THE RELEVANCE OF AGRICULTURAL EDUCATION CURRICULUM IN POVERTY ALLEVIATION: A CASE OF MASVINGO RURAL DISTRICT IN ZIMBABWE

by

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DECLARATION

I declare that relevance of agricultural education curriculum in poverty alleviation: a case of Masvingo rural district in Zimbabwe is my work and that all the sources that I have used or quoted have been indicated and acknowledged through complete references. I further declare that I submitted the dissertation to originality-checking software and that it falls within the accepted requirements for originality. I further declare that I have not previously submitted this work, or part of it, for examination at UNISA for another qualification or at any other educational institution.

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SUPERVISOR STATEMENT

This dissertation was submitted with my approval.

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DATE: DECEMBER 2022

DEDICATION

I dedicate this piece of work to my loving brother,

Kizito Musekwa

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I am deeply indebted to my supervisor, Professor A.S. Mawela, for his dedication, support, and guidance though out the study.

I also thank those who participated in the study, that is, the teachers, learners, smallholder farmers in Masvingo rural district, AGRITEX Officers and the DDF members.

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ABSTRACT

This study sought to investigate the relevance of the Agricultural Education curriculum in alleviating poverty in the Masvingo rural district of Zimbabwe. To that end, the researcher adopted an interpretive paradigm and employed a qualitative research design to collect data through semi-structured interviews and focus group discussions with secondary school teachers and smallholder farmers in the district. The study participants were selected by means of non-probability sampling. Integrated theories and a case study underpinned this undertaking, while thematic analysis was used to code the qualitative data. The research gives an overview of (i) a conceptualisation of the relevance of the Zimbabwean Agricultural Education curriculum in alleviating poverty in the Masvingo rural district, (ii) teachers' implementation of the Zimbabwean Agricultural Education curricula to equip learners with relevant knowledge to practise farming, (iii) the challenges smallholder farmers in rural Masvingo encounter when implementing Zimbabwe's agricultural policy to alleviate poverty, (iv) the strategies Agricultural Education teachers can employ, to equip learners with farming knowledge and skills, and (v) government intervention strategies which can be employed to improve smallholder farming practices. The study closed with recommendations on how the Agricultural Education curriculum for schools can be used to capacitate smallholder farmers with knowledge and skills to practise sustainable farming aimed at poverty alleviation. Closer interaction between schools and existing smallholder farmers will equip learners with practical knowledge and skills to promote post-school graduate self-employment in the field of agriculture.

Keywords: Agricultural Education curriculum, agricultural policy, constructivism, poverty alleviation, smallholder farmers

MANWELEDZO

Ngudo heyi i ṱoḓa u sedzulusa u tea ha kharikhuḽamu ya Pfunzo ya Vhulimivhufuwi kha u fhelisa vhushai kha tshiṱiriki tsha vhupo ha mahayani tsha Masvingo ngei Zimbabwe. U swika hafha, muṱoḓisisi o shumisa nḓila ya u ṱalutshedza na ngona ya ṱhoḓisiso ya khwaḽithethivi u kuvhanganya data nga kha inthaviwu dzi songo tou dzudzanywaho na tshigwada tsha therisano tsho sedzwaho khatsho na vhadededzi vha tshikolo tsha sekondari na vhorabulasi vhaṱuku kha tshiṱiriki. Vhadzheneleli vha ngudo vho nangwa nga nḓila ya a tsumbonanguludzwa dzi songo sedzaho kha zwiṅwe zwithu. Thiori dzo ṱanganelaho na ngudo dza u tikedza mushumo uyu, ngeno ho shumiswa musaukanyo hu tshi tevhedzwa thero u khouda data ya khwaḽithethivi. Muṱoḓisisi o ṋetshedza nyangaredzo ya (i) muṱalukanyo wa u tea ha kharikhuḽamu dza Pfunzo ya Vhulimivhufuwi Zimbwabwe kha u fhelisa vhushai tshiṱirikini tsha vhupo ha mahayani tsha Masvingo, (ii) u shumisa nga vhadededzi kharikhuḽamu ya Pfunzo ya Vhulimivhufuwi ya Zimbabwe u lugisela vhagudiswa nḓivho yo teaho ya maitele a zwa vhulimi, (iii) khaedu dzine vhorabulasi vhaṱuku vha vhupo ha mahayani ha Masvingo vha ṱangana nadzo musi vha tshi shumisa mbekanyamaitele ya vhulimi ya Zimbabwe kha u fhelisa vhushai, (iv) zwiṱirathedzhi zwine vhadededzi vha Pfunzo ya Vhulimivhufuwi vha nga zwi shumiswa, u lugisela vhagudiswa nga nḓivho na zwikili, na (v) zwiṱirathedzhi zwa u dzhenelela ha muvhuso zwine zwa nga shumiswa u khwinisa maitele a vhorabulasi vhaṱuku.

Ngudo yo pendela nga themendelo ya uri kharikhuḽamu ya Pfunzo Zwikoloni i nga shumisiswa hani u engedza nḓivho na zwikili zwa vhorabulasi vhaṱuku u shumisa vhulimi vhu sa nyeṯhi ho livhiswaho kha u fhelisa vhushai. Vhushaka ha tshumisano vhukati ha zwikolo na vhorabulasi vhaṱuku vha re hone zwi ḓo fhaṱa vhagudiswa nga ndivho na zwikili zwi re khagala u ṱuṱuwedza u ḓishuma nga murahu ha u ṱhaphudza pfunzo dza nṱha ha vhutelwa digirii kha sia ḽa vhulimi.

Maipfi a ndeme: kharikhuḽamu ya Pfunzo ya Vhulimivhufuwi, mbekanyamaitele ya vhulimivhufuwi, vhufhaṱi, u fhelisa vhushai, vhorabulasi vhaṱuku

ISIFINQO

Lolu cwaningo beluhlose ukuphenya ukuhlobana kwezifundo zezoLimo ekuqedeni ubumpofu esifundeni saseMasvingo eZimbabwe. Ukuze kufezeke lokho, umcwaningi wamukela ipharadimu yokutolika futhi wasebenzisa idizayini yocwaningo olusezingeni eliphezulu ukuze aqoqe imininingwane ngezingxoxo ezingahlelekile kanye nezingxoxo zamaqembu okugxilwe kuwo nothisha bezikole zamabanga aphezulu kanye nabalimi abasafufusa esifundeni. Ababambiqhaza bocwaningo bakhethwe ngendlela yamasampula ento engeke yenzeke. Amathiyori adidiyelwe kanye nocwaningo oluyisibonelo kwasekela lesi senzo, kanti ukuhlaziya kwengqikithi kusetshenziswe ukukhowuda imininingwane yesimo. Ucwaningo lunikeza umbono kafushane (i) wokucatshangelwa kokubaluleka kwekharikhulamu yeMfundo yezoLimo yaseZimbabwe ekunciphiseni ubumpofu esifundeni saseMaphandleni saseMasvingo, (ii) ukuqaliswa kothisha kwekharikhulamu yeMfundo yezoLimo yaseZimbabwe ukuhlomisa abafundi ngolwazi olufanele lokulima. , (iii) izinselelo abalimi abasafufusa abahlangabezana nazo emaphandleni aseMasvingo lapho besebenzisa inqubomgomo yezolimo yaseZimbabwe yokuqeda ubumpofu, (iv) amasu othisha beMfundo yezoLimo abangawaqasha, ukuhlomisa abafundi ngolwazi namakhono okulima, kanye (v) amasu okungenelela kukahulumeni angasetshenziswa ukwenza ncono izindlela zokulima amapulazi amancane. Lolu cwaningo luvalwe ngezincomo zokuthi uhlelo lwezifundo zezoLimo ezikoleni lungasetshenziswa kanjani ukuhlomisa abalimi abancane ngolwazi namakhono okulima ngendlela eqhubekayo okuhloswe ngayo ukuqeda ububha. Ukusebenzisana okuseduze phakathi kwezikole nabalimi abasafufusa abakhona kuzohlomisa abafundi ngolwazi olusebenzayo namakhono ukuze kugqugquzelwe ukuqashwa kwabafundi asebeqedile ukuya esikoleni emkhakheni wezolimo.

Amagama abalulekile: Ikharikhulamu Yezemfundo yezoLimo, inqubomgomo yezolimo, iqophelo eliphezulu, ukuqeda ububha, abalimi abancane

LIST OF ACRONYMS

AGRITEX	Agriculture Technical and Extension Services
AIDS	Acquired Immunodeficiency Syndrome
BEAM	Basic Education Assistance Module
CALA	Continuous Assessment Learning Areas
CIET	Presidential Commission of Inquiry into Education and Training
COTTCO	Cotton Company of Zimbabwe
DDF	District Development Fund
ESAP	Economic Structural Adjustment Programme
EU	European Union
FAO	Food and Agriculture Organization
GDI	Gross Domestic Index
GDP	Gross Domestic Product
GMB	Grain Marketing Board
GPS	Global Positioning Systems
HIV	Human Immunodeficiency Virus
ICT	Information Communication Technology
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
IPRCC	International Poverty Reduction Centre in China
ISPP	International Smallholder Productivity and Profitability
LDCs	Least Developed Countries
LFSP	Livelihoods and Food Security Programme
MDG	Millennium Development Goal
MoPSE	Ministry of Primary and Secondary Education
MSG	Millennium Development Goal
NAPF	National Agricultural Policy Framework
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
PBL	Project-Based Learning
PWSAIS	Presidential Well-Wishers Special Agriculture Input Scheme
RTGS	Real-Time Gross Settlement Systems
SACP	Smallholder Agriculture Cluster Project

SDC	Swiss Agency for Development and Cooperation
SDF	Social Dimension Funds
STEM	Sciences, Technology, Engineering and Mathematics
UN	United Nations
UNISA	University of South Africa
VET	Vocational Education Training
WFP	World Food Programme
ZANU PF	The Zimbabwe African National Union Patriotic Front
ZIMASSET	Zimbabwe Agenda for Sustainable Socio-Economic Transformation
ZIMPREST	Zimbabwe Programme for Economic and Social Transformation
ZIMSEC	Zimbabwe School Examinations Council
ZIMSTAT	Zimbabwe National Statistics Agent
ZIMVAC	Zimbabwe Vulnerability Assessment Committee
ZPD	Zone of Proximal Development

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CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION

The value of education in promoting farming practices around the world cannot be overemphasised. Each nation views agriculture as an essential part of its economy due to its function in supplying the population with food. The researcher expects that Zimbabwe's education system, and its policies greatly support the agriculture sector for food production. In Zimbabwe, agriculture is a compulsory subject in the new curriculum from primary to secondary schools (MoPSE, 2022). The Zimbabwean education curriculum policy offers and equips learners with agricultural skills starting from the infant level to the secondary level. As a result, learners are expected to finish school with adequate knowledge of farming practices. As a result of the agricultural subject in the curriculum, it is expected that learners out of school have the capabilities to engage in agriculture as small or large-scale farmers. However, because of political and socio-economic challenges in Zimbabwe, most school leavers who are unemployed engage in the smallholder agriculture sector, which is easier and more accessible.

1.2 THE STUDY BACKGROUND

Upon the attainment of independence in 1980, Zimbabwe embarked on major reforms in the education and agriculture sectors. The aim was to redress imbalances that existed during the colonial era (Ministry of Lands Agriculture and Rural Settlement, 2018; MoPSE, 2022). In the first decade of independence, one area of major concern was to increase access to education for the general population. The Ministry of Primary and Secondary Education (MoPSE, 2018) reported that once a measure of stability had been attained in the area of access, the government could shift the emphasis in the second decade of independence to the provision of quality education. In 1998, the government set up the Presidential Commission of Inquiry into Education and Training (CIET), sometimes referred to as Nziramasanga Commission, in recognition of Doctor Nziramasanga who chaired the commission (MoPSE, 2022). The Nziramasanga Commission found that the Zimbabwean school curriculum was too academic and did not cater to the needs of the majority of learners. It was therefore,

recommended that a comprehensive review of the school curriculum was needed for it to respond to the needs of learners and the nation (MoPSE, 2022).

After many consultations with targeted interested groups in government departments, the new curriculum was framed and learning areas for the new learning levels were compiled. This meant that in the Zimbabwe Curriculum Framework for Primary and Secondary Education, 2015-2022, agriculture, mathematics, science, and English were compulsory subjects, taught from junior school up to form four (MoPSE, 2022). Agriculture was made a compulsory subject in the school curriculum as an attempt to develop interest in farming which would instill a flair for farming whilst learners are still young such that when they finish school, they are already good, seasoned farmers. The main targeted goal was to achieve Millennium Development Goal (MDG) 3, which aims to reduce food shortage and hunger in the country by 2030 (Ministry of Lands, Agriculture and Rural Resettlement, 2018).

1.3 THE RATIONALE FOR THE STUDY

In 1980, at independence, Zimbabwe inherited a dual economy. The economy was characterised by a well-developed modern sector and a largely poor rural sector. About 80% of the country's population lived in rural areas (UN, 2019). As a result of this inequality, the government resolved to direct its spending toward social sectors, with emphasis on the expansion of rural infrastructure and redressing social and economic inequality through a land resettlement programme (Munowenyu, 2019). The Ministry argues that the positive returns of growth with equity policies were most visible in the education and health sectors where access to public services, resource allocation, and distribution was enhanced (MoPSE, 2022). Policies on free education. for instance, the Free Primary School Education Policy (Education Act 1980, Chapter 25.04) and the Health for All were framed (Public Health Act 1980, Chapter 15.09).

Poverty has a long history in Zimbabwe and stems from the 1980s. Prior studies attribute the rise in poverty to inappropriate and misapplied government policies (Zhou & Masunungure, 2006; UN, 2019). Several instruments and policies have been developed to abate poverty and improve the socio-economic welfare of citizens in Zimbabwe, inter alia, the Growth with Equity in the early 1980s, Economic Structural Adjustment Programme (ESAP 1991-1996), Zimbabwe Programme for Economic Social Transformation (ZIMPREST 1996-2000), Land Reform Policy (2000), and the

Indigenisation and Economic Empowerment Policy (2008; however, poverty has not been eradicated.

Poverty and hunger are some of the social problems which affect the people of Zimbabwe in both rural areas and urban areas, though studies suggest their greater prevalence in the rural areas compared to the latter (Booth, 2021). Louis (2021) noted that 76,3% of Zimbabweans lived in absolute poverty and 55% of the population (about a 6.6million) lived under the food poverty line. A survey carried out by the United Nations (UN, 2021) revealed that 72.3% of most Zimbabweans were poor but poverty was more prevalent in rural areas than urban areas. Louis (2021) adds that 10 out of 13 million Zimbabweans, which is over 75% of the population, live in abject poverty. The World Food Programme (2020) adds that 30% of the rural poor are food poor or extremely poor and this has necessitated humanitarian food relief operations in the country. As such, within their poverty, food and nutrition insecurities tend to be more acute in Zimbabwe.

Although there other contributing political, social, and economic factors, poverty is now being exacerbated by hunger since the agriculture sector is not performing well. Rural communities in Zimbabwe rely on agriculture as their source of livelihood. Zimbabwe's agricultural productivity has declined drastically, and the country is unable to sustain itself (Booth, 2021). Famine Early Warning Systems (2021) declared that Masvingo, Matabeleland North and South, Midlands, and Manicaland Provinces had poor production due to poor rainfall and are expected to experience food challenges during the 2021 to 2022 lean season. According to the UN (2020), poor policies are to blame for poverty in Zimbabwe and the lack of clear economic policies meant to attract the relevant investment needed for development, is responsible for Zimbabwe's failure to reduce poverty and effectively control the spread of HIV. The UN (2021) adds that the elimination of poverty and hunger and the reduction of HIV and AIDS are some goals that Zimbabwe has failed to attain in the past 15 years. In addition, as a signatory to the Millennium Development Goals signed in 2000, Zimbabwe has failed to achieve goal 3, which sought to eradicate poverty among people. Taking the above background into account, this study investigated the relevance of the agricultural education curriculum in poverty alleviation in the Masvingo rural district in Zimbabwe.

1.4 STATEMENT OF THE PROBLEM

The history of Zimbabwe shows lack of policies that assist in alleviating hunger and poverty in the country (Helliker & Murisa, 2020). The new Curriculum Framework for Primary and Secondary in Zimbabwe was set with the objective of producing a well round learner capable of contributing meaningfully to the development of the country (MoPSE, 2022); however, many school leavers roam the street unemployed and hunger striven (World Food Programme, 2021). Many people in Zimbabwe are unable to create employment leaving the government with the task of creating jobs for them. According to Chingarande and Guduza (2020), the overall rate of unemployment is 95% with youth unemployment pegged at 70%. Many livelihoods in Zimbabwe depend on agriculture, especially smallholder agriculture, which produces 70% of staple food (UN, 2022).

Zimbabwe used to be the breadbasket of Africa, but now the country fails to feed itself adequately (Booth, 2021). The International Federation of Red Cross and Red Crescent (2021-2022) argue that in the January to March lean season, about 27% of rural Zimbabweans were food insecure. The Famine Early Warning System (2021) cites that 2021/2022 was a year with a below-expected harvest. Many rural communities, therefore, struggled to purchase food items (World Food Programme, 2021). All these problems happen in a country with well-crafted policies.

Many studies have been carried out to find better ways of enforcing policies to improve the standard of living, but poverty is still experienced in Zimbabwe. This study, therefore, intends to explore the relevance of agricultural education curricula in poverty alleviation in the Masvingo rural district in Zimbabwe.

1.5 THE RESEARCH QUESTIONS

Focusing on the outlined background of the study, the main research question of this research was: *How relevant is the agricultural education curriculum in poverty alleviation in the Masvingo rural district in Zimbabwe?*

To explore the main research question, the following sub-research questions were formulated:

1. How do teachers implement the Zimbabwean agricultural education curriculum to equip learners with relevant knowledge to practice farming?
2. Which strategies can agricultural teachers employ to equip learners with farming knowledge and skills?
3. What are the challenges of smallholder farmers in the Masvingo rural district when implementing the Zimbabwean National Agriculture Policy Framework to alleviate poverty?
4. What government intervention strategies can be employed to improve smallholder farming practices?

1.6 AIM OF THE STUDY

The study aimed to explore the relevance of agricultural education curricula in poverty alleviation in the Masvingo rural district in Zimbabwe.

The objectives of the study were.

1. To analyse teachers' implementation of the Zimbabwean agricultural education curriculum to equip learners with relevant knowledge to practice farming.
2. To propose strategies that agricultural teachers can employ to equip learners with farming knowledge and skills.
3. To assess the challenges that smallholder farmers in the Masvingo rural district encounter when implementing the Zimbabwean National Agriculture Policy Framework to alleviate poverty.
4. To suggest government intervention strategies can be employed to improve smallholder farming practices.

1.7 THE THEORETICAL FRAMEWORK OF THE STUDY

The study drew on three theories, social constructivism (Vygotsky, 1896; Lohman & Hurst, 2021), the Welfarist approach (Dorsey, 2020; Keller, 2022) and the Capabilities Approach (Kanbur, 2004; Weinzeil, 2019). The study is underpinned by the Welfarist theory that pays attention to the assessment of the well-being of individuals' nutrition and economic well-being.

Social constructivism theory was used to understand the curriculum delivery of agricultural subjects at school to enable learners to acquire knowledge and skills for

practicing farming. Social constructivism is defined by Lohman and Hurst (2021) as learning which occurs through social interaction and the help of others, usually in groups. In social constructivism, learners construct knowledge through the activities they do rather than passively taking in information (Lohman & Hurst 2021). McLeod (2019) defines constructivism as an approach to learning that believes that people actively construct or make their knowledge and that reality is determined by the experiences of the learner. Arends (1998) cited in McLeod (2019) argues that constructivism believes in the personal construction of meaning by the learner through experience and that meaning is influenced by the interaction of prior knowledge and new events.

In the classroom, following constructivism, the teacher should shift from the traditional method of disseminating information to the role of facilitating group learning experiences. Lohman and Hurst (2021) add that the process of knowledge involves three steps which are construction, storage, and retrieval. Construction involves building an understanding of a new concept by drawing on many pieces of knowledge. On the other hand, storage involves the mental process of putting new information into memory, and retrieval refers to finding and using information already stored in the memory. There are broad categories of constructivism, and these are based on the work of Jean Piaget (1896-1980) and social constructivism based on the work of Lev Vygotsky (1896-1934).

