineering. These learning needs include small livestock production, small grain production as well as the focus on community development projects. The chapter concluded by presenting the experiences of VET managers, lecturers and students on curriculum responsiveness as well as the challenges encountered in VET curriculum responsiveness. The next chapter presents the summary, conclusions and recommendations of the study.

CHAPTER EIGHT: STUDY SYNTHESIS

8.1 Introduction

The previous two chapters presented, analysed and discussed findings from this qualitative study on: Vocational education curriculum responsiveness to the learning needs of A1 farmers in the Masvingo province of Zimbabwe. This final chapter gives an overview of the main aspects covered in the preceding chapters as well as the summary of research findings, conclusions and recommendations and their implications for policy and practice. Areas for further research are also proposed based on the limitations of the current study.

8.2 Summary of the study

The study sought to investigate vocational education and training curriculum responsiveness to the learning needs of A1 farmers in the Masvingo province of Zimbabwe. The researcher was motivated by the absence of a study focusing on curriculum responsiveness to national imperatives other than the labour market in vocational education and training research in Zimbabwe. The majority of studies in VET have been focused on labour market responsiveness and hence there was a gap on the issue of non-market responsiveness. This study sought to fill that gap arguing that in light of the decimation of the labour market in Zimbabwe as a result of the economic crisis, VET curriculum has responded to the need for community development and entrepreneurship rather than the labor market. The study was a qualitative comparative case study of two purposively selected VTCs in Masvingo province, namely; College A, which is government owned and run, and College B, a non-governmental organisation run training college. The study sought to answer the following research question as presented in the introductory chapter:

What is the responsiveness of the vocational education and training curriculum to the learning needs of A1 farmers in Masvingo Province of Zimbabwe post 2000 and how has this come to be this way?

In order to fully answer the above main question, the following four sub-questions were derived from the main question above:

- What are the causal factors that influence the learning needs of A1 farmers in Masvingo Province?
- How has the VET curriculum responded to the learning needs of A1 farmers in Masvingo Province and why?
- What are the experiences of VET managers, lecturers and learners regarding responsiveness to the learning needs of A1 farmers regarding curriculum responsiveness to the learning needs of A1farmers?
- What are the challenges that affect VET curriculum responsiveness to the learning needs of A1 farmers and why?

The study utilised CR as an under-labourer for this qualitative comparative case study through Bhaskar's seven laminations of social phenomena and the position-practice system as well as Moll's model of curriculum responsiveness. Bernstein provided analytical lenses through his classification and framing concepts as well as the pedagogic device. These approaches used complemented each other in studying complex open systems such as vocational training institutions as was the case in this study as well as exposing the underlying causal factors influencing VET curriculum responsiveness to the learning needs of A1 farmers. It also influenced the choice of the multi-case study design that was adopted in the study. A comparison of the process of curriculum responsiveness and factors that influence such responsiveness in the government training centre with that of the non-governmental training centre was also made possible.

Data were collected from a total of twenty-eight participants who were purposively selected. Triangulation of data sources as well as data collection techniques was done to enhance trustworthiness of research findings. Data were collected using semi-structured interviews with two ministry officials, two principals (one from each college) and eight agriculture lecturers (four from each college). Two separate focus group discussions were held at both colleges each with eight learners who were beneficiaries of the FTLRP. Documents such as curriculum statements, statutory instruments, syllabi and course outlines were analysed. Observations were also done to corroborate findings from the other data sources focusing on

the lesson delivery and other pointers of curriculum responsiveness. Data were analysed through inductive and retrodictive analysis in order to probe the generative mechanisms for VET curriculum responsiveness to the learning needs of A1 farmers. Thematic analysis was used to analyse the data focusing on themes that emerged from the research questions. Through the analysis, the following factors have emerged as causative to VET curriculum responsiveness or a lack of it at the colleges under study: inherited injustices in the education system; power relations; gender relations; economic challenges; poor governance and an over- emphasis on formal learning programmes.

8.2.1 Major Research Findings

The summary of research findings presented in this section emerged from the previous chapter on data presentation, analysis and discussion. The major research findings presented are based on the themes that were generated and guided by the research questions for the study that have been stated above.

8.2.1.1 Learning needs of A1 farmers

The study revealed that A1 farmers in VET agriculture programmes at the two colleges were motivated to participate by three factors: employment, self-employment and the desire for community development. A small number of younger students remained hopeful that the programmes would assist them in attaining employment if the economy improved. These were mostly learners at College A that recruited recent Ordinary Level graduates. The majority of older participants were motivated by a desire for self-employment as well as community development. This was the case for most learners interviewed from College B and a few older learners at College A. The study revealed that A1 farmers from the two colleges had unique learning needs which were being addressed innovatively by the two colleges.