In the context of this study, the Welfarist theory is the underpinning theory, since it addresses the critical issues concerning poverty that Zimbabweans are facing in their day-to-day life. The assessment of well-being for poverty analysis is traditionally characterised according to two main approaches following Ravallion (1994), which are termed the Welfarist and Non-welfarist approaches (Keller, 2022). The Welfarist approach tends to concentrate, in practice, on comparisons of economic well-being, which will also call for standards of living or income (Talukdar 2012; Medema, 2021). This approach has strong links with traditional economic theory and is widely used by economists in the operations and research work of organisations such as the World Bank, the International Monetary Fund, and the Ministries of Finance and Planning (World Bank, 2019). The second approach has mainly been advocated by social scientists rather than economists and partly in reaction to the first approach. The Non-Welfarist theory has been recently and increasingly advocated by economists and

non-economists alike, as multidimensional and complement to the classical standards of living approach (Weinzeierl, 2019). A distinction between the Welfarist and Non-Welfarist approaches to poverty measurement often matters (implicitly or explicitly) for the assessment and design of the public policy. A Welfarist approach holds that individuals are the best judges of their well-being (Dorsey, 2020). It would, thus, in principle avoid making appraisals of well-being that conflict with the poor's views of their situation. A Non-Welfarist policy analyst would, however, argue that raising income opportunities for the poor is not the best policy option because individuals are not best left out with their resolutions, for example on their educational and environmental choices (Weinzeierl, 2019).

Despite constructivism and the Welfarist theories, the study employed the Capabilities approach that focused on the capacity to achieve the function. In the context of this study, the Capability approach explores how farmers are capacitated with relevant knowledge and skills to practise farming in a sustainable manner to alleviate poverty. The Capability approach, thus, distances itself from the achievements of specific outcomes or functioning. In this, it imparts considerable value to freedoms of choice. A person will not be judged poor even if he chooses not to achieve some functionings, as long as he is able to attain them if he so chooses. Pindiriri (2015) notes that the distinction between outcomes and the capability to achieve outcomes also recognises the importance of preference, diversity and individuality in determining functioning choices. It is, for instance, not everyone's wished to be well-clothed or to participate in society, even if the capability is there. An interesting example of the distinction between the fulfilment of basic needs, functioning achievement and capability is given by Townsend (1979) as the deprivation index. The deprivation index is built from answers to questions, such as whether someone has not had an afternoon or evening out for entertainment in at least two weeks or has not had a cooked breakfast most days of the week (Duclos, 2002). It may, however, be deliberate that one chooses not to go out for entertainment (he/she prefers to watch television) or that he chooses not to have cooked breakfast because he/she does not have time to prepare.

1.8 PRELIMINARY LITERATURE REVIEW

In this preliminary literature review, certain topics are introduced and then discussed fully in Chapter three.

1.8.1 The Zimbabwean Agricultural School Curricula

According to ZIMFACT (2018), critics of the education system such as educators, industrialists, policymakers, citizens, and employers argued that the old curriculum was too focused on theory and excluded areas of education that stimulated personal growth, patriotism, morality, creativity, and work ethic. The old education curriculum did not prepare learners for life and work. In 2016, the government of Zimbabwe adopted a new curriculum framework, the *Curriculum Framework for Primary and Secondary Education 2015-2022* (MoPSE, 2022), which formed part of the implementation of the recommendations of the Nziramasanga Commission of Inquiry into Education and Training.

ZIMFACT (2018:34) cites that the Nziramasanga Commission was based on five pillars that included teacher capacity and development, the legal and regulatory framework, the establishment of a centre for education research, innovation, and development. MoPSE (2022) adds that the new curriculum aims to promote competence and skills that enable every learner to have an opportunity to deliver their potential. According to ZIMFACT (2018), the new curriculum aims to ensure a smooth transition from school to work through the study of a whole range of subjects that include sciences, technology, engineering and mathematics (STEM).

With the new curriculum in place in Zimbabwe, the National Agriculture Recovery Policy Framework (2018-2030), supported by the Agriculture and Food Systems Transformation Strategy, acknowledges the need for skilled manpower with practical agriculture knowledge that matches the current demand in the agriculture sector. The new curriculum has determined that agriculture is a compulsory subject taught from junior school to secondary level (MoPSE, 2022), which means that learners exit school equipped with agricultural knowledge and skills. Some learners become smallholder farmers in the community upon completion of the Ordinary level and with great support from the government, perform well in their agricultural endeavours (Chikwati, 2021).

1.8.2 Teachers' Effectiveness in Implementing the Agricultural School Curricula

The European Union (EU, 2021) postulates that the new curriculum in Zimbabwe contributes to agricultural development by responding to the national policy landscape relevant to agriculture including Vision 2030 which seeks to grow the country into a

middle-income economy by 2030. With new curriculum's emphasis on industrialisation of agriculture, Chikwati (2021) opines that colleges will produce graduates who would not only be employees, but entrepreneurs with the skills to start their businesses.

In addition to schools, agricultural education is also being offered by eight public colleges found in all provinces in Zimbabwe. The colleges where aspects such as crop and livestock production, commercial farming, animal health, livestock classification, and disease control are taught in schools and colleges (National Agriculture Policy Framework, 2018-2030) are taught, produce about 2000 graduates per year (Chikwati, 2021).

1.8.3 The Challenges of Smallholder Farmers to Alleviate Poverty

Zimbabwe used to be the breadbasket for Southern Africa, but this has changed over the years, to the extent that the country is failing to feed itself (Booth, 2020). Many scholars blame the changes and poverty on government policies across every sector or relevant Ministry in the country. Zhou and Zvoushe (2012) posit that policy decisions generally bear the imprint of the prevailing macro-dynamics, stating that during the first decade of independence, the imperative of nation-building informed policy decisions across all sectors of the economy. During this period, policy-making was interventionist and social welfare-oriented (Zhou & Masunungure, 2006; MoPSE, 2021).

Moreover, Zhou and Zvoushe (2012) state that soon after independence in 1980, the government formulated a policy on Growth with Equity. The government wanted to balance the unfavourable conditions that existed during colonial times. The state transformed into a distributive and welfarist state in an attempt to reverse the unfair treatment that existed during colonial times. Whilst the welfarist policies were noble, sustaining them was a major problem, especially in a stagnating economy that prevailed in that first decade of independence (Zhou, 2001). The problem was that the government was just pumping out money and other resources without generating new resources or ideas to develop the economy, which triggered poverty in the country. This background shows that the government considered the welfare of the people first, wanting everyone to enjoy the fruits of independence.

In the second decade of independence, policymaking followed the Economic Structural Adjustment Programme (ESAP) adopted in Africa and the rest of the world in the 1990s following the International Monetary Fund (IMF) and World Bank prescriptions (Zhou & Zvoushe, 2012). The policy measures included reducing government expenditure by retrenching 25% of the civil service establishment, withdrawing subsidies, commercialising and privatising some state-owned companies, and introducing user fees in the health and education sector (Zhou 2001; Helliker & Murisa, 2020). ESAP in Zimbabwe de-emphasised expenditure on social services and emphasised investment in the material production sectors such as agriculture, mining and manufacturing. The ESAP policy document had specific measures for achieving these targets. However, the impact on the economy was low, as an annual growth rate of less than 1% was recorded. The budget deficit remained high (Zhou, 2001). ESAP, therefore, was a thorn in the flesh for the retrenched workers who could not find alternative employment, resulting in high unemployment and increased poverty among the people.

Gwarazimba (2011) notes that during the ESAP period, there was progress in the area of commercialisation, but progress on the privatisation front was low. By the end of the ESAP era, not a single parastatal had been fully privatised (Zhou, 2001). The lack of legislation to guide the implementation of privatisation of state companies compromised the effectiveness of policy implementation. This was the case with other countries such as Zambia and Malawi, as the lack of regulatory frameworks compromised the effectiveness of the economic adjustment.

The Millennium Development Goals Report (UN, 2011) affirms that ESAP compromised the access of the poor segment of society to education and health facilities, as most could not afford the user fees. The social dimension funds (SDF), which were to assist the poor, were overwhelmed by structural poverty in both urban and rural areas. The reforms between 1990 and 2000 impacted negatively on the social aspects of society. Zhou and Zvoushe (2012) state that the ESAP solution was like medicine but that solution, soon confirmed itself as the proverbial medicine that kills the patient. Less tangible benefits were realised, while the economic situation worsened, with rising inflation levels and worsening poverty levels. There was also a deterioration of social sector gains attained in the previous decade in the field of education and health.

ESAP had high political and social costs for both society and political leadership and after realising such limitations of the policy, the government launched the Zimbabwe Programme for Economic and Social Transformation (ZIMPREST). It aimed to restore macro-economic stability, alleviate poverty and facilitate public and private savings and investment. As part of poverty eradication strategies, ZIMPREST sought to create a platform for entrepreneurship, the development of human capital and the involvement of various stakeholders in the process. Zhou and Zvoushe (2012) posit that two years after the launch of ZIMPREST, the budget deficit was still 10% of GDI, inflation was above 50% and unemployment was around 60%. The export sector was performing poorly in terms of the US dollar, with exports collapsing from about 12% in 1996 to about 20% in 1999 (Zhou, 2001). ZIMPREST lacked international financial support for its implementation. It was also too ambitious, involving a host of goals to be achieved. These included poverty reduction, land reform, employment creation, institutional reforms, decentralisation, and others without clearly spelling out the budgetary implications of the policies (Zhou, 2011). The scholar adds that policy prescriptions under this decade lacked local ownership. They were viewed as access to the balance of payments which was in compliance with IMF and World Bank measures.

Zhou and Zvoushe (2012) observe that policymaking in the third decade of independence was done under turmoil and uncertainty. The period experienced a socio-politico-economic meltdown whose peak was in 2008 (Kanyenze et al., 2011). The period saw the government shifting to a fast-track land reform programme in the year 2000, a process that received mixed views within and outside the country. In a bid to reduce poverty at independence, the government had to redress land allocation and distribution, with the new view of reducing rural poverty and giving space for indigenous people in the national economy (Kanyenze et al., 2011). Land reforms undertaken in the first and second decades were falling short of the expected targets. This situation fuelled the rise of unwelcome scenarios of random land invasions across the country, which the government effectively managed to control (Zhou & Zvoushe 2012).

The draft constitution was rejected in a referendum in 2000 and the government embarked on a fast-track land reform programme. The government exploited the land crisis to gain political benefit. It indirectly approved the random land invasion as an

expressive state policy (Zhou & Zvoushe, 2012). Gwarazimba (2011) argues that this was a move by the government to gain lost favour with frustrated sections of the landless peasants. This was followed by new amendments to the New Acquisition Act to cater to the new socio-political developments. Zhou and Zvoushe (2012) postulate that to date, some of the processes and legal procedures relating to the land policy are unconstitutional and punitive, confusing and disorderly. They also suggest that policies in Zimbabwe are 'implement first, formulate and legislate later.' As such, poor planning of these policies contributes to their failures, further escalating poverty among the affected members of society.

1.8.4 Strategies to Alleviate Poverty

In 2005, the government embarked on the Murambasvina programme that was aimed at demolishing all unregistered residential settlements in urban areas. The programme left a number of people homeless, resulting in an increase in urban-to-rural migration. Kanyenze et al., (2011) state that the policy mood during this period was a manifestation of political temper. Whilst there was a necessity to clean up and bring back old orderly faces of cities and towns, there was less consideration for citizens' welfare. Murambatsvina left many urban people homeless and with reduced sources of income. The government should have looked deeply into the causes of the illegal structures which are poverty-entrenched as a result of unemployment. Then the government should have addressed unemployment instead of destroying what people had resorted to for accommodation. On the economic front, Zimbabwe experienced hyperinflation year after year, which according to the MDGs Status Report, (Ministry of Labour and Social Services, 2009), resulted in an acute shortage of basic commodities that included maize meal, medicinal drugs, foreign currency and fuel.

In trying to address the socio-economic challenges faced by the country, the government formulated the Indigenisation and Economic Empowerment Policy, whose bill was passed through parliament in September 2007. The main contents of the policy state that every existing business with an asset value of $US500, 000 or more, whether foreign or domestic, has to submit completed official forms describing the business and showing its plan for ensuring that within five years indigenous Zimbabweans will own at least 51% of shares (Indigenisation & Empowerment Act 2008 chapter 14.33). The idea behind the policy was to empower black populations

who were disadvantaged in the colonial era and to give them a chance to participate in the national economy by owning businesses. However, the policy was not well received by the international community as it tended to scare away investors. Zhou and Zvoushe (2012) say that the policy made the country an undesirable investment destination, as the exorbitant 51% shares to locals made the whole exercise a disempowerment to investors. Several investors pulled back their resources, while potential investors held back their investments, thereby escalating the levels of company closures in 2008, amid the hyperinflationary environment which fuelled unemployment levels and poverty among the people. Despite the weaknesses of the policy, its proponents continually pushed for its implementation.

In the third decade of independence, there was a socio-politico-economic meltdown, followed by a change in the policy-making landscape. A paradigm shift was observed as policy-making became more interventionist, to save political interests rather than prioritising the socio-economic welfare as the driving force (Zhou & Masunungure 2006). In the first decade of independence, policy-making was largely influenced by the nationalist agendas of nation-building and economic growth. Gwarazimba (2012) argues that policymaking in the third decade can be described as 'implement first, formulate and adopt later'. Policies in the decade were implemented based on political slogans such as the Look East Policy. Such policies lack adequate planning, so they have failed to solve socio-economic problems characterised by hunger and poverty in the country.

In an attempt to correct the socio-economic issues, Zimbabwe Agenda for Sustainable Socio-Economic Transformation (ZimASSET) was launched. As enclosed in the Policy Framework from October 2013 to December 2018, the policy was put together through consultative processes involving ZANU PF leaders, the government, the private sector, and other sectors. The plan focuses on the full exploitation of, and value addition to, the country's abundant resources to mitigate the impact of sanctions which are blamed for Zimbabwe's economic problems. ZimASSET was crafted to achieve sustainable development and social equity anchored on indigenisation, empowerment and employment creation which would be generated by the country's exploitation of the abundant human and natural resources. ZimASSET is result-based and built upon four strategic clusters that would enable Zimbabwe to achieve economic growth and reposition the country as one of the strongest economies in the region. The strategic

clusters identified are food security and nutrition, social services and poverty eradication, infrastructure and utilities, value addition and beneficiation. Under the plan, initiatives identified under each cluster would be implemented immediately to yield rapid results (Quick Wins) in the shortest possible time frame, that is, between October 2013 and December 2015 (Government of Zimbabwe, 2013).

The ZimASSET failed to address the challenges because the economic situation in Zimbabwe has steadily worsened rather than improved. December 2015 has long passed, and poverty has not been reduced. Many industries have ceased to operate (Mpofu, 2011), further complicating the goal of value addition and beneficiation. Moreover, the resources to be worked on are limited. On infrastructural development, the country has a mammoth of tasks to perform. Roads in the country are full of potholes, while in some cases the roads have changed from being tarred roads to gravel roads due to lack of maintenance, even in Harare, the capital city. Despite the guiding vision of the ZimASSET policy being, 'Towards an Empowered Society and a Growing Economy' in 2015, target results aligned to poverty reduction are yet to be realised.

As outlined above, it can be seen that Zimbabwe has extensive socio-economic problems. A study carried out by Manjewngwa, Feresu & Chimhowu, 2012) found that the magnitude of poverty and extreme poverty was high across the country, especially in rural areas. Rural poverty is mostly ignited by low performance in agriculture, which is the basis of life for the majority of rural people; hence the focus of the study is to explore the relevance of curriculum Agricultural Policy in poverty alleviation in the Masvingo rural district in Zimbabwe.

1.9 RESEARCH METHODOLOGY

In this section, a brief outline is given of the research methodology which guided this research.

1.9.1 Research Design

Robson (2012:80) defines a research design as the overall strategy you choose to integrate the different components of the study coherently and logically, thereby ensuring that you will effectively address the research problem. It constitutes the blueprint for the collection, measurement, and analysis of data. Gwimbi and Dirwai

(2013:56) add that the function of a research design is to ensure that the evidence obtained enables the researcher to effectively address the research problem, logically and as unambiguously as possible.

1.9.2 Research Paradigm

Nick (2013:104) defines a research paradigm as a research culture with a set of beliefs, values, and assumptions that a community of researchers has in common regarding the nature and conduct of research. Hence a paradigm implies a pattern, structure, framework, or system of scientific and academic ideas, values, and assumptions (Guba, 2012:89). Research paradigm is characterised by ontology, epistemology, theoretical perspective, methodology, and methods of the research as illustrated below. What each concept involves in a research paradigm is also explained under the topic.

Ontological (What is reality?) and epistemological aspects (What and how can we know reality?) concern what is commonly referred to as a person's worldview, which has a significant influence on the perceived relative importance of the aspect of reality (Nick, 2013:105).

Understanding the paradigm of the research is very important because this guides the thinking of the researcher and reflects the way the research project is guided to collect data and analyse it. Ontology and epistemology create a holistic view of how knowledge is viewed and how researchers see themselves concerning this knowledge and the methodological strategies used to underpin it (Nick, 2013:99). Awareness of philosophical assumptions will increase the quality of research and can contribute to the creativity of the researcher. Struebert and Carpenter (2011:25) state that understanding the philosophical ideas behind the research is very important to avoid the development of sloppy science and misunderstood findings.

Two worldviews are objectivistic and constructivist. These different ways of seeing the world have repercussions in most academic areas, yet none of these views is superior to the other (Wahyuni 2012:72). Both may be appropriate for some purposes but insufficient for other purposes. Guba (2012:91) classified research paradigms into three philosophically distinct categories which are positivism, interpretivism and critical postmodernism. This study adopted the interpretivist paradigm.

Constructivist or interpretivist researchers believe that there is no single reality or truth and therefore reality needs to be interpreted. Interpretivist researchers are more likely to use qualitative research. These researchers believe that reality consists of people's subjective experiences of the external world, thus may adopt an inter-subjective epistemology and the ontological belief that knowledge is socially constructed (Struebert & Carpenter 2011:28). Citing Willis (1995), Guba (2011:101) observes that interpretivists are anti-foundations, who believe that there is no single correct route or particular method to knowledge.

Walsham (1993), quoted in Nick (2013:107), argues that in the interpretivist tradition there are no correct or incorrect theories; instead, they should be judged according to how interesting they are to the researcher as well as those involved in the same area. They attempt to derive their constructs from the field by an in-depth examination of the phenomenon of interest, for example, through case studies. In this research, the case of Masvingo Rural District was studied in-depth.

Reeves and Heelbeg (2003:32), cited by Nick (2013:102), note that the interpretivist paradigm stresses the need to put analysis in context. The interpretivist paradigm is concerned with understanding the world as it is from the subjective experience of individuals. Interpretivism uses meaning-oriented methodologies (versus measurement) such as interviewing or participant observation. Interpretivism generates data from participants based on their experiences and perceptions to reflect the multiple realities which exist as socially perceptive. Interpretivism believes that to understand the social world of people based on their experiences and subjective meanings, it is important to interact and have dialogues with participants under study. This way, the researcher obtains qualitative data which provides rich descriptions of those social constructs (Thomas, 2011:511; Yin, 2011:82). Interpretivist research also relies on a subjective relationship between the researcher and subjects and aims to explain the subjective reasons and meanings that lie behind social action (Yin, 2011: 82).

1.9.3 Research Type

Kitchin and Tate (2013:96) declare that there are many types of research designs that qualitative researchers can use, including case studies, ethnography, biography and grounded theory. A case study was selected for this study since the purpose was to

explore the relevance of agricultural education curricula in poverty alleviation in the Masvingo rural district in Zimbabwe. A case study is an in-depth study of a particular research problem, rather than a sweeping statistical survey or comprehensive comparative inquiry (Dirwai & Gwimbi, 2013:57). It is used to narrow down a very broad field of research into one or a few easily researchable examples (Dirwai & Gwimbi, 2013:57). The case study research design is also useful for testing whether a specific theory or model applies to phenomena in the real world such as the Welfarist theory which is the basis for this study. A case study is a useful design when not much is known about an issue or phenomenon (Shamoo & Resnik, 2015:114). In line with this, then the situation in Masvingo rural area regarding poverty alleviation can be discovered.

Resnik (2015:67) argue that the case study approach excels at bringing an understanding of complex issues through a detailed contextual analysis of a limited number of events or conditions and their relationships. For this reason, the study uses a case study of Masvingo Rural District to have a thorough analysis of the poverty and agriculture relationship by examining the school curriculum and Zimbabwe's agricultural policy. A researcher using a case study design can apply a variety of methodologies and rely on a variety of sources to investigate a research problem (Kitchin & Tate 2013:58). Social scientists in particular make use of this research design to examine contemporary real-life situations and provide a basis for the application of concepts and theories and the extensions of methodologies (David & Resnik 2015:77; Shamoo & Resnik, 2015:115). The design can provide a detailed description of specific and rare cases.

A case study was also chosen for this particular study because the design helps to understand and interpret the meanings that participants of a study attach to their day-to-day experiences as far as poverty is concerned. All the experiences of the participants revolve around the common themes or central meaning as part of the product of the features which are important for this study. To get a detailed description and understanding of the research problem from the experiences of participants in a natural setting, a qualitative approach was selected, and the data-gathering strategies and analysis techniques were designed in line with this approach, to answer the research questions (Dirwai & Gwimbi 2013:59; David & Resnik 2015:77).

1.9.4 Research Methods

1.9.4.1 Population and Sampling

The general population for the study was the people of the Masvingo rural district. The targeted population was the smallholder farmers in the district, AGRITEX officers, District Development Fund (DDF officers, learners, and teachers sampled from schools in the district. All targeted populations were accessible.

The study used purposive sampling which allowed for convenience sampling. Cooper and Selindler (2005) state that convenience sampling is appropriate in studies of an exploratory nature. It allows the researcher to draw from information-rich participants who are chosen because of the amount of knowledge they have about a matter in question. Smallholder farmers, AGRITEX officers, DDF officers, learners, and teachers were conveniently sampled and were interviewed after appointments had been arranged.

1.9.4.2 Data Collection Techniques

Permission was granted to collect data through participant interviews, focus group discussions, document analysis and observations. Techniques for collecting data refer to methods used to collect and analyse different forms of data (Gwimbi & Dirwai 2013:67). Using the above-mentioned methods to collect data helped the researcher in triangulating research results and supported the interpretation of data (Nick, 2013; Yin, 2016). In order to generate data from participants, individual interviews with teachers and learners, smallholder farmers, AGRITEX officers and DDF Officials were held. Focus group discussions were also held with smallholder farmers and secondary school learners in the Masvingo Rural District. The researcher also used observation as another data generation strategy. The data collection continued until the researcher was satisfied that saturation had been reached. Shamoo and Resnik (2015) explain that saturation occurs when the new data repeats what had already been conveyed in the previously collected data of the same sample.

1.9.5 Data Analysis

In this study, qualitative thematic analysis was relevant in analysing data collected. It included looking at all the data to identify the main themes that summarised all views

that had been collected from the participants (Igras, Monaham & Syphirines 2015:102). The researcher used data analysis to clarify a phenomenon under study by looking at what participants reported on the relevance of agricultural education curricula in poverty alleviation in the Masvingo Rural District in Zimbabwe (Igras et al., 2015:103; David & Resnik, 2015:75; Shamoo & Resnik, 2015:108). Neuman (2013:102) cites that content analysis can assist researchers in creating a structure used for coding based on how the researcher interprets data by arranging it in an understandable order.

Content analysis based on the definitions, was used to bring together similar points within the scope of similar themes and to interpret these data by arranging them in a comprehensible order (Igras et al., 2015:105). In this study, data were gathered through semi-structured interviews, focus group discussions, observation and document analysis. Thereafter the views of teachers, learners, smallholder farmers, AGRITEX and DDF officers on the relevance of agricultural education curricula in poverty alleviation were processed, coded and categorised into themes.

1.10 MEASURE OF TRUSTWORTHINESS

Depicting meaningful conclusions about a phenomenon with the use of the research instruments is mostly influenced by the issues of validity and reliability (Bowling, 2012:57). The researcher sampled relevant participants who are rich with knowledge on the relevance of agricultural education curricula in poverty alleviation in the Masvingo Rural District in order to address possible threats regarding validity and reliability (Bowling, 2012:57). The researcher believes that if similar research with the same research methods and instruments is used to conduct the same study in a similar rural district in Zimbabwe, comparable results would be generated (Gwimbi & Dirwai, 2013).

Bowling (2012:57) posits that credibility, dependability, transferability and conformability are important issues that underpin trustworthiness. The researcher initially visited the schools, smallholder farmers, and AGRITEX and DDF officers, to establish a working agreement to safeguard trustworthiness. The individuals who could provide data that responded to the research questions were selected as participants.

1.11 ETHICAL CONSIDERATIONS

In this study, the researcher considered detailed ethical procedures when conducting the research. An application for ethical clearance was made to the University of South Africa's (UNISA) Ethics Committee and permission was granted to collect data through participant interviews and focus group discussions from teachers, learners, smallholder farmers, AGRITEX officers and DDF officers in the Masvingo rural district in Zimbabwe. The ethical clearance was a way of removing problems associated with principles forming the basis of the research process (Bowling 2012:53; Gwimbi & Dirwai 2018:43,). The researcher took into consideration the protection of all participants, in a manner that did not cause harm during the investigations. Being aware of the prerequisite of carrying out research, and the involvement of agriculture teachers, learners, smallholder farmers, AGRITEX, and DDF officers, the researcher was compelled to have integrity as well as the security of all participants protected. The researcher asked for consent from all participants. The participants were assured of anonymity and confidentiality during and after the research was concluded. The researcher also asked for consent from the learners' parents or guardians since the learners were part of the research participants.

1.12 DEFINITION OF KEY TERMS

Curriculum: refers to the total of all learning experiences and opportunities that are provided to learners in the context of formal and non-formal education (MoPSE, 2021).

Agricultural policy: The Zimbabwean Agricultural Policy Framework, 2018-2030) is a comprehensive plan, which highlights detailed policy statements and strategies for the development of the Zimbabwean Agricultural Sector (Ministry of Lands, Agriculture and Rural Resettlement, 2019).

Poverty alleviation: In this study, poverty alleviation refers to an improvement in the quality of life of those people currently living in poverty. Another term often used is poverty reduction (Matthew, 2020).

Masvingo rural district: This is one of the largest districts in Masvingo Province in Zimbabwe. Masvingo rural area covers the largest part of the Masvingo district. The

rural areas are in Masvingo South Constituency, Masvingo North, Masvingo West and Masvingo Central.

Smallholder farmers: Smallholder farmers are farmers who own less than 35 hectares of land and are in communal areas, resettled small-scale areas and small-scale commercial areas. Smallholder agriculture in Zimbabwe is stapled production, with cash crops prevalent in resettlement areas (Mutami, 2015). Livestock kept, is not primarily for producing animal products, but for providing services such as draught power, milk, and manure for cropping and as stores of wealth.

Zimbabwe: a landlocked country found in Southern Africa, situated between the Tropic of Cancer and the Tropic of Capricorn. The country has a large landscape and diverse wildlife.

1.13 CHAPTER DIVISION

The study was structured in chapters under general headings.

Chapter 1 presented an outline of the orientation and background of the study. The theories that were considered significant were presented and the statement of the problem was pronounced. Chapter 1 provided the main research questions; the study aims and objectives. The research design and methods that are used in the empirical part of the study were briefly outlined in chapter 1. Lastly, the terms significant to the study were defined followed by a summary to conclude the chapter.

Chapter 2 explains the vital theories that support agricultural education curricula in poverty alleviation. The chapter unpacks and discusses constructivism, welfarism and capability theory and their importance in assessing agricultural education curricula in poverty alleviation.

Chapter 3 contains a review of related literature concerning agricultural education curricula in poverty alleviation. Theme 1 deals with agricultural curricula policy, in Zimbabwe, Kenya, and Switzerland. Theme 2 deals with teachers' effectiveness in teaching agricultural curricula to alleviate poverty. Theme 3 discusses the use of agricultural policies to alleviate poverty whilst Theme 4 explains the teaching strategies that can be employed to equip learners with relevant knowledge to practice farming. Theme 5 unpacks the strategies that can be employed to equip smallholder

farmers with relevant knowledge to implement agricultural policies and practice farming to alleviate poverty. Lastly, the chapter closes with a summary.

Chapter 4 explains the research methodology used in the study. The chapter discussed the research paradigm, research design, and methods used in the study. This is followed by a discussion of the research methods, highlighting the sampling procedures, data collection strategies, and data analysis and reasons for a particular choice. The chapter concludes by explaining the ethical approach to ensure the study's trustworthiness.

Chapter 5 deals with the presentation, interpretation and analysis of data as guided by qualitative data analysis procedures. The chapter discusses the findings emerging from data collection strategies, semi-structured interviews, focus group discussions, document analysis and observations.

Chapter 6 is the concluding chapter of the study, containing the synopsis of each chapter, the summary of the main research findings, recommendations of the study to different stakeholders, and the limitations of the study. The chapter further offers suggestions for further research that could be undertaken relating to the relevance of agricultural education curricula in poverty alleviation.

1.14 CHAPTER SUMMARY

As the main intention of this study was to investigate the relevance of agricultural education curricula in the Masvingo Rural District in Zimbabwe, this chapter introduced the study and gave a brief background. This background and overview of the study justified the relevance of agricultural education curricula in poverty alleviation. Chapter 1 also gave an understanding of the problem to be investigated, and identified the study aims and objectives. It also outlined the significance of the study focusing briefly on the research methodology, paying particular attention to the research paradigm, the research design, the identified population, and its sample as well as data collection and analysis strategies. Ethical issues that guide the research were explained. Lastly, the chapter gave a brief description of the key terms related to this study, the organisation of the study, and a conclusion. The next chapter is the theoretical framework; it discusses different theories that support the investigation of the

relevance of agricultural education curricula in poverty alleviation in the Masvingo Rural District in Zimbabwe.

CHAPTER 2: THEORETICAL FRAMEWORK

2.1 INTRODUCTION

Chapter 1 presented the introduction and orientation of the study on the relevance of school curriculum agricultural policy on poverty alleviation among smallholder farmers in Masvingo rural district in Zimbabwe. The purpose of Chapter 2 is to provide an outline of various educational theories that underpins this study and the relevance of the agricultural education curriculum in poverty alleviation. Attention is given to the importance of Constructivism, Capability, and Welfarist theories. The theories together are discussed to address the research questions outlined in Chapter 1.

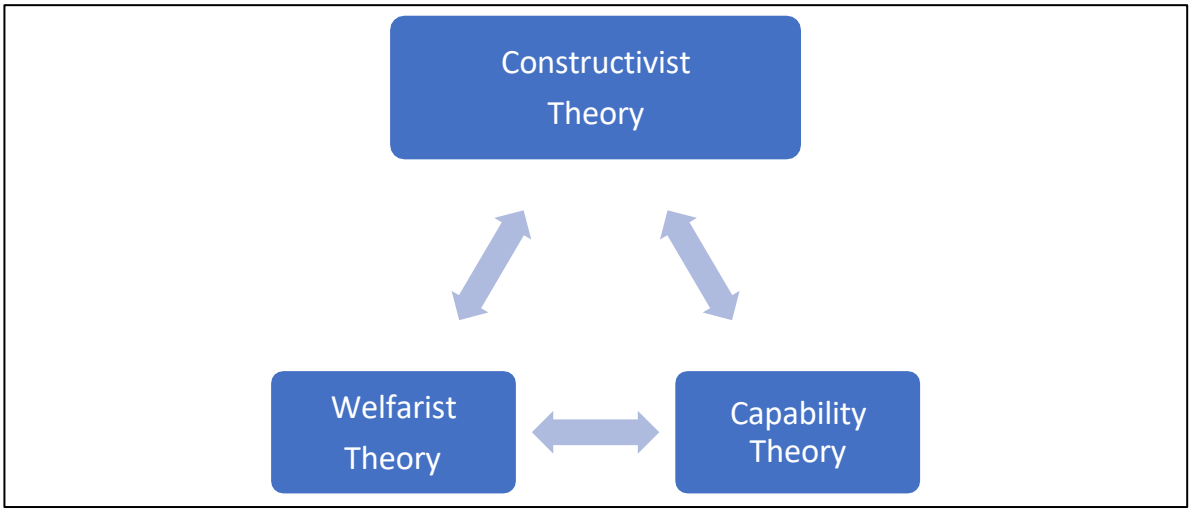
The discussion of each theory based on the literature is followed by the implication it has on the relevance of school curriculum agricultural policy on poverty alleviation among smallholder farmers. This discussion is important as it highlights the role of agriculture in poverty alleviation based on justified philosophical practices. This chapter begins with a brief discussion of the concept of a theoretical framework and is followed by the theory that underpinned this study.

2.2 DEFINING A THEORETICAL FRAMEWORK

A theoretical framework serves as a researcher's roadmap for research employing accepted theories with which the researcher constructs a research question and establishes the groundwork for the study (Adom, Hussein & Joe, 2018:438). A theory is defined by Adom et al. (2018) as a set of concepts, models, principles and definitions that make sense of a phenomenon by determining relationships among variables. Latham (2018) argues that theories, which are established and validated by experiments and evidence, do not only explain facts, but they allow scientists to make predictions of what they should observe if a theory is true. As a result, scientific theories are testable. Latham (2018) adds that new evidence should be well-matched with a theory. This thesis also defines a theory as a well-proven explanation of an aspect of the natural world that can include laws, facts, and hypotheses.

In this study, therefore, the use of concepts within the research topic was informed by established theories. As this study was positioned within the context of farming practice, it was important to understand the view of theories that have shaped the

concept of small-holding farmers. Figure 2.1 below represents the theories that the researcher used in describing the application of the relevance of school curriculum agricultural policy on poverty alleviation among smallholder farmers in the Masvingo rural district in Zimbabwe.



(Source: Mandivengerei, 2022)

Figure 2.1: An overview of theories that support poverty alleviation among smallholder farmers.

Grant and Osanloo (2014) quoted by Odom et al. (2018) defines a theoretical framework as a blueprint or guide for research. Odom et al. (2018) posits that a theoretical framework is based on an existing theory in a field of inquiry that is related to or reflects the hypothesis of the study. Wood (2020) also defines a theoretical framework as a general or broader set of ideas within which a study belongs. It is based on existing theory or theories in the literature which have been tested and validated by other scholars.

Maxwell (2018) adds that a theoretical framework is a model that pivots a study, with its exponents and the results of the study. Odom et al. (2018) elaborate that a theoretical framework should be well-designed and accepted. It also offers a focal point for approaching unknown research in a specific field of inquiry. Lastly, Odom et al. (2018) cites that a theoretical framework is used to test theories to predict and control the situations within the context of a research inquiry. In this research, a theoretical framework is defined as the guide for the research, which offers the foundation for establishing the credibility of the research. This study was framed within the context of the constructivism theories and non-welfarist theory, specifically the

capability approach. The sections that follow introduce and discuss each of these theories, starting with the Social Constructivist theory.

2.3 CONSTRUCTIVIST THEORY

Lohman and Hurst (2021) define constructivism as learning that takes place through social interaction and the assistance of others, typically in groups. According to social constructivism, rather than passively absorbing information, learners create their own knowledge through their own activities (Lohman & Hurst, 2021). Constructivism is considered an educational philosophy that holds that people actively create their own knowledge and that their experiences shape their perception of the world (McLeod, 2019). Arends (1998) referenced in McLeod (2019), suggests that constructivism is the theory in which meaning is created by learners their own through experience and is influenced by the interaction of prior knowledge and novel occurrences.

To use constructivism in the classroom, the teacher should cease using the conventional means of imparting knowledge and instead focus on supporting group learning activities. Construction, storage, and retrieval are the three processes that make up the process of knowing, according to Lohman and Hurst (2021). Comprehension of a new topic is constructed by combining many pieces of knowledge. On the other hand, retrieval refers to locating and utilising information that has already been stored in the memory, while storage refers to the mental act of adding new information to memory. Constructivism can be broadly classified as social constructivism, which is based on Lev Vygotsky's work (1896-1934), and the work of Jean Piaget (1896-1934). The theories of Piaget and Vygotsky are described below.

2.3.1 Piaget’s Individual Cognitive Constructivism

Jean Piaget, a Swiss psychologist, is known as the father of cognitive development (Yetman 2020), which refers to the gradual rearrangement of the mind caused by biological maturation and external experience. The theory of cognitive development provides a thorough explanation of the origins and growth of human intelligence. It was developed by (1936, 1950). The idea addresses the nature of knowledge and how people acquire, create and apply knowledge over time (McLeod, 2021). Alternatively, the notion is known as a developmental stage theory. According to Piaget's theory of

cognitive development, humans pass through the sensorimotor stage, preoperational stage, concrete operational stage, and formal operational stage as they develop.

Piaget's theory of constructivism, according to McLeod (2019), addresses how learning takes place. According to Piaget's view, teachers serve as facilitators whose job it is to lead the learners. The theory shifts the emphasis from the teacher to the pupil and their learning. According to Yetman (2020), the lesson plans and resources should adopt a different methodology from the conventional approach; for example, the teacher should start asking questions rather than telling. The teacher could pose questions that are not related to the curriculum so that learners can draw their own conclusions rather than just respond to questions that do. Additionally, teachers should constantly converse with learners to design learning experiences that can change as learner needs change, particularly as the learning process moves forward (MacLeod 2019).

Teachers who employ Piaget's constructivism philosophy must encourage their learners to think critically. According to Yetman (2020), a teacher should serve as a mentor, consultant and coach. Other teaching techniques include having learners collaborate or selecting one student to serve as the class's subject-matter expert and instructing the others. Learners can also explore contentious issues in groups or pairs and submit their findings to the class (Yetman, 2020). Piaget advocated constructivism theory that uses prior information to generate new knowledge which means that learners can readily acquire knowledge and skills through agricultural practices in the classroom. As they work in groups, learners may easily share farming information and skills, which can benefit small-scale farmers in rural areas. This is corroborated by Yetman (2020), who claimed that combining new information with previously acquired knowledge increases one's understanding. A learner is deemed effective when they successfully apply new information to what they already know (Lohman & Hurst, 2021).

The researcher employed Piaget’s concrete operations stage to examine learners’ cognitive level of understanding agricultural concepts and the application of logical thinking when practising farming on a small scale. Discovery learning is one of the theory's key implications. The concept of discovery learning holds that learners learn best by doing and actively investigating new things. Therefore, agriculture teachers

must let learners make their own discoveries when teaching in this study, which investigates the significance of school curriculum agricultural policy in reducing poverty among smallholder farmers in Zimbabwe's rural Masvingo district. For instance, when learning about pests in the garden, learners are required to go to the garden and name and identify the bugs. The learners would better understand the subject being studied thanks to this hands-on approach. Additionally, participating in group study allows learners to exchange ideas and independently discover new concepts, thus being engaged in active participation.

2.3.2 Vygotsky's Social Constructivism

The second school of constructivist theory used in this study views the learner as a social being, with the ability to socialise. The social constructivist theory is built on Piaget's notion of a learner's ability to develop understanding. Plowden (1967), referenced in Yetman (2020), noted the importance of evaluating children's work, the repetition of individual learning, the flexibility of the curriculum, the centrality of play in children's learning, the use of the environment and learning by discovery. But teachers should not think that only things that can be measured are worthwhile. The researcher posits that agriculture teachers should assign learners with individual projects to work on, such as written assessments, in accordance with what Plowden (1967) discovered. For example, learners could be given a topic to explain the steps in constructing a good seed bed before planting. As part of assessing the learners' knowledge, the teacher would then mark the learners' responses to analyse their understanding.

According to the social constructivism theory, in the classroom, learners should actively participate in creative activities and self-organisation. Teachers must allow their learners to produce their own questions, make their own theories, and test them (Cherry, 2021). Teachers should therefore encourage errors resulting from the learners' ideas, instead of minimising or avoiding them. Lynch (2020) adds that learners must be challenged by their teachers to perform open-ended investigations, working to solve problems with realistic and meaningful contexts. Such activities enable learners to explore and produce possibilities to support or conflict with what is being investigated.

This means that learning should be student-centred and completed through active exploration learning in the classroom (Lohman & Hurst, 2021). Teachers should

concentrate more on the learning process than the final output because they are a facilitator of learning. Teaching strategies that demand investigation or reconstruction must be active (Lohman & Hurst, 2021). For instance, it is crucial that professors provide group or pair projects to learners in agriculture classes in the study so that they can solve problems. What benefits do applying organic manure to plants provide, for example? In this instance, learners can conduct real-world environmental experiments by altering the way they plant their crops. They apply organic manure to one bed while leaving it empty in the other. The learners would research the plants' growth rates and draw their own conclusions. Teachers should use both group and individual activities, allow learners to learn from one another (Lohman & Hurst, 2021). To assign assignments that are appropriate, teachers must also assess the child's developmental stage. The type of learner (farmer) that the school produces must be of very high quality if the school's agricultural policy is to help the smallholder farmers in the Masvingo district escape poverty. The way lessons are taught in schools is very important. In addition to producing high-quality goods, schools will also generate knowledgeable farmers who can fight poverty in Zimbabwe's rural areas like Masvingo.

Linking Vygotsky's social constructivism theory with the exploration of school curriculum agricultural policy in poverty alleviation in Masvingo rural district, it is important that the agriculture teachers shift from being traditional teachers who dispense information to learners, to facilitators who guide the learning process. Agriculture lessons should be dominated by the learners themselves whilst the teacher guides them in their learning. The learners should be given problems to work on in groups. As they socialise in groups, they would come up with solutions to problems as well as produce new knowledge.

Cherry (2021) posits that learners must construct knowledge based on their past knowledge. In the exploration of the relevance of school curriculum agricultural policy in poverty alleviation in the Masvingo rural district, it is very important that agriculture teachers allow learners to be active participants in lessons. When designing agriculture lessons, teachers should ensure that the lessons allow the active participation of learners, for example, a topic like the advantages of mulching. In this case, learners must define mulching in groups with the teacher's guidance. Learners must go to the garden/field to mulch other plants in the garden or field and then leave

one part with no mulching. The learners would compare the two parts to study the benefits of mulching. Agriculture is a practical subject; therefore, learners should be allowed to engage in farming so that they apply their knowledge and on the other hand, gain new knowledge. By the time they complete school, they would be seasoned farmers who can work toward poverty reduction in the Masvingo rural district. Active participation of learners makes lessons interesting, and they become actively involved in their own learning.