8.2.1.2 Vocational education curriculum responsiveness to learning needs of A1 farmers

The main research question of the study was about how the VET curriculum has responded to the learning needs of A1 farmers in the Masvingo province of Zimbabwe. The vocational education agriculture curriculum being offered in the two colleges in Masvingo province shows the possibility of VET curriculum responsiveness to non-labour market issues in a rural set up, in this case responsiveness to the learning needs of A1 farmers. The VET curriculum at both colleges shows greater inclination towards non-market responsiveness whereby A1 farmers were taught to enable them to participate in self-employment as well as community development.

Both colleges under study were responsive to the learning needs of A1 farmers but their responsiveness varied in terms of their curriculum. The levels of responsiveness were mediated by a number of factors that were unique to the cases studied and in turn influenced their responses. The reasons for variations were located at the different levels of the VET system as supported by Bhaskar's laminations of social phenomena and Ian Moll's model of curriculum responsiveness.

8.2.1.3 Curriculum development process in VET

The curriculum development process in VET occurs at both the national and institutional levels. At the national level this was done through HEXCO for the formal certificate programmes offered by the two colleges. The study revealed that the curriculum developed at national level (macro-level responsiveness) was non-negotiable and local training colleges had to implement it as given for their learners to be certified by HEXCO. This scenario confirmed Bernstein's of external classification which leaves little space for curriculum responsiveness. The study found that institutionally based curriculum development done at the local level led to greater curriculum responsiveness to the learning needs of farmers as evidenced by the short demand driven courses at College B. Responsiveness at the level of individual colleges would occur at the pedagogic level which Moll referred to as pedagogical responsiveness.

8.2.1.4 Degree of formalization

Findings from the study indicate that the more formalised the VET programme was the less responsive it became to the needs of the community, including learners. This was the case for College A that had a formal VET programme that was institutional based. Non-formal VET programmes at College B gave the institution more space for curriculum responsiveness. Training was done in the community at places and times determined by the learners themselves so that the programmes did not affect the daily activities of farmers. The non-formal programme allowed flexible training of A1 farmers within their communities. Meanwhile College A, with only the formal VET programme, had limited capacity for curriculum responsiveness.

8.2.1.5 Governance of VET colleges

The study revealed that both macro-level and micro-level governance of VET colleges influences curriculum responsiveness. The findings reveal that at the macro-level, VET governance was the responsibility of the MHESTD as outlined by the MPDA. The implementation of the Act however, was weak in its oversight role on government VET colleges. That inconsistency affected curriculum responsiveness in the government run training college since it was left to operate even without requisite resources. At the micro-level, the two colleges under study had different systems of governance. These different governance systems of VET colleges have implications for curriculum responsiveness. On the one hand, the study revealed that the bureaucratic governance system employed by College A slowed down curriculum responsiveness since decisions were made at the national level. The organisational structure of College A also revealed that the principal of the college reported to a government officer who was not an academic. Reporting lines at the college affected the quality and effectiveness of decision making in terms of academic matters. On the other hand, the principal at College B did not report to an individual but to a Board of Trustees made up of community members selected on a representative basis as well as to Donors. The reporting lines at College B made it more amenable to respond to the learning needs of A1 farmers.

8.2.1.6 Funding

The study revealed that funding has implications for VET curriculum responsiveness. At the macro-level, the poor performance of the Zimbabwean economy over the past two decades has had negative consequences on the provision of VET be it by state or non-state actors. These challenges however, have been more severe for the government run institutions resulting in shortages of qualified personnel, as was the case at College A. The poor performance of the economy as a result of sanctions imposed on the country also meant that sources of funding for the NGO run centre were also affected. At the micro-level, financial challenges at College A have affected investments in facilities, equipment and training materials. Both colleges were affected by broader economic challenges but the government run training centre was more severely affected.

8.2.1.7 Collaborations

Findings from both colleges showed that inter-college and inter-ministry collaborations enhanced VET curriculum responsiveness. The collaborations by institutions have allowed for the sharing of resources such as training facilities, VET teachers and teaching and learning materials.

8.2.1.8 Challenges to VET curriculum responsiveness

The study revealed that VET curriculum responsiveness at the two colleges under study was affected by a number of challenges.VET curriculum responsiveness has been severely compromised at the two institutions due to the economic challenges. The economic challenges affected both government and NGO funding thereby compromising facilities, equipment, and recruitment of qualified lecturers. These factors impacted on VET curriculum responsiveness.

However, the two VTCs under study have responded in innovative ways, by focusing on responsiveness to non-labour market issues such as community development and entrepreneurship. College B has shown the practical ways in which vocational education curriculum could be made more responsive to the learning needs of A1 farmers even in times

of economic crisis. The NGO run training centre has been more responsive to non-market issues and in the last five years has embarked on training new farmers in nutritional and herbal gardens, animal husbandry, bee keeping, aquaculture and agro-processing.