This section of Chapter 2 discussed the importance of implementing constructivism theory in teaching learners to acquire knowledge and skills in the subject of agriculture to alleviate poverty through their participation in small-holding farmers. The teaching of agricultural subject activities emphasised the significance of Piaget's Cognitive Development and role-played Vygotsky's Social Interaction.

This study argues that constructivism has a significant role to play in the development of knowledge and skills in agricultural subjects and teachers should be aware of the influence this theory has on the development of agricultural concepts to combat poverty through learner participation in small-holding farm activities.

2.4 WELFARIST THEORY

Welfarism is the theory that has dominated the spectrum of poverty assessment for the past centuries, having its roots in the western industrialised world. The multiple micro-economic principles known as the "welfare approach" assume that economic agents are rational and act in ways to their benefit (welfare). The Welfarist school has turned to real income and consumption expenditures as economic welfare indicators because it is impossible to see economic welfare directly. The World Bank, IMF, and the major development partners support this strategy (Boccanfuso, 2004). This approach is founded on the rigorous economic principle that there should be enough money to meet everyone's requirements. In the context of this study, smallholder farmers are poor people with socially undesirable levels of income and require actions to reduce their poverty through government support to increase their farming productivity.

In the context of this study, the Walfarist theory plays an important role in assessing the poverty level of the smallholder farmers in Masvingo villages in Zimbabwe, as it

focuses on income and consumption expenditure. Using the Walfarist theory, the research intends to deduce whether the household depending on the smallholder farmer can produce enough to cover the needs of the families.

For the aim of analysing poverty, there are two primary methods of assessing welfare. These are founded on welfare indicators; thus, the term "welfare approach," alludes to the utility idea in micro-economics. The second strategy is the non-welfare approach, which is viewed as having a more socially conscious nature than the Welfare approach (Boccanfuso, 2004). In the context of this study, the non-welfarist perspective was developed in response to the problems of poverty alleviation in the Masvingo district in Zimbabwe to address smallholder farmers' challenges in practising farming. This is in line with the Welfarist worldview that is supported by Kanbur (2002), who posits social inequality as a problem that contributes to poverty. The concept of non-welfarism aims to alleviate the drawback of defining welfare solely in terms of constrictive monetary measurements. In addition, the non-welfarist approach merits study because it considers factors other than the relationship between income and expenses. Therefore, it is crucial to consider the community's capacities as well as the functioning or fundamental necessities when determining the level of poverty in small-holding farmers.

2.5 THE CAPABILITY THEORY

Through the writings of an economist and philosopher, Amartya Sen (1980), and a classicist and philosopher, Martha Nussbaum (1988), the capability theory, which underpins this study, emphasises the importance of well-being rather than just material gain. The method can be applied to comprehend social justice, poverty, inequality, and human growth in general. This is accomplished by the capacity approach by emphasising what people can be or do instead of their existing beings and actions (Arneson, 2020). The capability theory examines the prerequisites for well-being, such as access to quality healthcare, high-quality education, and political and community participation, as well as the degree to which these conditions are met.

Hart and Brando (2018) explored the capacity theory, which includes the normative statements that well-being should be defined in terms of people's capacities and functionings and that the freedom to pursue well-being is of the utmost moral importance. The capacity approach contends that to advance social justice, nations

must increase their focus on individuals' opportunities regarding their quality of life and freedom of choice. The capability theory, which is a multifaceted theory of justice, could also be interpreted as freedom or the real opportunities that are open to a person, such as wealth and education (Harnacke, 2018).

Harnacke (2018), cited Sen (1994), who posits that different people have capacities and potential to attain their freedom from poverty. This implies that smallholder farmers also have different potentials, that is, knowledge, skills, and understanding of government policies can practice farming effectively and efficiently in Masvingo villages in Zimbabwe. Hart and Brando (2018) alluded to capability theory as the opportunity given to a person to perform a certain task or activity with obstacles. If smallholder farmers at Masvingo lack knowledge and skills or the interpretation of government policy regarding funding for them to practice farming, it is now an obstacle and not an opportunity.

This study argues that the capability of farmers depends on how they have been capacitated with knowledge, skills, and resources to practise farming. This view is supported by Hart and Brando (2018), who indicated that the capacity approach shifts the emphasis from means (the people's resources and the public goods they can access) to ends (what they are able to do and be with those resources and goods). This change in emphasis is required since resources and products do not guarantee that people would be able to transform them into actual doings and beings on their own (Hart & Brando, 2018). The capacity approach, according to Hoffmann and Metz (2017), is typically a flexible and multipurpose framework rather than a precise theory of well-being. In addition to lacking cash, the lack of access to health care, education, credit, justice, and other opportunities and useful services contributes to poverty and deprives smallholder farmers of the opportunity to successfully practise farming.

The United Nations' 2030 Agenda - Sustainable Development Goals, which was introduced in 2015, calls for governments to eradicate poverty in all its manifestations (UN, 2015). Harnacke (2018) asserts that Sen (1992) believed it was less advantageous to determine someone's well-being only based on their money. He argues that people should put their attention on the traits that highlight their potential. Sen (1992) believed that emphasising the intrinsic value of life rather than its market value was the most important thing to do. Sen (1992) is credited with developing the

most understandable framework for analysing individual well-being by focusing on what people can do or be (Arneson, 2020).

Capabilities are the real freedoms that people must achieve in their potential doings and beings (Harnacke, 2018). Supporting, Harnacke (2018), this study argues that learners from schools must have achieved the relevant knowledge and skills in practising farming, and should, therefore, have the capacity to assist their parents who are smallholder farmers to effectively practise farming successfully. This view aligns with Arneson (2020) who opines that the capability theory implies that the person has goods/resources and services that are available to achieve or perform a certain function/task. In the context of this study, the availability of funds, interpretation of farming policies, and knowledge obtained from the school by learners are seen as essential resources to enable smallholders to perform their tasks. The availability of agricultural knowledge among competent teachers, learners, and smallholder farmers, availability of AGRITEX officers to train and support smallholder farmers, presence of District Development Fund (DDF) to support smallholder farmers, capital and government of Zimbabwe input support smallholder farmers are among many other needs.

At this stage, it is questionable, if learners' knowledge and skills acquired from school in practising farming are relevant or sufficient to promote farming that can alleviate poverty. Arneson (2020) argues that conversion factors are those aspects, which may affect the ability and extent to which an individual can covert resources into functionings and capabilities. Thus, the conversion factor refers to the extent to which an individual can turn a resource into a functioning one.

Therefore, the degree to which smallholder farmers in the Masvingo rural district can convert their available resources into functionings to relieve poverty is their conversion factor. Teachers, learners, and farmers can all be converted through proper land usage, information learned or acquired, and proper input use, to name a few resources. It is crucial to keep in mind that conversion variables can either limit or expedite people's possibilities and freedom to pursue their values and aspirations. According to Sen's capacity theory (1994), it is necessary to understand a person's background and current situation in addition to their possessions and abilities to evaluate the level of well-being that a person has attained or could accomplish.

Conversion factors affect how persons can convert the various resources that are available into functionings. The conversion variables can be divided into three categories: personal, social and environmental conversion factors.

It is a common belief among learners in schools that agriculture is a subject for boys and that is why more boys end up pursuing agriculture courses in large numbers than girls (Chikwati, 2021). Even though agriculture is now a required subject in Zimbabwean schools' competency-based curricula, girls' attitudes toward the subject have not changed much, which leads to dropouts, subpar performance or failure to register for agriculture when it comes to the Zimbabwe School Examinations Council's (ZIMSEC) final Ordinary level registration (Chikwati, 2021). This prompted the researcher to look at the capability of female smallholder farmers' ability to practise farming. It can be deduced from Chikwati's report that female smallholder farmers might lack agricultural knowledge and skills on how to practice farming effectively and efficiently since they drop out of school before they can be capacitated with adequate agricultural knowledge.

According to Woods (2020), the environmental conversion elements in the capability theory are crucial because they have the power to limit or enhance people's freedom to pursue their goals and increase their possibilities for well-being. This indicates that when using the capacity method as a lens to examine a specific issue, such as poverty assessment, the environment is a crucial factor that should be considered. The environmental elements can be one's geographic position, climate, the existence or absence of seas or oceans, pollution and susceptibility to drought or flooding, among others. Roads, transportation and communication infrastructure, bridges and building stability are a few examples of built-in environmental features. It is the researcher's view that the capability theory is crucial to this study. Smallholder farmers in the Masvingo rural area face several significant internal and external issues that must be carefully addressed to reduce poverty. Some of these issues include the agriculture school curriculum's teaching strategies, the resources, and equipment available in schools for teaching agriculture, the credentials of the teachers, and the teachers' attitudes toward the subject. The agencies include learner attitudes and competency of agricultural knowledge. The researcher posits that these few instances have an impact on the farmers that the school produces and how that person (farmer) will

operate in farming, and that the degree of poverty alleviation would depend on how well smallholder farmers and agricultural education were coordinated.

2.6 CHAPTER SUMMARY

The chapter dealt with the theoretical framework of the study. The constructivism, Walfarist, and capability theories were used as the theoretical frameworks of the study. Each of these theories was then used to develop a theoretical framework that underpins the study and provides a lens through which the findings of the research can be viewed.

In Chapter 3, a study of the literature provides a better understanding of the relevance of agricultural education by examining the school curriculum and agricultural policies in greater detail and their effects on poverty alleviation.

CHAPTER 3: LITERATURE REVIEW

3.1 INTRODUCTION

A literature review enables the researcher to critically evaluate current knowledge that is relevant to their research issue (Gasa, Mafora & Maphalala, 2017). To present significant topics pertinent to the work under investigation, the researcher conducted a review of the literature. Therefore, the focus of this chapter is on reviewing the literature on the relevance of agricultural education by examining the school curriculum and agricultural policies in greater detail and their effects on poverty alleviation. The literature review brings to light issues of the implementation of Agricultural School curricula policy. Attention is also given to equipping learners with relevant knowledge to practise farming. The challenges and benefits that smallholder farmers encounter were also reviewed as well as the strategies that teachers use to equip learners with farming knowledge and skills. And lastly, intervention strategies for government or stakeholders to improve smallholder farming practices are presented.

3.2 CONCEPTUALISATION OF THE AGRICULTURE CURRICULUM POLICY AND ITS PURPOSE

The Ministry of Primary and Secondary Education (MoPSE, 2022) defines a school curriculum as the sum of all learning experiences and opportunities that are provided to learners in the context of formal and non-formal education. A curriculum is also defined as the combination of instructional practices, learning experiences and student performance assessments that are designed to bring out and evaluate the target learning outcomes of a particular course (Chikwati, 2021). In Zimbabwe, agriculture is a compulsory subject to be taught from primary (junior level) up to Form 4. This implied that every learner would have to register for the subject of agriculture when choosing subjects (MoPSE, 2022)

The agricultural curriculum in Kenya states that agriculture is one of the compulsory subjects from the upper primary level, and lower secondary level, and then in the senior school, learners would have the opportunity to explore their potential, interest, and personalities and therefore ready to specialise around their choice (Kenyayote, 2022). The options available to the learners are Sports Science, Social Sciences, or

Science, Technology, Engineering, and Mathematics (STEM pathway). Agriculture will be a STEM career option if the student chooses to pursue it. Senior schools are specialised institutions that give learners the chance to concentrate on a subject of their choosing, lay the groundwork for higher education and training and develop employable skills (Kenyayote, 2022). This suggests that at the senior school level, agriculture learners are being prepared to become farmers.

While in Zimbabwe and Kenya agriculture in schools is a compulsory subject, in Switzerland it is not the case. Agriculture is not a required subject in Switzerland. Lower and upper sections make up the two divisions of secondary education. After completing lower secondary, which is required, learners can choose whether to continue their education in an upper secondary school (Bhaumik, 2022). Learners must select a route because upper secondary education in Switzerland is split into general education and vocational institutions. Learners interested in agriculture enrol in vocational programmes which last between two and four years and offer hands-on experience. In the dual-track programmes, classroom instruction at a Vocational Education Training (VET) school is combined with an apprenticeship in a training firm (Bhaumik, 2022). The way that practical subjects such as agriculture are taught in Switzerland, demonstrates that the country's workforce, such as educated farmers, are the reason its agriculture for example, is of such high calibre.

3.3 CONCEPTUALISATION OF POVERTY AND ITS CAUSES

This section presents the conceptualisation of the term poverty and its causes. The review focuses on various scholars' perspectives which are then analysed to make an informed decision concerning the term poverty and its causes.

All strategies used by the government, non-governmental organisations (NGOs) or affluent people to lessen or end poverty are referred to as poverty alleviation (Oviasuyi, 2019). Nyati, Ziga and Dude (2019) posit that poverty alleviation is a series of actions conducted in an economic and humanitarian manner to end poverty in a nation.

In the context of Zimbabwe, in both urban and rural parts of Zimbabwe, poverty levels are extremely high. According to Swinkels (2019), Zimbabwe has been experiencing hardship since the early 2000s, with just a brief rebound period between 2009 and 2012. Food shortages and rising inflation have reached crisis levels in recent months.

In addition, people's lives have been drastically impacted by COVID-19. Because of the impact of lockdown on industry production, poverty was exacerbated. Swinkels (2019) adds that despite numerous actions done in recent years to facilitate macro-economic stabilisation, the nation has not met Millennium Development Goal (MDG) 5, which calls for the eradication of poverty by 2030. Zimbabwe has experienced several challenges, including storms and droughts, COVID-19, and shortages of foreign currency (WFP, 2022). Zimbabwe's vulnerability and food insecurity are increasing because of rising food prices, total consumption, poverty lines and stagnant income growth (World Bank, 2022; ZIMSTAT, 2022). According to Swinkels (2019), poverty in Zimbabwe has not decreased over the past 18 years. Nyati et al. (2022) add that recent surveys demonstrate that the prevalence of poverty has increased. The prevalence of chronic malnutrition is still high and unchanged (Swinkels, 2019). World Bank analysis published in 2022, spatial patterns of settlement, internal migration, and welfare disparity in Zimbabwe show that deep rural spatial poverty traps are the cause of entrenched poverty. Swinkels (2019), indicated that the extreme poverty rate in rural areas was 13 times greater than in metropolitan areas in 2017.

ZIMSTAT (2022) indicated that COVID-19 has had a severe impact on Zimbabwe's poverty level. Zimbabwe's lockdown limitations lessened in the early months of 2022 as the COVID-19 threat subsided and the country's situation began to normalise, but this did not address the country's poverty problems. The impact of COVID-19 lockdown on people's access to basic necessities decreased from 21% in 2020 to 14% in 2021, according to the Rural Livelihood Assessment Report (2021). While the market restrictions also decreased from 13% in 2020 to 10% in 2021. According to ZIMSTAT (2022), even though extreme poverty has decreased from a high of 49% in 2020 to 43% in 2021, income poverty is still high, and many people live in abject poverty. ZIMSTAT (2022) stated that underemployment and unemployment are pervasive in Zimbabwe. While COVID-19’s impact on the economy was a global issue, in Zimbabwe, lockdowns caused severe damage to family’s dependent on smallholder farmers. The repercussions of COVID-19 were exacerbated by hyperinflation, which also severely impacts household budgets (ZIMSTAT 2022). The food poverty line and total consumption poverty line are claimed to have climbed quickly without a corresponding increase in incomes, leading to rising vulnerability and food insecurity. By June 2022, inflation had jumped by 30.7%. (World Bank 2022; ZIMSTAT, 2022).

Farmers are having trouble getting fertiliser, mostly because of sudden price hikes that have had an adverse effect on the production of winter crops and the agricultural season of 2022–2023. By June 2022, the average price of a bag of ammonium nitrate fertiliser rose by 71% from USD55 to USD94 during the previous cropping season (ZIMSTAT, 2022). Theileriosis, a widespread livestock disease that occurred from 2018 to 2022, had a severely detrimental impact on people's lives, especially those of rural residents whose livelihoods depend on agriculture (ZIMVAC, 2022). Many farmers were left without draught power, which restricted farming and agricultural output. As a result, less land was cultivated, which reduced productivity and increased food insecurity.

In addition, ZIMSTAT (2022), elaborates on the effects of climate change, including cyclones, more frequent droughts, and rain variability, which have made it more difficult for smallholder farmers to recover from shocks resulting in a downward move in society. These effects have a negative impact on people's livelihoods, food security and resilience. One of the biggest shocks to people's lives, affecting all demographic categories and those in both urban and rural settings, is hyperinflation which has raised the cost of living and reduced household purchasing power. According to ZIMVAC (2021), 57% of households faced cash scarcity in 2021. In comparison to US dollars or South African rands, the local currency, often known as RTGS or Zimbabwean dollars, is depreciating quickly. Prices in 2022 for necessities are soaring, and foreign exchange rates are excessively high (ZIMVAC, 2022). Zimbabwean retailers prefer to deal in US dollars or South African rands and will charge more for items if these are paid in RTGS (ZIMVAC, 2021).

Nyamboga, Nyamweya, Sisai and Gongera (2020) cite that in Kenya most citizens lack appropriate food and nutrition and have insufficient access to essential services including education, healthcare facilities, safe water and decent water. This has resulted in an increase in absolute poverty. Due to poor mapping, poor coordination of initiatives that were being duplicated, and a lack of defined policies, efforts to reduce poverty have been ineffective.

Schneider (2022) contends that despite having practically the highest GDP per capita, poverty has also been a neglected issue. Schneider (2022) notes that despite Switzerland's excellent educational system and relatively large social assistance

system, those who do not quite fit the ‘well-off’ stereotype, experience hardship. The issue is made worse by the high expense of living in the country. According to Schneider (2022), Switzerland has made significant strides in eradicating poverty, and both the public and commercial sectors have contributed significantly to this effort. According to Splindler (2019), although the poverty rate in Switzerland which is considered one of the richest countries, is substantially lower than that of neighbouring European countries, 6,6% or 1 in 13 Swiss citizens were still living in poverty in 2019. However, by 2022, only 1% of the population it is hoped, would be considered permanently impoverished (Schneider, 2022).

The cost of living, food prices, and the cost of housing make daily financial needs very high in Switzerland (Splindler, 2019). Mandatory private health insurance adds further expenses. Zurich and Geneva are ranked as the two most expensive cities in the world in terms of cost of living with certain reports placing the cities above New York City (Splindler, 2019). However, higher incomes in the cities typically override this cost, with the high purchasing power reported (Splindler, 2019).

3.4 POVERTY ALLEVIATION STRATEGIES

According to Swinkels (2019), the Zimbabwean government has tried several different strategies to reduce poverty among the populace. However, so far, insufficient community farmers have benefited from the land reform programme that was implemented in the 2000s in terms of escaping poverty traps. According to Swinkels (2019), between 2002 and 2012, 400 000 people in urban and rural centres relocated to commercial farm areas. Although these steps have been taken, the fast-track land reform has not addressed the widespread spatial poverty traps in Zimbabwe's rural areas (Nyati et al., 2022).

The lack of industries and other economic prospects in rural areas disadvantages rural residents and makes it easier for them to become trapped in a cycle of poverty. Dube (2021) contends that as a result, for Zimbabwe to increase connectivity and allow integration with remote villages, the government must develop policies and encourage investment. To facilitate better mobility of farming products, services, and ideas, this may entail upgrading the ICT infrastructure and secondary roadways. Swinkel (2019) adds that creating incentives to encourage individuals to leave over-populated places could help alleviate poverty in Zimbabwe. To improve connectivity for rural residents,

the government must allocate more funds for road upkeep. Additionally, beneficial to the citizens would be greater housing options and an enhanced business climate in adjacent towns (Dube, 2021).

Swinkels (2021) argues that it is possible to reduce poverty in Zimbabwe by expanding access to cheap social services like health and education across the entire nation. Due to a shortage of funding, the government of Zimbabwe has started using user fees (Swinkels, 2019; Dube, 2021). As a result, funding for the provision of essential services in underdeveloped areas has decreased.

According to Swinkels (2019), land area and the intensity of poverty are included in the formula used to distribute resources to the provinces and local governments. This is necessary to finance and equalise essential services. Additionally, Dube (2021) explores how agricultural extension services and research may be improved to better meet the requirements of communal farmers. Improved data systems for monitoring the development of local communities' levels of well-being would be a good supplementary activity (Swinkels, 2019). A higher quality of life will continue to elude most Zimbabweans if these geographical-restricting constraints are not addressed more consistently and systematically. Other strategies for overcoming poverty suggested by ZIMSTAT (2022) include setting spending on priorities and giving up luxury.

The people of Zimbabwe who are suffering from poverty use migration and remittances as some means of reducing their poverty. According to ZIMSTAT (2022), some Zimbabweans use urban agriculture, subletting urban dwellings, borrowing, and reverse migration from urban to rural areas as methods of reducing poverty. Some households in Zimbabwe use negative coping strategies that degrade society, cause long-term harm, impair resilience, and make it harder for people to escape poverty. These people would engage in transactional sex and artisanal mining, respectively.

Zimbabwe also has several social protection and food security programmes in place in addition to the aforementioned methods of reducing poverty. Government agencies, international aid organisations, and non-governmental organisations supply these. Programmes for social protection and food security include agricultural inputs, monetary transfers, and food aid (Dube, 2021; ZIMSTAT, 2022). The social protection system, however, has fallen short of effectively defending welfare. Even the most

desperate folk do not receive enough food and money transfers or coverage with only 12% of families nationwide receiving grain-based food aid in November of 2021 (ZIMSTAT, 2022).

The government of Zimbabwe uses the provision of farmers with agricultural inputs as another method of reducing poverty. The Pfumvudza/Intwasa conservation farming initiative provides smallholder farmers with the necessary inputs for planting an acre. The local AGRITEX officers also provide farmers with zero tillage farming advice (Dube, 2021). Certain elderly persons receive social protection support in the form of food items, although these are not consistently provided (Dube, 2021). Additionally, BEAM (Basic Education Assistance Module), which provides participants with free school lunches and school fee exemptions, supports children from low-income families. However, ZIMSTAT (2022) found that not every underprivileged child in Zimbabwe is given the opportunity to receive assistance from the Beam programme.

According to Cloonan (2020), Kenya has tried to combat poverty by enhancing its educational system and emphasising its youth. For Kenya to prosper, opportunities are being created for the youth. Gondi (2020) adds that by utilising better resources and more recent classroom technologies, Kenyan youth are entering the workforce with more readiness to contribute to economic growth. By allowing young people to advance their education, Kenya is reducing its poverty rate (Gondi, 2020). According to Cloonan (2020), as the number of educated people rises, poverty declines and the economy grows.

Since Kenya's rural areas have the highest levels of poverty, the country has increased its economic prospects (Hughes, 2021). This was made possible, according to Pape and Carolina (2020), because rural households are increasingly relying on non-agricultural income, particularly from commerce, to supplement their income from agriculture. This has been made possible by the growth of mobile money and the telecommunications revolution which outlines one of the ways in which Kenya's economic progress in rural areas was sparked. According to Pape and Carolina (2020), increasing agricultural output through increased access to inputs and high-quality extension services helps farmers apply best practices and further reduce rural poverty.

In Kenya, strengthening communities is now one of the primary strategies for reducing poverty. One of the booming industries in the nation is construction and infrastructure development, which boosts the economy and enables the emergence of safer residential areas everywhere (Cloonan, 2020). According to Pape and Carolina (2020), the building sector has aided Kenya in producing jobs and a safer living environment. However, Kenya has been successful in reaching agreements with other nations, like the United States of America which assists in addressing poverty.

According to Rom (2022), one of the tactics used by Switzerland to combat poverty is the choice to develop a social insurance programme. Every company and resident of Switzerland contributes to this programme. The programme discusses topics like disease, incapacity, and other misfortunes that could cause people to lose their jobs. Switzerland gives education a very high priority and ensures that every child has access to a good education. In turn, this directs them toward a profession where they can find employment and sustain themselves (Splindler, 2019; Bhaumik, 2022; Schneider, 2022). Furthermore, in an effort to address the problem of poverty, Switzerland used a Trial-and-Error Approach to Solutions, including Universal Basic Income. There was a referendum that would have guaranteed a weekly wage for every Swiss household (Schneider, 2022). Despite the referendum's failure, it was a novel approach to fighting poverty. Switzerland is the first nation to take such a concept into consideration (Splindler, 2019; Schneider 2022) Some individuals view the failure as a significant step because it gives people a chance to debate what basic income really means.

3.5 IMPORTANCE OF SCHOOL AGRICULTURAL CURRICULUM CONTENT COVERAGE

This study argues that any school’s agricultural curriculum coverage depends on how well the teacher can prepare and design lesson plans that give learners the knowledge and skills they need for actual farming. For instance, the updated curriculum in Zimbabwe stipulates that teachers teach general agriculture like natural disasters and risk management in Form 4. Teachers have to cover topics on soil and water. Under these broad topics, they cover topics like the Nitrogen cycle, irrigation equipment and water pollution. Form 4 is also expected to cover crop and animal husbandry. Under these topics they cover, the nitrogen cycle again as well as reproductive system of

ruminants, slaughtering, management of cattle or sheep or goats and breeding. Ordinary level learners are also expected to study farm structures and machinery. Under these aspects, they cover anchors, fencing, designing and livestock buildings. In Form 4, teachers should also teach, Agriculture-Business and should specifically look at diminishing returns, risks and uncertainties (MoPSE, 2022). Covering the curriculum content produces learners who can fit well in the farming business.

3.5.1 The Importance of Lesson Plans

It is very important that teachers design lesson plans before delivering agriculture lessons. Lessons plans are the roadmap in the teaching-learning process. They guide the facilitator on the best way to deliver lessons so that learners construct ideas as discussed by Piaget and Vygostky. A lesson plan enables the teacher to formulate her/his objectives, the methodology to use as well as the learners' activities (MoPSE 2022). The lesson plan allows the teacher to have a summative evaluation of his/her lesson.

3.5.2 The Contents of a Lesson Plan

According to MoPSE (2022), a good lesson plan should have the name of the teacher, school, subject, and the class to be taught. These aspects are important for identity especially when there is external supervision of the teacher. Student teachers in teaching practice should always have lesson plans which are clearly labelled so that supervisors easily identify them. It should also have the topic and subtopic to be covered as well as the week, lesson number, date and time. Such labels help the teacher to know the syllabus coverage done or not done. On this note, the teacher knows what to plan or not. The objectives of the lesson should be clearly stated, as well as the time allocated to the introduction and lesson development. Without targeted objectives, no effective teaching-learning would take place. Teaching and learning entails goals that should be reached. Learners' activities should also be included in the lesson plan. Learners should be active participants in the learning process (McLeod, 2019) Lastly, the lesson plan should have the evaluation part where the teacher evaluates herself or himself as well as an evaluation of the lesson. Lesson evaluation assists the teacher in seeing whether the lessons succeed or not. Proper evaluation of the lesson guides the teacher on whether to redo the lesson or not.

3.5.3 The Importance of School Agricultural Curriculum Content Coverage to Learners

In the context of this study, it is v essential that there is curriculum content coverage in its totality. Full coverage of the agricultural curriculum enables learners to complete school having mastered many agricultural concepts and ensure that the majority, if not all, learners to grasp concepts in agriculture despite their different capabilities. Those learners who would engage in smallholder agriculture would not face greater challenges in their endeavours. Curriculum content coverage ensure that learners are introduced to all topics and that they have acquired and developed the relevant knowledge and skills. Since agriculture is a hands-on subject, the more learners do practical work, the more they critically think and solve problems. These skills would equip learners who have developed a good exist profile, to become farmers who through time and experience would become seasoned farmers ensuring more food security for the country (MoPSE, 2022).

3.6 CHALLENGES THAT SMALLHOLDER FARMERS ENCOUNTER

After the government executed the 2000 Fast Track Land Reform Programme, smallholder farmers in Zimbabwe faced more difficulties, according to Scoones' (2019) ten-year study. Tenure insecurity, inadequate agricultural support services, severe input shortages, capacity issues, input shortages, and changing climatic circumstances have all had an impact on national productivity. According to Mutami (2018), even though some of the goals of agricultural policies include ensuring food and nutrition security for the country as a whole and for individual households, ensuring that the current base of agricultural resources is preserved and improved, as well as increasing agriculture's GDP contribution, smallholder farmers still face many difficulties when putting these goals into practice. Low output is one of the difficulties smallholder farmers confront (Kapuya, 2019). The causes of poor productivity are incredibly varied and include, among other contributing variables, the effects of climate change, a lack of sufficient inputs and ignorance.

According to International Fund for Agricultural Development (IFAD, 2021), smallholder farmers face several difficulties, including climate change-related water scarcity, a lack of inputs (such as seeds, fertiliser, and fuel), a lack of access to producer prices, pest and disease outbreaks, and low and unstable producer prices.

Insufficient funding for research and extension services, declining market and transportation infrastructure, and smallholder farmers are further obstacles. The issues faced by smallholder farmers in Zimbabwe include inadequate farming techniques, gender and age inequities in land allocation, unstable land tenure, and falling soil fertility (IFAD, 2021).

IFAD (2021) indicated that there has not been enough attention given to helping smallholder farmers adapt to climate change, which is increasingly becoming a reality and adding to the stresses already brought on by smallholder production, small farm sizes, inadequate infrastructure, and unpredictable and uneven market exposure. Despite the services that the Agricultural, Technical and Extension Service (AGRITEX) department provides, Nyoni (2019) notes that smallholder farming is also impacted by low levels of farming skills among farmers. Smallholder farmers are also challenged by a lack of and/or limited availability of suitable finance schemes from commercial banks (Mutami, 2018).

Since farming inputs are so expensive, most smallholder farmers in Zimbabwe do not have access to banks, which has an impact on their farming. According to Nyoni (2019), the absence of clearly defined agricultural input support programmes has a significant negative impact on smallholder agriculture in Zimbabwe. Due to this, some smallholder farmers are unable to independently acquire or purchase seeds, and as a result, they either fail to plant anything or are compelled to use grain from past years as seeds. According to Mutami (2018), this lowers the yields obtained and hence aggravates farmer poverty. Additionally, smallholder farmers face difficulties due to some crops' underdeveloped marketplaces (Mutami 2018; Nyoni 2019). According to Gwarazimba (2018), Zimbabwe's high unemployment rates have caused a large number of people both urban and rural to turn to farming, which has flooded the market resulting in goods notably perishable fruits and vegetables deteriorating (Nyoni, 2019).

Smallholder farmers in Zimbabwe suffer several difficulties, including inadequate roads and market-access infrastructure (Nyoni, 2019). In Zimbabwe, many roads, particularly those in rural regions, are in a bad condition. Due to the poor condition of the roads, smallholder farmers in rural locations may be unable to carry their produce to the markets (Mutami, 2018). Such scenarios demoralise smallholder farmers, leading many to cease farming or scale back their operations. In these circumstances,

poverty levels would rise (Gwarazimba, 2019). Smallholder farmers in Zimbabwe encounter several climatic difficulties, including cyclones and drought. Additionally, difficulties faced by smallholder farmers in Zimbabwe is reduced soil fertility (overused soils), insecure land tenure (Mutami 2018) and insufficient technical help (IFAD, 2021), but most importantly, is the absence of strong producer organisations that can adequately represent their various requirements (IFAD, 2021).

In Kenya, smallholder farming is essential to both the economy and food security of the nation with 75% of the entire agricultural output coming from small farms; however, smallholder farmers still confront several obstacles in their work. According to Ajwang (2019), the development of Kenya's agricultural policies over the past five decades has primarily ignored smallholder farming. The same policies have recently made an extensive effort to restructure smallholder production, marketing and livelihoods. According to Ajwang (2019), smallholder farming has been handled in this target as objects lacking agency rather than as individuals with a clear capacity for acting. The declared goals of initiatives to eliminate poverty by enhancing smallholder livelihoods and boosting agricultural output are not being accomplished in many parts of Kenya (Ajwang, 2019).

Smallholder farmers in Kenya face additional technological limitations on top of the aforementioned ones. These limitations include a lack of knowledge of agricultural production and insufficient access to farm inputs and loans (Alila & Atieno, 2019). High transportation expenses caused by deteriorating roads, incorrect handling, inadequate storage facilities, and waste are the main marketing restrictions (Alila & Atieno, 2019). According to Ajwang (2019), Kenya's smallholder farmers face difficulties due to a lack of high-potential agricultural land and an overreliance on rain-fed agriculture. Most of the nation's intense agricultural and dairy production occurs on just 17% of the land, which has high and medium potential for agriculture. The remainder is arid and semi-arid, making it unsuitable for agriculture and dependent on rain (Alila & Atieono, 2019). This suggests that intensifying land usage on high and medium-potential lands is necessary to increase agricultural production.

For smallholder farmers in rural areas, the significant reliance on rain-fed agriculture and its vulnerability to weather variability cause variations in productivity and revenue (Ajwang, 2019). Only 7% of the cropland is irrigated, indicating low irrigation potential

land usage. Poor rains always result in subpar agricultural output and consequent famines that have an impact on smallholder farmers (Ajwang, 2019). Droughts and floods that have become more frequent and intense in Kenya, have an impact on smallholder farming as well, causing significant crop failure and livestock losses (Ajwang, 2019). Land resilience has also deteriorated because of increased land degradation, making drought and flood effects worse and increasing the likelihood of disastrous famines that kill animals and people (Ajwang, 2019). One of the reasons of food insecurity can be attributed to an over-reliance on rain-fed agriculture. Despite irrigation's immense potential, irrigation-based farming is not very common. Crops like horticultural produce are cultivated under large-scale irrigation projects, and a small number of smallholder farmers engage in small-scale irrigated farming (Ajwang, 2019). This is a result of inadequate water use, a lack of effective technologies, the destruction of rainwater catchment areas, inadequate management of government irrigation programmes, the degradation of surface water and unrestricted groundwater extraction (Ajwang, 2019).

Ajwang (2019) posits that agricultural products are frequently sold with little to no processing, which results in limited income potential for farmers and fishers and few job prospects for locals. Smallholder farmers confront several difficulties due to poor and insufficient rural infrastructure, including bad roads, markets and transportation networks that cause high transaction costs for farmers and limited access to markets for their inputs and outputs (Alila & Atieono, 2019). Dwindling agricultural research is another issue affecting smallholder agriculture in Kenya. Research in agriculture-focused focused mostly on food and cash crops, which helped to advance these crops. However, there was a lack of understanding of the economics of smallholder farming, which resulted in research that was based on input levels that were unfeasible for small farmers (Alila & Otieono, 2019). Lack of financial access is a problem for smallholder farmers in Kenya, particularly women farmers which has the effect of limiting the activities, technology, and size of operations that farmers can use on their farms (Alila & Atieono, 2019).

Switzerland has a median household income and one of the highest GDPs per capita in the world (World Bank, 2022). However, despite a medium household income and the fact that practically all farmers are financially supported by agricultural policy, poverty still affects farming families (OECD, 2021). According to Von Ow (2021), a

drop in production and a rise in population are challenges for smallholder farmers in Switzerland. While Switzerland's population continues to increase, the trend in domestic production has been marginally declining for some time (Von Ow, 2021). The need for imported food has consequently tended to rise.

Smallholder farmers are especially impacted by uncertainty and an increase in numerous dangers. Bern (2022) notes that electricity shortages have an impact on farmers. When compared to other dangers, a severe power outage has a notably high likelihood and potential for harm. The availability of essential foods would be severely impacted. With the Federal Office for Economic Supply's Nutrition Division's present measures in place, the impacts would be numerous and difficult to reverse (Von Ow, 2021).

The production methods present another issue for smallholder farmers. The availability of production resources affects the Swiss agricultural and food sector (Von Ow, 2021). According to Bern (2022), products or crops whose cultivation is entirely dependent on seed imports are particularly vulnerable. Climate change has an impact on Swiss farmers as well and as a result, agricultural productivity is more volatile (Bern, 2022). Agriculture output and food supplies are also being impacted by land degradation and biodiversity loss. According to Bern (2022), the COVID-19 pandemic and the conflict in Ukraine have made matters worse, notably by upsetting supply networks.

3.7 THE IMPORTANCE OF IMPLEMENTING AGRICULTURAL POLICY TO SUPPORT SMALLHOLDER FARMERS

Some of the advantages of agricultural policies in Zimbabwe were highlighted in the National Agricultural Policy Framework 2018-2030 (Ministry of Lands, Agriculture and Rural Resettlement, 2018). To reform the agricultural sector through improved and sustainable agricultural production and competitiveness, the NAPF, for instance, offers policy guidelines and directives on how to encourage and support the sustainable flow of investments. Additionally, the NAPF offers a pertinent and fact-based framework to direct and coordinate the creation of sector-specific policies that would provide additional information, priorities, implementation strategies and enforcement mechanisms, reducing poverty in Zimbabwe.

Additionally, NAPF assists in identifying the main obstacles limiting the agriculture sector and offers solutions to these obstacles. Defining the goals, strategic efforts, and development outcomes for the agricultural sector in Zimbabwe are made easier by the country's agricultural policies (Mutami, 2018). According to Mutami (2018), agricultural policies also outline the steps needed to improve agricultural productivity and attain food and nutrition security for the nation and households, as well as the best possible levels of foreign exchange, employment, and revenue for the nation. Increased agriculture's contribution to the Gross Domestic Product (GDP) is another benefit of well-structured agricultural policies.

Additionally, through the availability of sufficient agricultural raw materials as well as enhanced agricultural market access and competitiveness, properly articulated agricultural policies would lead to sustained industrial development (Mutami, 2018). Creating a supportive policy and regulatory environment for agricultural development in Zimbabwe, according to NAPF's (2018-2030) other goals, is thus essential.

According to Alila and Atieono (2019), the major objectives of agricultural policies in Kenya are to increase productivity and income growth, particularly for smallholder farmers, and to improve food security and equity. To stabilise agriculture output, promote commercialisation, and intensify production, particularly among small-scale farmers, the policies also place a strong emphasis on irrigation. Some of the goals of the policies are techniques for environmental stability and appropriate and participative policy formulation.

The measures aimed at reducing poverty have the advantage of increasing agricultural output and earnings, particularly for smallholder farmers (Alila & Atieono, 2019). According to Ajwang (2019), smallholder farming is essential to Kenya's economy and food security. Agricultural policies have made significant attempts to restructure smallholder production, markets and livelihoods because of the significance of smallholder agriculture (Ajwang, 2019).

Therefore, most of the policy initiatives have focused on smallholders. Additionally, the regulations place a strong emphasis on irrigation to lessen an over-reliance on rain-fed agriculture considering the restricted amount of high-potential agricultural land. Additionally, Kenyan agricultural policies are successful in promoting diversification into non-traditional agricultural commodities and value addition to lessen vulnerability.

The agricultural policies aspire to increase food security, lower the number of people who experience hunger, and accomplish the MDGs. On the other side, the private sector is also permitted to function to end Kenyan poverty and hunger (Government of Kenya, 2019). Environmental sustainability is Kenya's other key goal in its agricultural strategy.

According to the OECD (2022), Switzerland has excellent agricultural policies that contribute to the eradication of poverty. The effective agriculture policies effectively meet the growing demand for wholesome food in a sustainable manner. The Swiss agriculture policies include significant challenges that need to be resolved to lessen poverty. Promoting environmental sustainability, cutting greenhouse gas emissions, raising productivity, and enhancing adaptation and resistance to climate change and unexpected shocks are among the issues (OECD, 2022).

The Long-Term Climate Strategy, which outlines climate policy recommendations up to 2050 to attain a net-zero aim, was accepted by the Federal Council on January 27, 2021 (OECD, 2022). The goals are to keep greenhouse gas emissions in Switzerland and to reduce them from domestic agricultural productions by at least 40% compared to 1990 levels. The Swiss government responds to global crises like climate change and other problems with the food chain to promote agriculture. Switzerland offers substantial payments to all agricultural land, as well as subsidies to keep farming in less favoured circumstances and payments to farmers who voluntarily adopt more stringent farming methods related to animal and environmental welfare (OECD, 2022).

According to the Swiss Agency for Development and Cooperation (SDC, 2021), the Federal Council took steps in April 2020 to stabilise agricultural markets and lessen the economic impact of the COVID-19 issue on the agriculture industry. According to the SDC (2021), the goal was to guarantee the population's access to food while preventing a decline in market prices that would have an impact on the entire value chain. The overall set of actions to lessen the effects of COVID-19 on the economy also benefited the agricultural industry.

In addition to what has already been mentioned, Switzerland's agricultural policies also consider cross-border trade relationships that promote the industry's sustainable growth. In addition, the Swiss government offers zero taxes on all imports of agricultural products from Least Developed Countries (LDCs) (according to the official

UN definition). Since September 2009, the products are tariff and quota-free (SDC, 2021). Additionally, the Swiss government has introduced additional payments to producers of commercial milk (Article 40 of the Agriculture Act) and grain (Article 55 of the Agriculture Act) (OECD, 2022).

3.8 STRATEGIES TO EQUIP LEARNERS WITH FARMING KNOWLEDGE AND SKILLS

This section focuses on designing a lesson plan for effective teaching and learning to ensure that learners acquire farming knowledge and skill, how to use field excursions to expose learners to real-world farming, and the use of a project learning approach, plus a lecture method, and lastly the demonstration or experiential learning.

There are many different teaching methods that can be used to give learners the knowledge they need to equip them to practise farming. The approaches, tactics, procedures, and processes a teacher employs while delivering education are referred to as teaching strategies (Kathy, 2020). The study argues that teaching strategies are instructional techniques that teachers employ to present course information in a way that keeps learners interested and engaged in a variety of abilities. As discussed in Chapter 2 of the thesis, teaching strategies should be child-centred as described by Piaget and Vygotsky's constructivist theories.