8.3 Conclusions

This thesis concluded that VET curriculum responsiveness to the learning needs of A1 farmers in the two rural based VET colleges in Masvingo province was a feasible alternative to labour market responsiveness. VET in rural settings could be used as an effective tool to increase farmer participation in community development activities as well as supporting a rural based economy financially through various value added programmes which link A1 farmers to both the formal and informal markets of their produce. The study revealed that curriculum responsiveness was greatly influenced by power dynamics at the macro, meso and micro-scale. Power dynamics were at the centre influencing the causal mechanisms of VET curriculum responsiveness. These findings strengthen Bhaskar's laminations of social phenomena and the position-practice sytem which states that agency emerges from structure at different scalar planes; one of the critical realist ideas used in this study. Rural based VET could be used to respond to urgent community problems through the various programmes initiated by the VET colleges. Examples of these problems were environmental, food insecurity as well as HIV and AIDS. College B (NGO run) has shown that VET curriculum responsiveness could be most effective if done through non-formal curriculum development processes since it gave greater space for flexibility compared to the more rigid, formalised curriculum development. The study concluded that non-market curriculum responsiveness was a viable alternative to labour market curriculum responsiveness especially when the economy was weak as in the Zimbabwean scenario. The economic challenges in the broader economy did not allow for labour market responsiveness. Greater VET curriculum responsiveness is possible with improved funding, proper governance system, effective collaborations as well as flexible curriculum development. Bhaskar's laminations of social phenomena have revealed that understanding causal factors or those which hinder the occurance of a phenomena (in this case curriculum responsiveness) is rather acomplex process that occurs at several levels from the sub- individual level up to the global imperatives and vice-versa.

8.4 Recommendations

The major findings of the study in relation to VET curriculum responsiveness to the learning needs of A1 farmers in Masvingo province were presented in the previous section. This section presents recommendations of the study based on the findings presented and discussed earlier. The recommendations are organised as follows: policy, practice and recommendations for further studies.

8.4.1 Recommendations for policy

8.4.1.1 Legislative

At the macro-level, supportive legislation may be developed to cover for the weaknesses of the existing MPDA (2002), highlighted by the study, in order to encourage the qualitative growth of VET colleges. Currently, the Act favours government run VET colleges since it is silent when it comes to their compliance for registration purposes while it is more direct on penalties for NGO run VET colleges. There is need for a level playing field that will allow both government and NGO colleges to run efficiently and effectively being subject to the same compliance requirements. A reform of VET legislation has the potential to contribute towards efficient and effective curriculum responsiveness.

8.4.1.2 Curriculum reform in VET

Zimbabwe is currently seized with the process of curriculum reforms in education. This has led to the introduction of the new Curriculum Framework for Primary and Secondary Education 2015 to 2022. At the level of VET there has not been movement towards curriculum reforms. The study argues that for curriculum reforms to be effective they should be implemented at all levels of education in response to the needs of the economy. This study may contribute to policy debates on possible reforms of the VET agriculture curriculum in Zimbabwe in response to the learning needs of the new category of farmers (A1 and A2) after the FTLRP. The curriculum reforms should take note of new farmer profiles for them to be relevant to the need for community development, entrepreneurship and the non-formal

economy. There is thus a critical need to rethink reforming the vocational training system to focus on a wider understanding of work, including domestic labour, the informal economy and community development, rather than the narrow focus on the formal labour market. The VTCs are part of the social system and constrained by it, but if a broader view of development and the economy are adopted, then they might play a wider and more transformative role than current policy ascribes to them.

8.4.1.3 Funding of VET

The challenge of funding has been a central theme in this study cutting across both VET colleges under study. Financial challenges at both colleges had obvious effects on infrastructure, equipment, VET teacher availability as well as other resources required for effective teaching and learning. VET, being a capital intensive venture, there is need for serious commitment by government, private sector and NGOs so as to implement sustainable funding mechanisms. The study recommends effective Public-Private Partnerships for VET funding. On the government side, ZIMDEF funds meant for VET funding have, in the past, been used by custodians of the funds in non-VET sectors, depriving colleges of the much needed financial resources necessary for effective VET provision. The abuse of the ZIMDEF funds has been caused by the loosely worded Manpower Planning and Development Act which states that the Minister concerned 'may invest and deal with the monies of the fund not immediately required upon such security in any such manner he may determine'(Government of Zimbabwe, 2002). Government should put in place close financial monitoring systems to ensure ZIMDEF funds are used for their intended manpower and skills development function.

8.4.2 Recommendations for practice

Rural based VET should focus more on agriculture by responding to the learning needs of farmers. There is a need for reform in VET curriculum focusing on increased creativity to promote entrepreneurship in a non-formal economy. This is critical in economies that are performing poorly such as Zimbabwe. This is especially urgent for government run VET colleges that have remained stuck in the past.

8.4.2.1 Non-formal curriculum development

The study recommends that VET colleges should embrace non-formal curriculum development to complement the formal curriculum initiated at national levels. This is because this way, VET curriculum development becomes more localised and hence more able to respond to the learning needs of local stakeholders such as the A1 farmers. This non-formal curriculum is also flexible in terms of its delivery since it is not limited to the classroom situation at the colleges but can be done practically in the community. The non-formal VET curriculum could also be offered concurrently with the more formalised one that leads to nationally recognised certificates. Rural VTCs should emphasise the aspect of flexibility of delivery. This has yielded results especially at College B, which does most of their training off campus at places and times determined by the participants. This ensures that training does not disrupt the normal functioning of communities.

8.4.2.2. Participatory governance systems

The study revealed that participatory governance structures (which include community members in management) in VET are better positioned for curriculum responsiveness to the learning needs of farmers compared to bureaucratic government controlled structures such as is the case in government run VET colleges. The study recommends that government run VET colleges should open up to include local communities in their running and management systems. This may encourage 'ownership' of the programmes and enhance curriculum responsiveness.

8.4.2.3 Collaborations of VET colleges

The study has shown that VET curriculum responsiveness is made much more effective through inter-college and inter-ministry collaborations. The study, therefore, recommends more robust engagement by VET colleges, both government and non-governmental, and the fostering of a spirit of cooperation rather than competition. This will ensure the optimal use of resources to enhance VET curriculum responsiveness to the learning needs of A1 farmers. This is especially critical for poor economies such as Zimbabwe.

8.4.3 Recommendations for further studies

There is room for further studies on VET curriculum responsiveness in other colleges in the other nine provinces of Zimbabwe. This study focused on A1 farmers, hence future research could also be done on A2 farmers, a category of farmers excluded from this study.

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APPENDICES

Appendix 1: Application to conduct research in Masvingo Province's Vocational Training Centres

School of Education, College of Humanities,
University of KwaZulu-Natal,
Pietermaritzburg Campus,
South Africa

14 May 2014

The Permanent Secretary
Ministry of Youth, Indegenisation and Economic Empowerment
Harare

RE: Application to conduct research in Masvingo Province's vocational training centres

My name is Chenjerai Muwaniki. I am a PhD candidate in Adult Education at the University of KwaZulu-Natal, Pietermaritzburg campus, South Africa. The title of my doctoral thesis is 'Vocational education curriculum responsiveness to the learning needs of A1 farmers in post 2000 Zimbabwe'.
I do hereby apply for permission to conduct research in Masvingo province's vocational training centres.

My supervisor is Professor Volker Wedekind: Honorary Associate Professor, University of KwaZulu-Natal, School of Education, Pietermaritzburg, Email: wedekind@ukzn.ac.za(Tel: 011-7173070).

You can also contact the HSSREC Research Office (Ms P Ximba, Tel: 031 260 3587, Email: ximbap@ukzn.ac.za

The following are my contact details:
Email: chenjerai.muwaniki@gmail.com
Cell: +263 775 369 343

I hope you will consider my application
Yours faithfully,

Chenjerai Muwaniki

Student number 214582335

Appendix 2: Permission to conduct research in Masvingo province VET colleges

+All communication should be
Addressed to "The provincial Head for
Youth Development, Indigenisation
And Economic Empowerment"

ZIMBABWE

Ministry of Youth, Indigenisation
and Economic Empowerment
Provincial Headquarters
Private Bag 9118
Publics Works Building
Chrome Road
Masvingo

Telephone 039263186/039263773/262984/039264047
Fax 039 263 773

24 February 2015

The Principal
Mushagashe Provincial VTC
Masvingo.

Dear Madam

RE: PERMISSION TO CARRY OUT RESEARCH INTERVIEW IN MASVINGO PROVINCE: MUSHAGASHE T/C.

Kindly assist the bearer, Mr Chenjerai Muwaniki, who is carrying out Research Interviews for his studies.

The initial clearance he had for the exercise still holds.

PROVINCIAL HEAD
MIN. OF YOUTH DEVELOPMENT,
INDIG. & EMPOWERMENT
24 FEB 2015
P BAG 9118, MASVINGO
ZIMBABWE TEL 039-263773

[redacted]

K. Machako
Provincial Youth Development Officer: Masvingo

P O BOX 809 MASVINGO
039-264981
5 MAY 2015
THE PRINCIPAL
MUSHAGASHE V T C

[redacted]

Appendix 3: Informed consent letter

School of Education, College of Humanities,
University of KwaZulu-Natal,
Pietermaritzburg Campus,

Dear Participant

INFORMED CONSENT LETTER

My name is Chenjerai Muwaniki. I am a PhD candidate in Adult Education at the University of KwaZulu-Natal, Pietermaritzburg campus, South Africa.

The title of my doctoral thesis is 'Vocational education curriculum responsiveness to the learning needs of A1 farmers in post 2000 Zimbabwe'. Your institution was selected to be part of this study. I intend to gather information from members of your institution, through semi- structured interviews, focus group interviews, observations and document analyses. Please not that:

- Your confidentiality is guaranteed as your inputs will not be attributed to you in person, but reported only as a population member opinion.
- Information that you will give cannot be traced back to you, I will not use your real names in reporting my research findings.
- Data will be collected for the purpose of research only.
- Data will be stored in secure storage and destroyed after 5 years.
- Participation in this study is entirely voluntary; participants are free to withdraw from the study at any time.
- The research aims at investigating how the vocational education curriculum has responded to the learning needs of A1 farmers after the Fast Track Land Reform Programme in Zimbabwe.
- Participation in this research does not have any financial reward.
- If you are willing to be interviewed, please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:

Instrument	Willing	Not willing
Voice Recorder		
Photographic equipment		
Video Recorder		

The following are my contact details:
Email: chenjerai.muwaniki@gmail.com

Cell: +263 775 369 343

My supervisor is Professor Volker Wedekind: Honorary Associate Professor, University of KwaZulu-Natal, School of Education, Pietermaritzburg, Email: wedekind@ukzn.ac.za(Tel: 011-7173070)

You can also contact the HSSREC Research Office (Ms P Ximba, Tel: 031 260 3587, Email: ximbap@ukzn.ac.za

Thank you for your contribution to this research.