In Zimbabwe, teachers create lesson plans using a variety of instructional techniques to give learners the knowledge they need to practise farming. Due to the practical nature of agriculture and the need for active participation from learners, MoPSE (2022) suggests using a student-centred or constructivist approach as well as field visits, demonstrations, hands-on activities, discussions, and lectures.

Mukhutar (2020) makes the case that Zimbabwean teachers employ *field trips* as a teaching method for agriculture. The Mwenezana farming centre in the Mwenezi area, the Mushandike irrigation scheme in Masvingo, or the Renco Mine irrigation projects are just a few examples of the agricultural facilities that learners have the opportunity to visit. Field trips enable learners to gain first-hand knowledge that will help them practise farming in the future (Mukhutar, 2020). Armstrong (2020) contends that field excursions should be carefully prepared so that learners are aware of the actual activities they will be required to do. The tasks, papers, and projects that learners must

complete to participate fully in the field trips must be included by the teacher in his or her lesson plan. According to Armstrong (2020), teachers might include discovery learning during field excursions. The teacher would urge the learners to identify the underlying principles that explain the situation and how the problems found there might be resolved as they are exposed to the circumstances that exist in a farm or agricultural site. Through exploration, learners can explore the most efficient agriculture practices, use of chemicals and use of technologies (Mukhutar, 2020; MoPSE, 2022). Even though they necessitate extensive organisation, this study promotes the use of field trips. Field trips can be expensive, especially for secondary schools in rural Zimbabwe; therefore, adequate planning and time must be given.

Simango (2021) argues that teachers in Zimbabwe should incorporate *projects* into agricultural education. Zimbabwe's competency-based curriculum encourages the growth of a pertinent, farmer-centred, market-oriented agriculture education system that is supported by research (Simango, 2021). The new competency-based curriculum mandates that secondary school learners complete what are known as Continuous Assessment Learning Areas (CALA) (MoPSE 2022). This means that Zimbabwean teachers should give their learners projects to complete. The projects can be handed out to learners individually or in groups, depending on the content. Using projects to teach agriculture is a good teaching strategy since it encourages critical thinking and a hands-on learning style where learners take charge of their own learning.

The *lecture technique* is the following instructional strategy that agriculture educators employ. Agriculture teachers in Zimbabwe frequently employ the lecture style as a teaching approach. This method is teacher-centred known as the talk-chalk method. Simango (2021). The teacher is the primary authority figure, and learners are seen as passive recipients of knowledge who listen to lectures and receive one-on-one teaching from their teachers to achieve success on tests and evaluations (Lohman & Hurst, 2020; McLeod, 2021). This approach separates teaching from assessment as two distinct processes. Through examinations and evaluations with objective scoring, student learning is evaluated. Teachers of agriculture in Zimbabwe frequently employ lecture techniques to overcome the limitations of educational materials like textbooks. The lecture style is popular with learners since they are simply provided with the information (Simango, 2021). However, the lecture methods should be used in

conjunction with other learner-centred approaches, such as group work, paired work, projects, and field trips, to name a few.

Simango (2021) claims that Zimbabwean agriculture teachers employ *demonstration* as a teaching method. The teacher uses the school field or garden to demonstrate to learners how farming is done. A few examples include planting maize, cultivating vegetables and driving a tractor. The learners would carry out the identical assignment following the demonstration. This hands-on method of learning produces fruitful outcomes in agriculture. Mukhutar (2020) adds that since learners learn best by doing, designing experiences allow learners to practically apply the knowledge. The learners must consider their experiences and share what they learned as a result (MoPSE, 2022). To assist with demonstration, technology can be used as an additional teaching strategy for agriculture teachers, with videos offering virtual demonstrations replacing actual demonstrations, as an example. The concepts and procedures would be taught to the learners +via watching videos.

Njura et al. (2020) report that despite agriculture being taught as a key subject in secondary schools, there is food scarcity throughout Africa, and Kenya in particular. Many young people in Kenya who complete secondary education are unable to effectively use their acquired farming skills for food security. Learners' abilities in the areas of food production, accessibility, nutrition, food safety and production economics should be developed through agricultural teaching methods (Njura et al., 2020). According to Njura et al. (2020), a scenario in which people always have physical, social and economic access to enough food that is safe, nutritious and satisfies their dietary needs and food preferences is one in which they are in a state of food security. Food security is supported by four pillars: availability, accessibility, use and stability. The elements of food security—production, physical and financial accessibility, safety, nutrition, and supply consistency—are derived from the four pillars (Njura et al., 2020). Omiti and Otieno (2020) makes the case that, to stabilise the country's food supply, agricultural teaching techniques should emphasise the development of knowledge and skills related to food production, accessibility, nutrition, food safety, and production economics (Njura et al., 2020; Omiti & Otieno, 2020).

Njura et al. (2020), posit that agricultural teaching approaches are the procedures or techniques for attending to the needs, experiences, and feelings of agricultural

learners both theoretically and implementing the necessary interventions to aid learners in acquiring the necessary skills for food security. Agricultural teaching techniques refer to the methods and strategies that agriculture teachers employ when instructing learners about agriculture. The student's potential is expanded by secondary school agriculture instruction, and they become more efficient, independent, resourceful, and capable of handling farming issues even at a young age (Njura et al., 2020; MoPSE, 2022). The teaching and learning of agriculture in schools should be the foundation for young people's best use of their potential in contributing to the agriculture sector's aim of achieving food and nutrition security in Kenya (Omiti & Otieno, 2020).

Teachers of agriculture in secondary schools in Kenya employ a variety of pedagogical techniques to teach the subject. The lectures, class discussions, small-group activities, questioning, demonstrations, class projects, guided discovery or problem-solving, tours and field trips are the most popular teaching techniques used in agriculture classes (Njura et al., 2020). Njura et al. (2020) states that rather than relying solely on the traditional lecture approach, educators should embrace activity-stimulating and student-centred approaches like digital learning, demonstration methods, class projects, tours, and field trips to capture learners' attention, interest, and curiosity and to improve their performance.

The *lecture* technique is one of the teaching strategies that agriculture teachers employ (Njura et al., 2020). The lecture style is typically used in a classroom setting. It is also known as the textbook approach or talk and chalk. This strategy places less emphasis on student involvement and is teacher-centred. While the learners are merely passive recipients of the knowledge that teachers transfer to them during the learning process, the teacher is viewed as the source of all knowledge (Njura et al., 2020; MoPSE, 2022). According to Njura et al. (2020), lectures that are well-structured may be the most effective teaching strategy, especially when it comes to the dissemination of conceptual and systematic knowledge. According to Omiti and Otieno (2020), the benefits of employing the lecture approach include the capacity to quickly convey a significant amount of knowledge to a large number of individuals, while information retention may be a problem. The lecture method is the least successful at fostering the development of agricultural skills, according to Njura et al. (2020) which aligns with this study as learners are not merely passive receivers of knowledge but

should be engaged participants who develop their knowledge, which can be expanded through the teacher's supervision and facilitation.

Teachers of agriculture can also utilise the *discussion technique* as a teaching strategy. This suggests that teachers can include the discussion approach as a teaching tactic when creating a lesson plan. The primary teaching style of using discussions encourages learners to think critically (Njura et al., 2020). The discussion technique encourages learners to think critically and explain their views clearly while also building a rapport with the teacher and demonstrating respect for their efforts (MoPSE, 2022). The frequently asked questions by both the teacher and the learners offer a way to gauge learning and thoroughly examine the main ideas of the session (Njura et al., 2020). Through class discussions, a set of learned abilities, including cooperation, communication, and critical thinking, are important for creating and developing interpersonal connections (Lohman & Hurst 2021; MoPSE, 2022). This technique assists learners in developing practical agriculture skills. Digital technology can be incorporated to improve dialogue, according to Njura et al. (2020) and. This would help learners who are reluctant to speak up in class because they could publish a "Tweet" to add to the conversation.

Teachers of agriculture may organise *field trips and tours* for their learners. According to Njura et al. (2020), field trips and outdoor training help learners learn how to work in a team. In addition, field trips to agricultural facilities, farms, and businesses that allow learners to put the concepts of agriculture into practice are particularly beneficial. Njura et al. contend that for learners to fully engage in the field trips, they should be given tasks, write-ups, and projects. However, tours and field trips in secondary schools may throw off the schedule, so it is important to plan them around breaks and holidays (Njura et al., 2020; Omiti & Otieno, 2020). Involving learners in excursions and fieldwork would assist them by fostering a sense of teamwork in academic and extracurricular activities like gardening and raising chickens.

Another instructional style that teachers might include in their lesson plans is the *demonstration* method. According to Lohman and Hurst (2021), the demonstration technique entails the teacher performing the task that the learners are expected to complete at the conclusion of the class by demonstrating how to accomplish it and walking them through the step-by-step procedure. According to Njura et al. (2020), the

demonstration could incorporate charts, graphs, e-learning, and other illustrative resources in addition to a vocal explanation. During or after the demonstration, the learners would watch the procedure in action, pay attention to the explanations, and ask questions. According to Njura et al. (2020), the demonstration method fosters high achievement rates by increasing learners' interest and knowledge. Teachers of agriculture in Kenya may use demonstration courses to show learners how to graft an orange tree, preserve fish, use machine milking, and install drip irrigation. When learners are given the opportunity to practise the same activity alone or in groups after a demonstration, recollection and psychomotor abilities are improved.

Class projects are another teaching and learning approach that Kenyan agriculture instructors employ (Njura et al., 2020). The project method is a teacher-facilitated collaborative approach in which learners learn and use knowledge and skills to define and solve real-world problems through an extended inquiry process (Njura et al., 2020). Learner-centred projects are assigned in class (Lohman & Hurst 2021). The project teaching approach is founded on the belief that experiential learning, group debate, revisiting ideas and personal experience are the best ways to better understand one's surroundings (Njura et al., 2020). Project-based learning makes learning more engaging (Lohman & Hurst 2021). Class projects are a crucial component of agricultural education because they allow learners to apply the lessons they have learned in the classroom. Therefore, learners can apply their newly gained skills in a practical way (Njura et al., 2020). Using class projects is a valuable strategy because they give learners a hands-on learning experience that helps them understand how practical agriculture is.

According to Lohman and Hurst (2021), another approach teachers employ is *digital learning.* As technology progresses and in time of pandemics such at the COVID-19 pandemic, digital learning has just made its way into the educational system. Omiti and Otieno (2020) note that despite being the most result-oriented method and appealing to teenagers, digital learning has not been fully utilised in secondary schools. Depending on the resources and facilities available and the school's condition, different teachers employ various tactics. With the use of technology, it is possible to incorporate multimedia and interactive tools that can make adult education more appealing and realistic and inspire individuals to advance their abilities (Njura et al., 2020). For young people who plan to become farmers in the future, digital learning

is appropriate. Technology can help them strengthen their talents and apply them to agriculture (Omiti & Otieno, 2020). Radios, films, mobile phones and televisions are among the information communication technology (ICT) instruments that are increasing popularity in facilitating farmers' access to knowledge and information about agriculture, according to Njura et al. (2021). Lohman and Hurst (2021) explain that films have the ability to encourage social learning because they integrate visual and aural aspects that make it easier for knowledge or information to be internalised and contextualised, allowing farmers to share and learn from one another's experiences. According to Njura et al. (2020), the social learning capabilities of ICT devices can be used in the classroom to accelerate the development of agricultural skills and to pique learners' interest in the field. A student's learning can also be improved by using computers, video conferencing technologies, cameras, and Global Positioning Systems (GPS) gadgets (Omiti & Otieno, 2020). This study suggests that secondary school agriculture teachers should develop certain lessons utilising digital approaches considering the information raised on digital learning. When learners engage in agriculture later in life, the skills they gain through digital means can help them farm and consequently, assist in reducing poverty.

In their lessons, Kenyan teachers also employ the *discovery method* or the problem-solving approach. The discovery approach is a learner-centred method of teaching, according to Piaget (1952), the father of cognitive development in children. It involves learners working on problems, delving into the factors that contribute to the problems, producing potential solutions, putting those solutions into practice, and assessing the outcomes. The technique to problem solving developed by Piaget and Vygotsky is a constructivist approach to learning, as is stated in Chapter 2 of the thesis. According to Njura et al., (2020) constructivist issue-based learning centres around a structured real-world challenge. It encourages the growth of critical-thinking abilities and approaches as well as the learning of subject-matter information. The teacher serves as a facilitator, and the learners take on responsibility for the knowledge they have acquired. An evaluation of the problem-solving procedures is done at the conclusion of this teaching-learning strategy (Njura et al., 2020). The problem-solving approach can be enriched by adding digital learning for example videos, films, audios, and software they create (MoPSE, 2022).

Learners who study agriculture in secondary school benefit from the use of discovery learning in both the development of a broad and adaptable knowledge base and the development of efficient problem-solving techniques. Additionally, learners acquire abilities for self-directed, on-going learning, and they learn how to work well with others. Additionally, they develop an inner motivation to learn (Lohman &Hurst 2021, MoPSE, 2022; Njura et al., 2020). Higher-order thinking has been demonstrated to be effectively encouraged by discovery learning. Additionally, it has been discovered to raise student attention and motivation (Njura et al 2020). Discovery learning makes learners active participants in the learning process; however, this study suggests that the strategy be used most often when learners are working in groups so that quick thinkers may help slower or weaker learners.

Agriculture education strategies are not particularly different from country or continent. Due to Switzerland's level of development, technologies are frequently used in the teaching-learning process (Kathy, 2020) with blended learning techniques being used by teachers. Blended learning enables learners to do some of their coursework independently online and some of it in a traditional classroom setting (Kathy, 2020). This method combines the benefits of both environments to produce a well-rounded learning environment that gives learners the chance to explore learning in their own time and engage in face-to-face interactions to reinforce what they have learned (Lohman & Hurst 2021). According to Kathy (2020), using high-tech learning tools can help pupils learn in class. Many teachers use laptops and iPads in the classroom, and some may provide assignments online. Teachers of agriculture may also employ short video lessons. Lessons become more engaging as a result. In addition, Kathy (2020) notes that cooperative learning is a common teaching method and this strategy of grouping pupils together by teachers has a favourable effect on learning. Working in groups, according to this model's proponents, enhances learners' focus, engagement, and knowledge gain (Lohman & Hurst, 2021).

Project-based learning (PBL) is also employed in agriculture. The introduction of new communication and technological tools into educational institutions, together with fresh approaches means that teaching and learning has been updated and redesigned for the digital generation (Kathy 2020). The project-based learning method is popular ones as through the creation of projects that address issues in real life, such as raising broilers as a school project, PBL enables learners to gain important knowledge and

skills. According to McLeod (2020), PBL enables learners to obtain important knowledge and skills by creating projects that address challenges in real-world situations. Today's project-based or integrated task-based instruction ensures that learners will effectively develop their key agricultural skills as well as their understanding of the curriculum's material (Kathy, 2020). Agriculture teachers in Switzerland also employ PBL methodology where the problem-based learning cycle is a multi-stage learning process that begins with asking questions, knowledge is gained, and then new questions are raised in a cycle of increasing complexity. The benefits of using this practice include the improvement of creative and critical thinking abilities (Ann, 2020).

The practice enhances the learners' capacity for problem-solving, according to Ann (2020). Additionally, it raises student motivation, which enhances knowledge sharing under difficult circumstances (Ann, 2020) and ensure that learners are active participants in the learning process. Agriculture teachers employ virtual field excursions in addition to the methods mentioned above as a teaching tool (Ann, 2020). Teachers explore agriculture farms using augmented reality apps to understand agricultural activity. This kind of instruction engages learners in the learning process and makes learning highly fascinating. The last claim is made by Kathy (2020) who claims that some agriculture teachers in Switzerland employ flipped classrooms. The traditional teachings that are taught by the teacher are turned around in the flipped classroom. Most of the pupils' work is done in the classroom after they have studied the key educational materials at home. The methodology's major goal is to make the most of class time by allocating it to addressing the unique requirements of each student, creating cooperative projects, or working on specialised assignments (Kathy, 2020). Flipped classrooms encourage learners to think critically, which helps them produce solutions to challenges.

3.9 GOVERNMENT'S INTERVENTION STRATEGIES TO IMPROVE SMALLHOLDER FARMING PRACTICES

Numerous tactics have been employed since Zimbabwe gained its independence in 1980 to help smallholder farmers carry out agricultural policies. Smallholder farmers are essential to Zimbabwe's food and nutrition security, according to the Food and Agriculture Organization of the United Nations (FAO, 2022). However, due to poor

market access, low soil fertility, and dependency on rain-fed systems, smallholder farmers are finding it more difficult to support themselves off their land and labour (Mhlanga, Dunga & Moloi, 2020; FAO, 2022). Additionally, access to rural financing services is either very limited or non-existent for smallholder farmers and other value chain participants. This limits their ability to purchase inputs that increase output, such as fertiliser, seeds and labour-saving technologies. According to FAO (2022), resources are being mobilised by the Zimbabwe Livelihoods and Food Security Programme (LFSP) to support diversification, productivity-improving technology and non-farm economic activity. Through the adoption of agriculture practices that are nutrition-sensitive, the programme is improving farmers' access to rural finance and markets, alleviating malnutrition, and increasing their adaptability to climate change.

Furthermore, FAO (2022) contends that poor post-harvest techniques, insufficient infrastructure, low production levels, and inconsistent supply have made it difficult for farmers to access markets. The LFSP equips rural people, especially smallholder farmers, with the organisational skills and agricultural knowledge they need to participate in local and international markets and to increase their savings with to access extension services, advisory services, financial services and market linkages (Mhlanga et al., 2020; FAO, 2022). More than 71 000 farmers currently receive extension communications via various technical platforms, including as mobile phones (FAO, 2022). These messages offer useful advice on marketing and farming methods. According to Marongwe (2018), the mentoring of smallholder farmer groups and associations has increased the negotiating power of smallholders and reinforced their connections to markets. The 92% of farmers whose access to financial services was made possible by the initiative, saw an increase in agricultural output (Marongwe 2018; FAO 2022).

In addition to the aforementioned tactics, the LFSP assists smallholder farmers in becoming more resilient to natural catastrophes and climate change by promoting climate smart technologies. Marongwe (2018) proposes that selling productive assets like cattle or land will help rural Zimbabweans recover from natural disasters. To combat natural catastrophes and climate change, FAO trained around 141 000 households (including 62% females) in marketing, animal husbandry, post-harvest management, and climate-wise agricultural techniques and technology. According to Mhlanga et al. (2020), improved markets, finance, extension and advisory services

have encouraged smallholder farmers in Zimbabwe to manage their farms in a climate-resilient manner and safeguard their livelihoods in the face of natural calamities. According to the report, the government should make sure that smallholder farmers participate in the financial sector by saving, borrowing, and using other services, such as insurance, for them to be able to implement agricultural policies. Therefore, it is crucial that the Zimbabwean government promote financial inclusion by, for example, ensuring that farmers have easy access to financial institutions like banks.

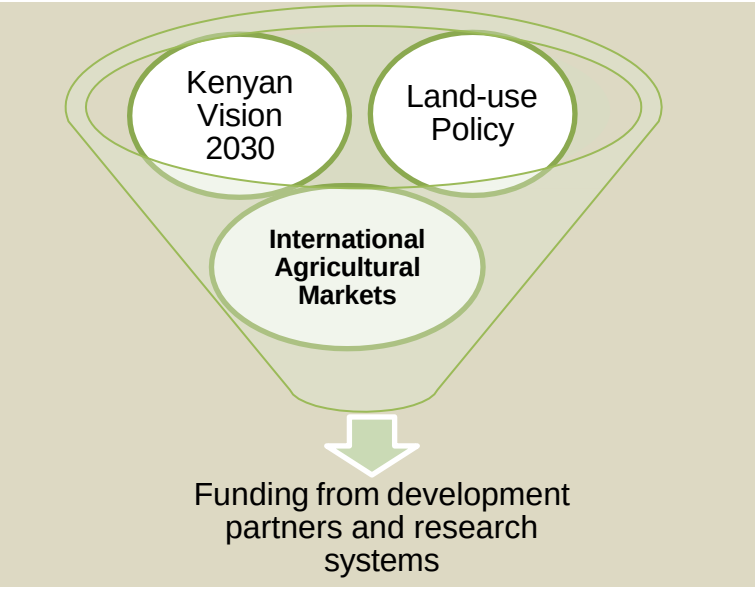
The "*pfumvudza* program" was introduced by the Zimbabwean government through the AGRITEX department (Swinkels, 2020). The "*pfumvudza*" initiative educates smallholder farmers on conservation agriculture that is ideal for a setting with unpredictable rainfall patterns brought on by climate change. Prior to the rainy season, farmers perform what is frequently referred to as *"dhiga udye".* In this method of farming, smallholder farmers dig holes, fill them with organic manure throughout the dry season, and then sow seeds once it starts to rain. Even though it involves a lot of labour, this farming technique helps many smallholder farmers produce higher yields (Swinkels, 2020). The Zimbabwean government distributes seeds and fertiliser to farmers in all provinces. However, some smallholder farmers sell the inputs because of poverty, laziness, improper distribution of the inputs, and other issues, which causes hunger and poverty in their family (Gwarazimba, 2019).