DECLARATION

I…… (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

I hereby provide consent to:

Audio-record my interview / focus group discussion	YES NO
Video-record my interview / focus group discussion	YES NO
Use of my photographs for research purposes	YES NO

SIGNATURE OF PARTICIPANT **DATE**

……

Appendix 4: Interview Guide for Ministry of Youth Indegenisation and Empowerment Provincial official

SECTION A: DEMOGRAPHIC DATA OF RESPONDENTS

Instructions: Please tick the appropriate box

1. **SEX** MALE ☐ FEMALE ☐

2. **AGE**:

20 – 30 ☐ 31-40 ☐ 41-50 ☐ 51- 60 ☐ 61 + ☐

3. **HIGHEST EDUCATION QUALIFICATION**

Diploma ☐ Degree ☐ Masters ☐

Any other, Specify?----------

---

4. **Work Experience**

0-5 ☐ 6-10 ☐ 11+ ☐

SECTION B

POLICY ISSUES

1. What policies guide the operation of VTC in Zimbabwe?
2. Since the Fast Track Land Reform Programme (FTLRP) in 2000, as a Ministry has there been a policy shift on how to integrate courses related to land reform in the VET curriculum at your centres?
3. What have been the changes so far?
4. In your view factors influenced such changes in policy?
5. Why have there been changes in that direction?
6. What strategies have you made to ensure that the policies are adhered to?

7. In your view are your training centres adhering to these policies?
8. What challenges do you face in monitoring the implementation of policy in the VTC's?

CURRICULUM ISSUES

9. What role does the Ministry of Youth in relation to Vocational Training Centres (VTC)?
10. Who decides what to teach in VTC's?
11. Does the Ministry have an input in what is taught in the centres?
12. Do all training centres under the Ministry of Youth have a common curriculum?
13. If yes, why and how do they achieve this? If not how and why are they different?
14. In your own view does the current agriculture curriculum adequately meet the needs of new farmers after the FTLRP?
15. Of what benefit would it be to include agricultural programmes targeted at beneficiaries of the land reform programme?
16. In your view what areas would such programmes focus on and why?

COLLABORATIONS

17. What relationship/s exist between you with other centres not your own?
18. Is there any collaboration with Non –governmental organisation centres in curriculum development?
19. What areas do those collaborations focus on?

CHALLENGES

20. What are the challenges faced by Vocational Training Centres?
21. Do VTCs face challenges regarding curriculum responsiveness?
22. What are the major challenges affecting curriculum responsiveness?
23. How can these challenges be addressed?
24. Is there anything you would want to say on curriculum responsiveness to the learning needs of A1 farmers?

Thank you

Appendix 5: Interview Guide for Ministry of Higher and Tertiary Education official

SECTION A: DEMOGRAPHIC DATA OF RESPONDENTS

Instructions: Please tick the appropriate box

1. **SEX** MALE ☐ FEMALE ☐

2. **AGE**:

20 – 30 ☐ 31-40 ☐ 41-50 ☐ 51- 60 ☐ 61 + ☐

3. **HIGHEST EDUCATION QUALIFICATION**

Diploma ☐ Degree ☐ Masters ☐

Any other, Specify?----------

---

4. **Work Experience**

0-5 ☐ 6-10 ☐ 11+ ☐

SECTION B

POLICY ISSUES

1. What role does the Ministry of Higher and Tertiary Education in relation to Vocational Training Centres?
2. What policies guide the operation of VTC in Zimbabwe?
3. Do these policies apply equally to all VTC's despite their ownership?
4. Since the Fast Track Land Reform Programme in 2000, as a Ministry has there been a policy direction on how to integrate courses related to land reform in the VET curriculum?

5. What have been the changes so far?
6. In your view factors influenced such changes in policy?
7. Why have there been changes in that direction?
8. What strategies have you made to ensure that the policies are adhered to?
9. In your view are these policies being followed?
10. How satisfied are you with these changes?
11. What challenges do you face in monitoring the implementation of policy in the VTC's?
12. Are these challenges similar in both government and non- governmental organised training centres?

CURRICULUM

13. Who decides what to teach in VTC's?
14. Does the Ministry have an input in what is taught in the centres?
15. In what way do you input what in taught in the VTC's?
16. Are there any changes in the curriculum as a result of the FTLRP?
17. At what level have the changes originated?
18. Do training centres have a common curriculum?
19. How are teaching and learning activities of VTC's monitored
20. What can VTC's do to respond to the FTLRP?
21. Is there anything you would want to say on VET curriculum responsiveness to the learning needs of A1 farmers?

Thank you

Appendix 6: Interview Guide for VET Principals and Administrators

SECTION A: DEMOGRAPHIC DATA OF RESPONDENTS

Instructions: Please tick the appropriate box

1. **SEX** MALE ☐ FEMALE ☐

2. **AGE**:

20 – 30 ☐ 31-40 ☐ 41-50 ☐ 51- 60 ☐ 61 + ☐

3. **HIGHEST EDUCATION QUALIFICATION**

Diploma ☐ Degree ☐ Masters ☐

Any other, Specify?----------

---

4. **Work Experience**

0-5 ☐ 6-10 ☐ 11+ ☐

SECTION B

BACKGOUND OF ORGANISATION

1 When was your centre founded?
2 What is your mission and vision as a centre?
3 How is your centre funded?
4 Where do you get most of your students from?
5 What is the proportion of A1 farmers in your student population?

POLICY ISSUES

6 What policies guide the operation of your centre?
7 Since the Fast Track Land Reform Programme in 2000, as a VTC has there been a policy direction on how to integrate courses related to land reform in the VET curriculum at your centres?
8 What have been the changes so far?
9 In your view, what factors influenced such changes in policy?
10 Why have there been changes in that direction?
11 What strategies have you made to ensure that the policies are adhered to?
12 In your view, are your training centres adhering to these policies?
13 What challenges do you face in monitoring the implementation of policy in the VTCs?

CURRICULUM ISSUES

14 Do you notice changes in the needs of your students as a result of the FTLRP?
15 How have you responded to those changes so far?
16 Do you think the response has been adequate?
17 In what ways could your training centre respond to the learning needs of A1 farmers?

RELATIONSHIP WITH EXTERNAL STAKEHOLDERS

18 What is the relationship of your centre with the local community around it?
19 What are the main economic activities of your local community?
20 Is there any relationship with other centres?
21 What are the relationships/ collaborations?
22 Do you have any relationships with external stakeholders? Please specify.
23 Is there anything you would like to say about the training of A1farmers?

Thank you.

Appendix 7: Interview Guide for Agriculture lecturers

SECTION A: DEMOGRAPHIC DATA OF RESPONDENTS

Instructions: Please tick the appropriate box

1. **SEX** MALE ☐ FEMALE ☐

2. **AGE**:

20 – 30 ☐ 31-40 ☐ 41-50 ☐ 51- 60 ☐ 61 + ☐

3. **HIGHEST EDUCATION QUALIFICATION**

Diploma ☐ Degree ☐ Masters ☐

Any other, Specify?----------

---

4. **Work Experience**

0-5 ☐ 6-10 ☐ 11+ ☐

SECTION B

POLICY ISSUES

1. Have you noticed any curriculum changes since the Fast Track Land Reform Programme was implemented in 2000?
2. At what level did these changes originate?
3. How were the changes communicated to you as Lecturers
4. In your view what is the purpose of such changes?
5. In your view what factors influenced such changes in policy?

6. Why have there been changes in that direction?
7. What strategies have you used to ensure that the policies are adhered to?

PEDAGOGICAL ISSUES

8. How long have you been teaching agriculture at this Vocational Training Centre?
9. Who decides what you teach?
10. How do you plan your teaching?
11. How do you identify learning needs of your learners?
12. How do you actually teach?
13. Is what you teach uniform similar with other lecturers at this institution?
14. In your view what areas would such programmes focus on and why?
15. What methods do you use to deliver content to your students?
16. What is the link between what you teach and the practice of farmers?

CURRICULUM ISSUES

17. Has your teaching of agriculture changed after the FTLRP?
18. In what ways has it changed?
19. In your view of what benefit are these changes to the students?
20. How effective have these changes been?
21. Are there any other ways in which the curriculum should change?

TRAINING NEEDS OF LECTURERS

22. As lecturers have you received any further training after the FTLRP?
23. If yes, what form has been the training?
24. If no, what could be the reasons for absence of such training?
25. In your view was the training necessary?
26. Do you think the training received was effective?
27. In your view, what other areas could such training cover?
28. Is there anything you would want to say on VET curriculum responsiveness to the learning needs of A1 farmers?

Thank you.

Appendix 8: Document analysis

POLICY DOCUMENTS

1. Policy Statements
2. Government circulars on vocational education
3. Acts of Parliament on vocational education

INSTITUTIONAL LEVEL

1. Mission Statements
2. Vision
3. Annual Reports

DISCIPLINE LEVEL

1. Teaching Material
2. Syllabus/ Course outlines
3. Assessment. How are they assessed?
4. Course work files of learners

Appendix 9: Focus Group Interview guide for agriculture learners

1. What motivated you to enroll for Agriculture course at this Vocational Training Centre?
2. What are your learning needs as an A1 farmer?
3. Do you think the lecturers have sufficiently taken your needs onboard in designing the training programme?
4. What are your learning experiences as agricultural students at this institution?
5. What challenges do you face in your role as an A1 farmer?
6. In your view, has the curriculum responded to your learning needs? If yes, how has it responded? If no, why has it not responded?
7. What are the challenges facing VET curriculum responsiveness at your college?
8. Is there anything you would want to say on VET curriculum responsiveness to the learning needs of A1 farmers?