Many AGRITEX officials are stationed in Zimbabwe's rural areas to instruct and mentor smallholder farmers on appropriate agricultural techniques, such as the value of soil conservation, water collection techniques, crop rotation, and so on. Despite difficulties including ineffectiveness in the delivery of their services to farmers and a lack of equipment to perform their tasks, this service is aiding smallholder farmers (Swinkels, 2020). Smallholder farmers benefit from having a target to aim towards thanks to agricultural exhibits that are frequently held throughout the country's many districts. Farmers exchange knowledge and ideas with one another and in addition, competitiveness among smallholder farmers is heightened because they are also rewarded for growing the greatest products (Gwarazimba, 2019). In addition, several irrigation projects have been established around the country to help smallholder agriculture, including the Mushandike irrigation scheme in Masvingo, the Murambinda irrigation scheme, and the Devule irrigation scheme in the Buhera area, to name a few. Compared to other smallholder farmers who rely on rain-fed crops, smallholder

farmers who use irrigation are in a better position since they have access to water for their crops (Swinkels, 2019).

Non-governmental organisations also help smallholder farmers fight poverty. For instance, the International Fund for Agricultural Development (IFAD, 2021) is a programme that aims to boost agricultural income and productivity for 78 000 disadvantaged households in Zimbabwe. The smallholder agriculture cluster project (SACP), which transforms small-scale farming in a sustainable manner while expanding farmers' participation in value chains that are market-driven and climate savvy, boosts productivity and household incomes. Women make up 50% of the recipients, while young people make up 30%. Production has been impacted by the COVID-19 epidemic, occasional floods and periodic droughts (IFAD, 2021). This has made the nation a net importer of food and one of the top ten most fragile countries in the world, according to IFAD (2021). It has also exposed millions of people to poverty and caused food and nutrition insecurity. From the literature analysis, it seems that that while techniques to combat poverty are being employed to help smallholder farmers in Zimbabwe, some root causes must be addressed before farming can flourish there as well.

In Kenya, to provide smallholder farmers with the agricultural knowledge and abilities needed to implement agricultural policy, a variety of initiatives have been used, as illustrated in Figure 3.1.



(Source: Mandivengerei, 2022)

Figure 3.1: Kenya’s Government strategies to support smallholder farmers.

Most of Kenya's food output comes from smallholder agriculture. Maina et al. (2019) assert that smallholder farmers experience protracted food crises and as a result, numerous solutions have been employed to help smallholder farmers carry out agricultural policies. Kenya Vision 2030 was introduced in June 2008. By 2030, the strategy aims to create a nation that is globally competitive, rich, and has a high standard of living (Government of Kenya, 2010). The economic pillar of Vision 2030 listed agriculture as one of the essential areas to deliver a 10% annual economic growth rate (Government of Kenya, 2020). Smallholder agriculture must be transformed from subsistence to an inventive, commercially focused and contemporary agriculture sector to achieve the vision.

The change will be accomplished, according to the Kenyan government, by restructuring important institutions in agriculture, livestock, forestry, and wildlife to support agricultural growth. Increasing the production of cattle, crops and tree cover would also help alter the area. Land-use policies will be implemented to better utilise high and medium potential areas, which will also increase it. Additionally, the government would provide more irrigable land in semi-arid and dry regions for both crops and animals. Through improved supply chain management, the government would also increase smallholder farmers' access to the market.

The other goal of Vision 2030 is to increase the value of agricultural, zoological and forestry goods before they are sold on domestic, international, and other markets. Four issues, however, were noted in Vision 2030 as continuing to pose a threat to the agricultural industry. For instance, several crop production levels are below their potential, and the output and value of some agricultural products during the past five years have either remained stable or are decreasing. In its vision for 2030, the Kenyan government notes that land with high and medium potential, as well as dry and semi-arid regions, is still underutilised for agricultural production. Smallholders use 60% of their land for agricultural production, leaving a large portion of the available arable land unused. Agriculture's production is restricted by supply chain inefficiencies brought on by a lack of post-harvest services, insufficient storage space and difficult access to input markets. To strengthen Kenya's negotiating position in international agricultural markets, Vision 2030 asks for aggressive measures to preserve current markets and

develop new ones (Government of Kenya, 2020). This is particularly important, as there are claims that Kenyan farmers export low-value, semi-processed goods to international markets, which reduces the competitiveness of exports (The Government of Kenya, 2020).

To manage and adapt to ecological and socio-economic difficulties, smallholder farmers utilise a variety of strategies and local innovations to satisfy the objectives of agriculture policies (Maina et al., 2019). Rural production systems continue to receive funding from development partners and research systems, but success has been unbalanced (Maina et al., 2019). Smallholder farmers employ distinct sorts of methods and innovations, according to Maina et al. (2019). The tactics include those used to improve home life and those targeted toward surviving vulnerability that are primarily concerned with risk avoidance. Those that prioritise survival are primarily focused on meeting urgent requirements (Maina et al., 2019). Some of these strategies, like the cultivation of river-banks, destroy the natural resource base. Other tactics include increasing job demands, selling off household possessions, and limiting the number of meals served each day, which could impair household nutrition (Maina et al., 2019). On the other hand, long-term development initiatives from the public or private sector, along with collaborative agricultural research, help to reduce food insecurity and diversify sources of income (Maina et al., 2019).

In addition to the aforementioned strategies, Feed the Future, the United States of America Government's Global Hunger and Food Security Initiative, (2020) notes that significant attention has been paid to improving staples production in Kenya to counteract the rapidly rising costs of household food security. However, geographical obstacles like isolation and limited access to natural resources like water, restrict farmers' ability to participate in the market. Building smallholder capabilities in agriculture productivity, water management and farming as a business, is the goal of the increasing Smallholder Productivity and Profitability (ISPP) project (Feed the Future, 2020). According to Feed the Future (2020), the ISPP is improving water access and management, agribusiness development, the use of climate-resilient agricultural methods, and household food security and nutrition. The project helps 80 000 households increase the productivity of their farms and their access to food. ISPP engages farmers in a participatory needs assessment to talk about their experiences with credit applications, their success with different crops, the demand for

water and irrigation, market needs, and their family's nutritional needs (Feed the Future, 2020). All of this is done to find areas where farmers' knowledge of agriculture is lacking. Additionally, the ISPP programme teaches farmers how to cultivate and consume a variety of high-value, nutrient-dense foods. It demonstrates proper methods for preparing, preserving and storing food. To continue learning and improving household health, particularly for women, ISPP links farmers with health extension specialists (Feed the Future, 2020).

In Kenya, smallholder farmers are also given tools through cooperatives. Cooperatives for agriculture have aided in input procurement, production and marketing (Maina et al., 2019). The cooperatives are businesses that are owned and run by their members. In cooperatives, smallholder farmers exchange agricultural knowledge. The cooperative movement in the financial sector has aided in the mobilisation of funds and the provision of credit to producers through savings and credit cooperatives (Government of Kenya, 2020).

Agricultural Extension, Training and Information Services distribute agricultural information, technologies and knowledge while also connecting smallholder farmers with other economic players (Maina et al., 2019). The extension service is one of the crucial change agents utilised in converting subsistence farming into a modern, commercial agriculture to promote household food security, increase income, and eradicate poverty, according to the Government of Kenya (2020). Non-governmental, community-based, and faith-based organisations all offer extension services. According to Maina et al. (2019), the presence of these new competitors has helped to close the gap left by the public service extension service offerings.

Field days, agricultural exhibits, the Agricultural Information Resource Centre and open forums have all been significant providers of agricultural information (Government of Kenya, 2020). The Kenyan companies that offer extension services do, however, have some limitations. These include inadequate funding for public training institutions, which results in deterioration of training infrastructure and facilities, as well as limited capacity to train in emerging fields like organic farming, indigenous plant and animal husbandry, and advanced biotechnology, as well as the slow pace of commercialising the services provided by training institutions (Government of Kenya, 2020).

Another strategy that has been applied to help smallholder farmers in Kenya is marketing. For smallholder farmers to sell surplus crops, marketing of agricultural products and production is essential for raising agricultural productivity. For instance, cooperatives have been crucial in the selling of coffee, fish and honey (Maina et al., 2019). The marketing channels, however, are ineffective and inattentive to the demands of smallholder farmers.

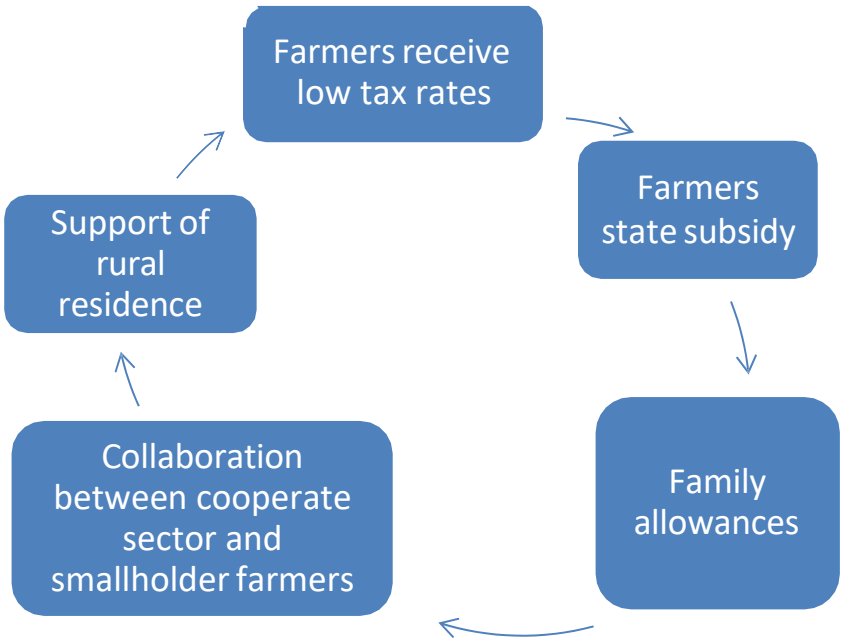
Credit facilities are another tool the Kenyan government employs to support smallholder farmers. However, smallholder farmers still face significant difficulties in obtaining bank loans. Financing for smallholder farmers is undesirable to the conventional banking sector due to the risks involved with agribusiness and tenure regimes that restrict the use of land as a collateral security (Government of Kenya, 2020). Additionally, a culture of defaulting that resulted in many non-performing loans was fostered by corruption, political meddling in the management of state-owned banks and a dysfunctional court system (Maina et al., 2019). Due to the trend, many banks were forced to charge farmers unreasonably high loan rates to survive. Smallholder farmers find it challenging to obtain bank credit due to a variety of problems, including the high cost of bank credit and the scarcity of banks in rural areas. Cooperatives, community-based lending institutions and non-governmental organisations are the main sources of finance for smallholder farmers (Government of Kenya, 2020).

The government also provides inputs to smallholder farmers like seeds and fertiliser. However, Maina et al. (2020) notes that due to inadequate distribution infrastructure and the Kenya Seed Company's monopoly on the delivery of seed, which focuses its operations in high rainfall areas, the utilisation of modified seeds has remained low. Fertiliser use is low because of its high cost, which is attributable to the high cost of distribution and the transportation systems. The poor quality of fertiliser, seed and pesticides sold by merchants limits the usage of these inputs by smallholder farmers in addition to their high cost (Maina et al., 2019).

Finally, the Kenyan government supports smallholder farmers by strengthening pest and disease control for livestock. Numerous cow illnesses, including infectious ones like foot and mouth, were controlled. Avain influenza and Rift Valley fever are two illnesses that have recently re-emerged and are posing new issues for Kenya. These

infections must be contained quickly and at great expense (Government of Kenya 2020). Kenya's government has created areas that are free from sickness. The Kenyan government also improved farmers' abilities to adopt and utilise cost-effective and appropriate animal husbandry (Government of Kenya, 2020). The farmers also work with smallholder irrigation programmes in an effort to increase yield. Irrigation farming by smallholder farmers is however impacted by the underperformance of some smallholder schemes due to insufficient farmer participation, low levels of government support services, weak farmer organisations and weak financial bases of communities (Government of Kenya, 2020).

Switzerland is a country with a modest GDP per capita, low unemployment and low inflation. With a GDP proportion of 0.7 % and an employment share of about 3%, agriculture is rather unimportant (OECD, 2022). These comparatively low proportions are mostly attributable to the economy's highly developed industrial and service sectors (Siegenthaler, 2020). Family farms that are relatively small in size dominate the farm structure. Several policies envisioned in the Agriculture Policy 2022 are supportive of a more sustainably run agricultural industry, according to the OECD (2022) and assist in making better use of natural resources and improving agriculture's environmental sustainability. The federal government's fiscal stimulus plan is unrestricted by industry sectors. As a result, a variety of initiatives aimed to safeguard revenues and address liquidity issues are available to food farmers (OECD 2022). Figure 3.2. provides an overview of the Switzerland Government’s strategies to support smallholder farmers.



(Source: Mandivengerei, 2022)

Figure 3.2: Switzerland Government strategies to support smallholder farmers.

Siegenthaler (2020) notes that the Swiss government protects the agricultural industry through import limits and state subsidies, and farmers also benefit from several additional privileges. The cost of fuel for farmers is minimal; for instance, a litre of gasoline or diesel costs a farmer roughly 60 cents less than it does for other road users. They also receive some subsidised fuel, depending on the size of the farm. Federal Customs Administration data published by Siegenthaler (2020) indicates that farmers received a total return of CHF65 million in 2015.

In addition to the aforementioned benefits, farmers in Switzerland also get family allowances. The federal and cantonal governments provide the funding. Regardless of their income level, farmers and the family members who labour on the farm are eligible to family allowances (Siegenthaler, 2020). The farmers solely pay taxes on behalf of their non-family employees. Additionally, farmers gain from a lower tax rate depending on the anticipated rental value of their land. Housing costs for a farming family are only roughly half as high as those for comparable households (Siegenthaler, 2020; OECD, 2022). For the direct sale of produce such as potatoes, meat and eggs, no value added tax is required to be paid. In contrast, the designated farm vehicles in Switzerland that have license plates are free from the heavy goods vehicle tax. The

vehicles are free from the prohibition on driving heavy vehicles on Sundays and at night (Siegenthaler, 2020). The government offers farmers access to an investment fund. According to Siegenthaler (2020), farmers are granted interest-free loans so they can build farming infrastructure like homes, farm stores, and so on. When money is required for land improvements, agricultural structures, or tasks deemed useful for the entire community, the farmers also receive grants (Siegenthaler, 2020; OECD 2022).

Switzerland and IFAD, according to IFAD (2020), are dedicated to eradicating poverty, malnutrition, and hunger, and both organisations place a priority on sustainable agriculture and family farming at the core of their respective missions (Bellomy, 2019). Switzerland has built strategic collaboration in the areas of assessment, water management, farmer organisation development, climate adaption and engagement with the private sector as part of its efforts to end poverty and hunger. The improvement of the production base and social policies is listed as one of the Swiss government's objectives for 2022. This is accomplished by providing direct financial assistance for farm investments, infrastructure upgrades, social assistance for farmers, and pay advances. In accordance with the Swiss PA 2014–17 policy framework, these payments were made. The carbon dioxide levy is a crucial tax under the Paris Agreement framework for fulfilling Switzerland's climate change goals. The charge only applies to the fuels used to heat barns for animals and greenhouses; it does not apply to any other emissions from agricultural activities (PA 2014-2017 policy framework).

Switzerland is aware of IFAD's capacity to help small-scale farmers reduce their exposure to the consequences of climate change by providing them with climate finance. Switzerland is supporting initiatives that help disadvantaged rural residents who depend on natural resources for a living, increase the resilience of rural residents, bring innovation and try out fresh ideas so that Switzerland may create and adopt a system to track investments that are climate-focused (IFAD, 2020). In addition, Switzerland's government collaborates with the corporate sector to support its smallholder agriculture. Smallholder farmers receive funding for their operations to increase their livelihoods and access to food (IFAD, 2020). Switzerland is one of the most economically developed nations, and as a result, the Swiss government provides financial assistance to farmers.

This review has shown how well-supported Swiss farmers are by the government. As one of the richest nations in the world, Switzerland provides substantial financial support to farmers.

3.10 CHAPTER SUMMARY

The review of the literature has revealed the importance of the relevance of the agricultural education curriculum in poverty alleviation. Attention was given to the teachers' implementation of the Agricultural School curricula to equip learners with relevant knowledge to practise farming. The literature has also highlighted the challenges that smallholder farmers encounter in an attempt to alleviate poverty with special reference to Zimbabwe, Kenya, and Switzerland. Literature confirmed various challenges that smallholder farmers encounter which require governments and stakeholder intervention. Several strategies that agricultural teachers can employ to equip learners with farming knowledge and skills, were identified from various scholars in Zimbabwe, Kenya, and Switzerland. The next chapter presents the research design and methods as they apply to this empirical study.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 INTRODUCTION

The previous chapter dealt with the relevance of agricultural education curricula in poverty alleviation in the Masvingo rural district in Zimbabwe discussing it from a local and world perspective. The discussion gave insight into the practices and their application of agricultural education curricula in poverty alleviation. The information gathered served to describe the context of the situation under investigation to support the fieldwork.

The research methodology and design that were employed to address the study's aims and predetermined objectives are described in this chapter. The research issue and its sub-questions are restated at the outset, and then the justification for the empirical study is covered. Then the research paradigm, research design, research methodology, and data collection and analysis is discussed. The discussion concludes with trustworthiness and ethical considerations.

4.2 THE RESEARCH QUESTIONS

To address the problem statement described in Chapter one *(cf.* section 1.2*)*, the main research question was framed as follows: *How relevant is the agricultural education curriculum in poverty alleviation in the Masvingo rural district in Zimbabwe?*

Out of the main research question, the following sub-research questions emerged:

To explore the main research question, the following sub-research questions were formulated:

1. How do teachers implement the Zimbabwean agricultural education curriculum to equip learners with relevant knowledge to practice farming?
2. Which strategies can agricultural teachers employ to equip learners with farming knowledge and skills?
3. What are the challenges of smallholder farmers in the Masvingo rural district when implementing the Zimbabwean National Agriculture Policy Framework to alleviate poverty?
4. What government intervention strategies can be employed to improve smallholder farming practices?

4.3 RATIONALE FOR EMPIRICAL RESEARCH

Empirical research uses systematic data collection and analysis to let the researcher give first-hand evidence from the topic under study (Yin, 2016, Dan, 2017). Experimentation and qualitative empirical research that draws inferences from participant experiences form the foundation of quantitative research projects. Through exploration, which gives participants the chance to share their opinions and experiences, the empirical qualitative project enables the researcher to better comprehend the issue (Creswell, 2013:48). Below is a discussion of the justification for performing this empirical investigation.

The history of Zimbabwe shows a lack of policies that assist in alleviating hunger and poverty in the country (Helliker & Murisa 2020). The new curriculum, *Curriculum Framework for Primary and Secondary Education 2015-2022,* in Zimbabwe was set with the objective to produce a well-rounded learner capable of contributing meaningfully to the development of the country (MoPSE, 2022), but currently many school leavers roam the streets unemployed, and hunger striven (WFP, 2021). However, that the new curriculum has not been able to deliver on its aim as many people in Zimbabwe are unemployed and are unable to create their own employment.

According to Chingarande and Guduza (2020), the overall rate of unemployment is 95% with youth unemployment pegged at 70%. Many livelihoods in Zimbabwe depend on agriculture, especially smallholder agriculture which produces 70% of staple food (FAO, 2022). Zimbabwe used to be the breadbasket of Africa, but now the country fails to feed itself (Booth, 2021).

The International Federation of Red Cross and Red Crescent (2021-2022) argues that in the January to March lean season, about 27% of rural Zimbabweans were food insecure. Famine Early Warning System (2021) cites that 2021/ 2022 was a year with a below-expected harvest. Many rural communities, therefore, struggled to purchase food items (WFP, 2021). All these problems happen in a country with well-crafted policies. This study, therefore, was meant to explore the relevance of school curriculum agricultural policy in poverty alleviation in the Masvingo rural district. Such research could help the people and the government of Zimbabwe since recommendations for consideration will be derived and if implemented, this may enhance citizens' living standards. Many studies have been carried out to find better

ways of implementing policies to improve the standard of living, but poverty is still experienced in Zimbabwe. This study, therefore, tries to fill in this knowledge gap by exploring the relevance of agricultural education curricula in poverty alleviation in the Masvingo rural district in Zimbabwe.

4.4 RESEARCH DESIGN

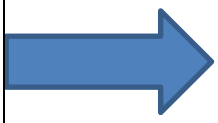
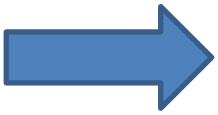
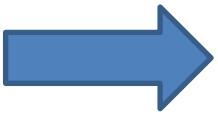
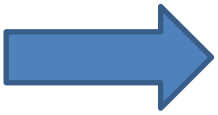
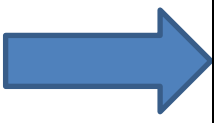
A research design, according to Robson (2018), is the overall approach you select to combine the many study components in a coherent and logical manner, so assuring that you will successfully answer the research problem. It serves as the manual for gathering, measuring, and analysing data. According to Gwimbi and Dirwai (2020), the purpose of a study design is to make sure that the data collected enables the researcher to answer the research challenge as clearly and rationally as feasible.