Thank you

Appendix 10: Observation Guide

The observations will be partially structured. Observational evidence is useful in providing additional information about the topic being studied.

Aspects to observe

- Content being taught
- Relationship with FTLRP
- Sequencing of learning
- Dynamics of teaching and learning
- Nature of activities
- Relationship of theory and practice
- Learning needs of new farmers

Appendix 11: Data matrix on comparative analysis of the two colleges

Variables	College A	College B
Inception	College A was formed in 1982 as a youth training centre which housed young farmers clubs. The college was closely related to the liberation struggle giving skills to former freedom fighters for them to fit into the new Zimbabwe. Initial training only focused on agriculture. It became a fully fledged training centre in 1992 broadening skills areas.	College B was formed in 1986 as an extension of Glen Forest a Harare based Non-governmental organisation which identified skills gaps for people in Mwenezi District. The College was officially registered in 1991 after Glen Forest moved out that was when it was registered as a Private Voluntary Organisation (PVO) by the Ministry of Public Service Labour and Social Welfare.
Ownership	The college is 100% government owned and run. It is one of the 42 government vocational training centres under the Ministry of Youth, Indegenisation and Economic Empowerment. The Ministry has at least one such centre in every district of Zimbabwe.	The college is 100% non-governmental organisation centre registered by the Ministry of Public Service, Labour and Social Welfare.
Vision and Mission	To equip the less privileged youths with skills for self employment	To develop human livelihoods, skills for self reliance, water, food security and HIV and AIDS projects
Local Context	The College is situated in the peri-urban area of Masvingo City, the industrial and commercial centre for Masvingo province. The college is surrounded by small-scale commercial farms as well as A1 plots. This is a residential college where students are accommodated onsite.	The college is situated about 120 km from Masvingo city in a remote location. It is in Masvingo province's poorest district, characterised by household food insecurity, poor skills, low education and skills levels. The college has both residential and non-resident students all over the Mwenezi district.
Funding	The college has a very long history of government funding since its inception. However, there have been changes in the funding structure over the years. Initially, it was 100 % funded by government up to 2006. From 2007, students had to pay	The college is 100% donor funded. Some of the donors include HIVOS, Africa 2000, German Development Cooperation, Norwegian Agency for Development Cooperation, United Nations World Food Programme,

	half of the required school fees up to 2013. From 2013 onwards, the government removed support to students and operation expenses remaining only to fund salaries of staff. To cover the gap left by the government, income generating projects are done.	Netherlands Development Agency and many others. Apart from donor funding income generating projects have become part of the funding mechanism.
Governance and Management Structure	The college is run by a Principal who reports to the Provincial Officer for Youth in the Ministry of Youth, Indegenisation and Economic Empowerment. The college operates within government bureaucratic system. The principal is assisted by an Accountant and Heads of Departments.	The college is a membership based organisation, made up of people from the seven Chiefs of Mwenezi District. It is run by a Programmes Manager/Principal assisted by a management team comprising an Accountant, Business Development Officer, Monitoring and evaluation officer and Training officer. The Programmes Manager reports to the Board of Trustees made up of representatives of the seven Chiefs.
Recruitment of Staff	Government is responsible for the recruitment of staff when the need arises. The unfortunate trend however, was that since the economic crisis the government froze all posts in the public service as a result people who moved out of the organisation could not be replaced resulting in under staffing. Currently under-resourced including in human resources.	Staff recruitment is college based depending on the needs of particular project. Currently the college is well resourced in terms of human resources managing to attract highly competent personnel.
Recruitment of Students	Initially students came from Masvingo province. However, the catchment area has grown to the entire country.	Student recruitment has been limited mostly to Mwenezi district in line with the Vision and Mission of the organisation. Only a few students are coming from the neibhouring Chivi District.
Typology of Students	The majority of students are out of school youths, who do not have 5 Ordinary level passes. Students with 5 O level passes were eligible to register for the HEXCO Certificate. The average age of students was 28 years. The students who	The majority of students were older adults with an average age of 44. Few students had 5 Ordinary level subjects. These were eligible for the Certificate course examined by HEXCO. They were a mixture of communal farmers and A1

	participated in the study were mostly children of A1 farmers while a small number were actual farmers.	farmers. For the purpose of the study only A1 farmers were selected.
Identification of learning needs of farmers	Not much is done in identifying learning needs of students. Despite the claim that the organisation offers demand driven courses. There is little space for innovativeness apart from offering what is expected by HEXCO.	For the Certificate course, HEXCO predetermines the learning needs of students in coming up with the syllabuses. However, the majority of programmes are offered after the Community Level Participation Planning (CLPP), a model used by the organisation in identifying learning needs.
Programmes **NB:** Refers to the Agriculture related programmes only Both colleges also offer other non- agriculture programmes. These are not under the focus of this study.	Offers a formal agriculture programme leading to the Certificate in Agriculture. The programme is Certified by HEXCO.	Offers both a formal programme in Agriculture at Certificate level as well as a number of non-formal agriculture programmes. The formal programme leads to the HEXCO National Certificate while non-formal programmes lead to certificates of attendance and are sometimes not certified.
Facilities and Training Venue	The college has built up infrastructure for teaching and learning. It also has a demonstration plot onsite as well as fowl-runs and a pig sty. Training is mostly on-site serve for visiting classes in Chiredzi	The college has classrooms for teaching and learning onsite. It has several demonstration plots across the district as well cattle and goats at various sites. Training is both on-site and offsite. With the majority of training done offsite in the community.
	The programming is more rigid and college based.	More flexible programming is sensitive to the needs of farmers in terms of time and place of offering.
Curriculum	The Certificate programme has four main areas which are Animal husbandry, Crop production, Agribusiness and Agriculture Engineering The curriculum includes a compulsory module on Training for Enterprise to equip learners with business skills. The college offers a formal VET curriculum which leads to the National Foundation Certificate certified by HEXCO.	

Other Agriculture programmes	None	A number of Short courses are on offer including: fisheries, dam rehabilitation, gulley reclamation, food processing, nutritional and herbal gardens
Curriculum development	Done at the macro-level by HEXCO for the Certificate in Agriculture.	For the Certificate in Agriculture it is done at a Macro- level by HEXCO. However, for non- formal programmes micro-level curriculum development is done for all the short courses.
Curriculum responsiveness to learning needs of A1 farmers	Massive expansion of training programme done to increase number of agriculture extension officers to one per- ward. Introduction of Chiredzi cohort /to reach A1 Sugar-cane farmers	Expansion of short courses on offer including: fisheries, dam rehabilitation, gulley reclamation, food processing, nutritional and herbal gardens. Small livestock production. Goat production Value addition such as peanut butter processing.
Selection of learning content	The lecturers have no control over the selection of content for the HEXCO Certificate in Agriculture. In terms of the learning areas as this are pre-determined. The students have no role in the selection of learning content.	The lecturers have no control over the selection of content for the HEXCO Certificate in Agriculture (Formalised programme). In terms of the learning areas as this are pre-determined. The students have no role in the selection of learning content. In respect of the non-formal programmes in the form of short courses lecturers and students play a central role in the selection of learning content.
Organisation and sequencing	The lecturer has more control in the organisation and sequencing of learning content. The student has no role in the organisation and sequencing of content.	For both the formal and non-formal programme, the lecturer has total control in the organisation and sequencing of learning content. The student has no role in the organisation and sequencing of content.
Selection of learning experiences	The lecturers have total control over the selection of learning experiences. The greater part of learning occurs in the demonstration plots for the practical component (60%) of time allocated for each module.	

	The remaining 40% is for the theoretical aspects.	
Pacing and timing	The lecturer controls the pacing of lessons taking into account the characteristics of students. The more scientific subjects in agriculture are allocated more lecture times. On the timetable, scientific subjects are done in the morning. The lecturers noted that students would be more fresher and have longer attention span in the mornings. The practical components of the course are done in the afternoon.	For the formal Certificate programme, the lecturer has control over pacing and timing of content delivered. While for the short courses students play a central role in determining the pace and timing of content. In case of the latter, there is more flexibility for students to control the speed and timing of learning content.
Student Assessment	Both continuous and summative assessment is done. Continuous assessment is done through written exercises as well as practical demonstrations. Students are also assessed through Work Related Learning, component that has become compulsory in the programme. Work Related Learning is assessed through reports from supervisors of the student while attached to their chosen organisation. The Summative assessment is done at the end of the three year period as candidates write the HEXCO examination.	For the formal programme, both continuous and summative assessment is done. Continuous assessment is done through written exercises as well as practical demonstrations. Students are also assessed through Work Related Learning, component that has become compulsory in the programme. Work Related Learning is assessed through reports from supervisors of the student while attached to their chosen organisation. The Summative assessment is done at the end of the three year period as candidates write the HEXCO examination. For the non-formal programmes, student assessment is often continuous. Students also participate in their own assessments.
Collaborations	With other government ministries such as agriculture, Women Affairs as well as with NGOs such as Plan International	Collaboration with both government and non-governmental organisations. Collaborations have assisted in enhancing curriculum responsiveness.
Community participation	The level of community participation in the college's agriculture programme has increased in response to the emergence of new farmers. The	Levels of community participation are very high especially in the agriculture programme. This is because most of the short courses for A1

	college's agriculture department is now an active participant in farmer field day programmes. This used as an opportunity to share knowledge with successful farmers. Previously the college was divorced from the community.	farmers are done within the community. Facilitators are sometimes the local community members themselves depending on the subject to be learnt.