Robson (2018) comments that a common mistake made by researchers is that they begin their investigations far too early before they have thought critically about what information is required to address the study's research question. Without attending to design issues beforehand, the overall research problem will not be adequately addressed, and any conclusion drawn will risk being weak and unconvincing. As a result, the overall validity of the study will be undermined.

4.5 RESEARCH PARADIGM

Nick (2013) defines a research paradigm as a research culture with a set of beliefs, values, and assumptions that a community of researchers has in common regarding the nature and conduct of research. Hence a paradigm implies a pattern, structure, framework or system of scientific and academic ideas, values and assumptions (Guba, 2012). The research paradigm is characterised by ontology, epistemology, theoretical perspective, methodology and methods of the research. The table below represents each characteristic of a research paradigm and what each involves. It is from this aspect that the specific paradigm, design and method for this study were identified to answer the main research and sub-questions.

Table 4.1: Characteristics of a research paradigm

Ontology What is reality?	**Epistemology** What and how can we know reality?	**Theoretical Perspective** What approach can we use to get knowledge?	**Methodology** What procedures can we use to acquire knowledge?	**Methods** What tools can we use to acquire knowledge?
				

(Source: Guba, 2012:89)

Ontological and epistemological aspects concern what is commonly referred to as a person's worldview, which has a significant influence on the perceived relative importance of the aspect of reality (Nick, 2013:105).

Understanding the research paradigm is crucial because it influences the researcher's style of thinking and reflects how the research project is structured in terms of data collection and analysis. Together, ontology and epistemology produce a comprehensive understanding of how knowledge is perceived, how researchers see themselves in relation to that knowledge, and how methodological approaches are employed to uncover it (Nick, 2013:99). The quality of the research improves, and the researcher's creativity may be enhanced by being aware of philosophical presumptions. To prevent the emergence of shoddy science and poorly interpreted results, Struebert and Carpenter (2011:25) assert that comprehending the philosophical concepts underlying the research is crucial.

Objectivism and constructivism are two different worldviews. Most academic fields are affected by these several worldviews, but none of them is better than the others (Wahyuni, 2012:72). Both might be sufficient for some uses while being insufficient for others. Positivism, interpretivism and critical postmodernism are the three philosophically diverse categories into which Guba (2012:91) divided research paradigms. The interpretive paradigm is the one used in this investigation.

Constructivist or interpretivist researchers believe that there is no single reality or truth and therefore reality needs to be interpreted. Interpretive researchers are more likely

to use qualitative research. These researchers believe that reality consists of people's subjective experiences of the external world, thus may adopt an inter-subjective epistemology and the ontological belief that knowledge is socially constructed (Struebert & Carpenterm 2011:28). Citing Willis (1995), Guba (2011:101) observes that interpretivists are anti-foundations, who believe that there is no single correct route or method to knowledge.

Walsham (1993), quoted in Nick (2013:107), argues that in the interpretivist tradition there are no correct or incorrect theories; instead, they should be judged according to how interesting they are to the researcher as well as those involved in the same area. They attempt to derive their constructs from the field by an in-depth examination of the phenomenon of interest, for example, through case studies.

Reeves and Heelbeg (2003:32), cited by Nick (2013:102), note that the interpretive paradigm stresses the need to put analysis in context. The interpretivist paradigm is concerned with understanding the world as it is from the subjective experience of individuals. Interpretivism uses meaning- oriented methodologies such as interviewing or participant observation versus measurement-orientated methodologies. Interpretivism generates data from participants based on their experiences and perceptions to reflect the multiple realities which exist as socially perceptive. Interpretivism believes that to understand the social world of people based on their experiences and subjective meanings, it is important to interact and have dialogues with participants under study. This way, the researcher obtains qualitative data which provides rich descriptions of those social constructs (Thomas, 2011:511; Yin, 2011: 82). Interpretivist research also relies on a subjective relationship between the researcher and subjects and aims to explain the subjective reasons and meanings that lie behind social action (Yin, 2011: 82). This is the paradigm most appropriate for this study because it generates data from participants based on their experiences and perceptions. The researcher interacts with participants.

4.6 RESEARCH APPROACH

A research approach refers to the actual way of carrying out research, using either qualitative, quantitative or mixed methods (Gwimbi & Dirwai, 2018). When investigating, quantitative research is impartially neutral and asks specific, focused questions, gathers quantifiable data from participants, and uses statistics to analyse

the data (Fraenkel, Wallen & Hyun, 2018). Research that is qualitative collects information about actual events, actions, and feelings (Dirwai & Gwimbi 2019).

In this study, a research approach refers to the qualitative approach followed in this research.

4.6.1 Qualitative Approach

The study used a qualitative research approach in its data generation and data analysis techniques because of its use of words, which are a specialty of most humans (Neuman, 2011:97; Robson, 2012:61). Qualitative researchers discuss cases in their social context that is, emphasising on tracing the process and sequence of events in specific settings (Gwimbi & Dirwai, 2018:52). The qualitative approach aims to understand the experiences and attitudes of people and answers questions about what, how, and why phenomena (Shamoo & Resnik, 2015:60).

This study deemed the qualitative approach most appropriate because the objectives raised issues that are related to people's experiences (Shamoo & Resnik, 2015:61). The qualitative approach reflects certain features which are important for this study and include sharing insights useful to explain human social behaviour, and contextual conditions in which people live, using multiple sources of evidence, studying the meaning of people's lives in the real world, presenting data in a literary style with supporting comments from the participants, recognising that the researcher is part of the research and representing the views and perspectives of participants.

To elicit the views of the participants in the Masvingo Rural District concerning their experience of the relevance of school curriculum agriculture policy in poverty alleviation in the Masvingo Rural District, the qualitative approach was preferred, and the data-gathering strategies and analysis techniques were designed in line with this approach, to answer the research questions (Neuman, 2012:104).

Following a qualitative approach, the research design for this study was a case study design framed within qualitative research.

4.6.2 Research Type

There are numerous types of study designs that qualitative researchers might apply, according to Kitchin and Tate (2020). Case studies, ethnography, biography, grounded

theory, and ethnography fall under this category. A case study is an in-depth study of a particular situation (Shuttleworth 2018). Cherry (2021) adds that a case study is a method used to narrow down a very broad field of research into one easily researchable topic. Case studies can be used in many different fields for example education, psychology, medicine, social science, and political science. This study's goal was to investigate the value of the agricultural policy in the school curricula in reducing poverty in Zimbabwe's rural Masvingo district, hence a case study was chosen as the method.

A case study is a detailed examination of a specific research issue as opposed to a broad statistical survey or in-depth comparative investigation (Gwimbi & Dirwai, 2020). It is employed to condense a very wide topic of study into one or a small number of readily researchable examples (Gwimbi & Dirwai, 2020:65). The case study research design is also helpful for evaluating the applicability of a given theory or model to phenomena that occur in the real world. Therefore, it was possible to examine the Welfarist hypothesis that served as the foundation for this study. A case study might be helpful when little is known about a problem or phenomenon (Shamoo & Resnik 2019:111). Considering this, it was possible to investigate the situation surrounding poverty alleviation in the rural districts of Masvingo. Shamoo and Resnik (2015:67) argue that the case study approach excels at bringing an understanding of complex issues through detailed contextual analysis of a limited number of events or conditions and their relationships. For this reason, the study used a case study of the Masvingo rural district to have a thorough analysis of the relevance of school curriculum agriculture policy on poverty alleviation in Masvingo rural district.

A researcher using a case study design can apply a variety of methodologies and rely on a variety of sources to investigate a research problem (Kitchin & Tate, 2020:78). Social scientists in particular make use of this research design to examine contemporary real-life situations and provide a basis for the application of concepts and theories and the extensions of methodologies (Shamoo & Resnik, 2019:215). The design can provide a detailed description of specific and rare cases. A further reason for choosing a case study for this study was because the design facilitates comprehension and interpretation of the meanings that study participants ascribe to their everyday encounters with poverty. Moreover, Stake (2005) argues that case

studies offer a means of investigating complex social units consisting of multiple variables of potential importance in understanding phenomena. Through a case study, the relevance of school curriculum agriculture policy in poverty alleviation in Masvingo Rural District can be scrutinised effectively. In addition, information in a case study is sought from the actual people who are rich with knowledge concerning the research, thus the study is correctly informed.

The common motifs or central meaning were present in all the participant's experiences because of the characteristics that were significant for this study. The qualitative strategy was chosen, and the data-gathering techniques and analysis strategies were established in accordance with this approach, to acquire a thorough description and understanding of the research problem from the experiences of participants in a natural setting (Dirwai & Gwimbi 2020:43). A case study of the Masvingo rural district was chosen because this is one district in Zimbabwe that experiences hunger and poverty due to the persistence of drought. A case study was deemed suitable for this research because it is an intense study of a single unit with the aim to generalise across a larger set of units (Selindler & Cooper, 2005). The results of the research can be generalised in other districts of Zimbabwe since hunger and poverty characterise many districts of the country.

4.7 RESEARCH METHODS

Research methods, according to Shuttleworth (2008), are strategies, procedures, or methods used to gather data or other supporting evidence for analysis to learn new facts or develop deeper insights into a subject. As regards the technologies used to collect data, various research methodologies exist.

With the aid of qualitative research, researchers can better comprehend intricate ideas, social relationships or cultural occurrences (Creswell, 2019). Interviews, focus groups, observation, document analysis, and oral history or life stories are examples of qualitative methods or tools used to collect research data (Cherry, 2021).

4.7.1 Study Population

A study population is a subject of the target population from which a sample is selected (Majid, 2021) Qualitative research demands an attentive selection of the study population from whom the researcher proposes to get data (Majid, 2021). The

participants of the research were smallholder farmers in the Masvingo rural district, Agriculture Extension Officers (AGRITEX) in the district, the District Development Fund Ministry (DDF), secondary school teachers, and learners. The study setting for qualitative studies was the field or the place in which participants of the study live and experience the issues of the study (Gwimbi & Dirwai, 2013:59).

4.7.2 Sampling Strategy

McCombes (2022) explains a sampling strategy as a plan that a researcher sets to be sure that the sample used in the study represents the population from which the sample is withdrawn. In qualitative research, only a sample that is a subset of a population is selected for a given study.

The study's research objectives and characteristics of the study population such as size and diversity determined which and how many people to select (McCombes, 2022). There are two main types of sampling methods, which are probability sampling and non-probability sampling. Probability sampling involves random selection, allowing the researcher to make strong statistical inferences about the whole group while non-probability sampling involves non-random selection based on convenience or other criteria which allows the researcher to collect data (Creswell, 2019).

As previously stated, non-probability sampling is a way of choosing units from a population via a non-random, subjective process. According to Creswell (2019), non-probability sampling is a quick, simple, and affordable method of collecting data because it does not call for a whole survey frame. Convenience sampling, purposeful sampling, and snowball sampling are a few non-probability sampling examples.

According to Shuttleworth (2018), convenience sampling is a non-probability sampling strategy in which samples are chosen from the public because the researcher can easily access them. The samples are chosen by the researcher because they are simple to gather. Convenience sampling is quick and affordable, and the sample is readily accessible (Dirwai & Gwimbi, 2019).

Purposive sampling involves selecting a sample based on the researcher's expertise and reputation (Creswell, 2019). The researcher selects volunteers that they believe are qualified to take part in the study. Purposive or judgemental sampling is not a

scientific sampling technique. This study method can be quite ambiguous because a researcher's previous assumptions can affect the outcomes (Fraenkel et al., 2018).

The snowball sampling technique helps the researcher to find a sample when it is difficult to locate (Shuttleworth, 2008). Researchers use this type of sampling when the sample is small and not easily available. This sampling technique acts like a referral programme. Once the researcher finds a suitable subject, he or she asks them for assistance to seek similar subjects to form a considerably good size sample (Fraenkel et al., 2018).

McCombes (2022) argues that non-probability sampling techniques are more conducive and practical for researchers deploying surveys in the real world. Statisticians prefer probability sampling because it yields data in the form of numbers, however, if non-probability sampling is done properly, it can produce similar results (Fraenkel et al., 2018). Moreover, responses are faster and cheaper because the sample is like the researcher, so it saves time and resources (Gwimbi & Dirwai, 2018). Non-probability sampling is also easy to use and can be used when a researcher cannot conduct probability sampling because of a small population.

Am aspect to consider is that the researcher may fail to evaluate whether the population is well represented (McCombes, 2022). In addition, Fraenkel et al. (2018) suggest that the researcher may also have an unclear sample size because there is no way to measure the boundaries of the relevant population of the research.

For this study, 25 participants comprising teachers, learners, smallholder farmers, AGRITEX officials, and DDF Officials were purposive selected to collect data from participants. The Agriculture Extension Officers were selected for the research because they represent the Ministry of Agriculture and Rural Development. This Ministry is the pillar that should support rural agricultural development in Zimbabwe. In addition, 15 focus groups with smallholder farmers and learners from secondary schools in the Masvingo rural district, were also organised. According to Resnik (2015:82), the number of groups and group size depends on the purpose of the study, the homogeneity or heterogeneity of the participants, and the sample size. Therefore, it is typically a good idea to increase the number of groups to obtain any new information during group talks. The smallholder farmers and the Ministry of Agriculture

have first-hand information (experience) on issues to be studied. Teachers and learners were also selected because they play an active role in the school.

All these participants were involved based on their willingness to take part in the research and their availability. Those interviewed were selected using a purposive or judgemental sampling technique (Igras et al., 2012:91). Samples in qualitative research are usually purposive (Dirwai & Gwimbi, 2013:65). This means participants were selected because they were likely to generate useful data for the study. Samples are typically small in qualitative work. The researcher continues to interview participants until no new information emerges from the data after data analysis, this is a point known as saturation, to determine the number of persons required (Igras et al. 2012:93).

Ellsberg and Heise (2011:94) note that regarding sample size in qualitative research, it is often difficult to get the participants needed and inadequate recruitment efforts are a common source of problems in much research. Participant turnout also depends on the community's interest in the study's subject and how much they believe participating in the research will benefit them (Ellsberg & Heise 2011:94). Normally, groups consist of six to ten people. Below that point, it could be challenging to maintain a conversation, and over that point, it might be challenging to regulate (Ellsberg & Heise 2011:94). To find participants, enlist the assistance of gatekeepers, community leaders, or contacts who can send out invitations or ask the population for volunteers (Ellsberg & Heise, 2011:96).

4.7.3 Data Collection Procedures

In qualitative research, a range of data collection techniques can be applied. Interviews, focus group discussions, observation and document analysis are some of these techniques (Gwimbi & Dirwai, 2013:67). As part of the data collection process for this study, observations, focus groups, and interviews were conducted. When a researcher employs qualitative methods, they are producing data that is predominantly in the form of words rather than statistics (Ellsberg & Heise, 2015:96). The participants provide the data.

4.7.3.1 Pilot study

According to Yin (2011:37), a pilot study is conducted to refine the data-gathering

instruments and to experience the whole process of data generation as well as test the validity and reliability of research tools. As Neuman (2011:341) points out, this exercise is important for checking whether the interview questions are clear for participants to give correct data and to check whether there are other issues that were not included. A pilot study also helps to see the reaction of participants, to test the digital audio recorder, and to estimate the time necessary for the interviews and focus group discussions on the data generation process. As Shamoo and Resnik (2015:275) note that collecting data early gives the researcher the advantage to experience early the processes of data analysis of the main study. By conducting a pilot study, the researcher gets a chance to sense a theoretical aspect of data generation described in methodology in practical terms. This process is done to increase the success of the data generation process of the study.

A pilot study was conducted in the Musvovi area in Masvingo Rural District. Interviews and focus group discussions were carried and based on the mock interviews, the data gathering tools were able to be evaluated, whether they were appropriate in terms of content coverage, organisation, clarity and wording (Wahyuni, 2012:74). The researcher would analyse the data obtained from interviews and focus group discussions to evaluate the data gathering tools and processes in answering the basic questions of the study. By doing so, the study would be following the main features of qualitative research. Finally, from the lessons learned from the reaction of participants of the study and problems identified in the instruments as well as the data collection process, the necessary revision was made to the instruments prior to proceeding with the main study.

4.7.3.2 Semi-structured interviews

Interviews resemble everyday conversations, although they are focused (to a greater extent) on the researcher's needs for data (Kitchin & Tate, 2013:73). They also differ from an everyday conversation because we are more concerned with conducting them in the most rigorous way to ensure reliability and validity (that is, trustworthiness) (Kitchin & Tate, 2013:73). This means that both the researchers and users of the findings can be as confident as possible that the findings reflect what the research set out to answer that reflecting the bias of the researcher or a very atypical group (Ellsberg & Heise, 2015: 101). In practical terms, this means that our techniques

should aim to be reproducible, that is, someone else could use the same topic guide to generate similar information (Ellsberg & Heise, 2015:101).

The choice of interviewees should be systematic to ensure that the researcher is not just picking interviewees or data that supports pre-existing ideas about the answer (Shamoo & Resnik, 2015:79). Questions asked in an interview, for instance, and the way they are asked, should be reasonable ones for generating valid or truthful accounts of phenomena. Moreover, there should be transparency so that readers can see exactly how the data were collected and analysed (Shamoo & Resnik, 2015: 82).

There are different types of interviews used in qualitative research. These range from semi-structured (using a topic guide) to less structured and structured interviews. The semi-structured interview, which is a hybrid type of interview which lies between structured and unstructured (in-depth) interview (Wahyuni, 2012:74), was used in this research. Ellsberg & Heise (2015:106) add that semi-structured interviews are conducted based on a loose structure (topic guide) made up of open-ended questions defining the area to be explored. This method has both the advantages of structured and unstructured interview type as it focuses on core questions, raises more information depending on the flexibility and interest of the interviewee, and the clarity and specificity of answers. It is also a good way to generate relevant data from the participants (Wahyuni, 2012:74).

Before carrying out the actual interviews, Ellsberg and Heise (2015) suggest that for any interview, it may take a while to develop the right questions for getting precisely the kind of data in which one is interested. The scholars argue that the researcher should pilot questions first with colleagues to find out if the questions make sense and whether respondents respond in the way expected. Sometimes small changes in how one asks can make a large difference to the information given.

To generate data from participants, the interview began with some questions to cover the issues under investigation allowing the participants to add more explanations and information. The interview questions were formulated using Neuman's (2011:387) suggestion that the interviewer should start with a general question to orientate the interview to a topic (*cf.* Appendices D, E, F & G). Moreover, the researcher should choose the type of language that participants understand and will not feel intimidated by complex vocabulary or patronised by a simplistic one either. This implies that the

interviewer should use everyday vocabulary, not technical words, or complicated ones. Shona, an indigenous language in the Masvingo rural district, was used in this study. As Neuman (2011:323) suggests, more sensitive questions were asked toward the end of the interview when the participants felt more comfortable with the process.

After gaining permission from all relevant parties, the researcher creates a friendly relationship with smallholder farmers in the district. It is quite fortunate that the researcher resides in Masvingo Rural Area, so it was going to be less burdensome to associate with the farmers. This exercise would pave way for the researcher to get relevant data from the participants of the study. Firstly, the participants were briefed about the purpose, confidentiality, anonymity, and voluntary nature of participating in the study as this help build trust in the researcher and avoid any suspicion and fear towards the study during the audio recording of the interviews. To minimise the anxiety of participants during the interview, they were informed about the purpose of the study, were assured of confidentiality and supplied with the letter of informed consent to sign (Ellsberg & Heise, 2015:99).

The researcher put in every effort to facilitate the data-gathering process. This was done by making the interviewee as comfortable as possible during the interview. Key questions of the interview were used in the middle of the conversation to maximise focus (Shamoo & Resnik, 2015:99) encouraged open-ended discussions. This helped to avoid some of the limitations of interviews, such as perceptual distortions and selective recall which may come from interviews, as stipulated by Ellsberg and Heise (2015:100).

Individual interviews were captured using audio recording. An audio recording has the advantage of saving objectively the actual content of the interview for analysis (Gwimbi and Dirwai 2011:80). During the interview, the researcher took care of the mechanical failure of the audio recorder by checking and monitoring whether it was working before the interview and during the interview. As the interview progressed, the researcher took note of important sections to use for analysis and to add more questions and motivate the interviewee that he or she had something extra or important to add (Ellsberg & Heise, 2015:99).

During interview, the researcher took short notes to capture and summarise important information. As Gwimbi and Dirwai (2012:96) suggest, a researcher can take three

types of notes during the interview, which are observational, methodological and theoretical. The observational method describes observations made during the data-gathering process, while the methodological refers to any issues and concerns to the method of the research. The theoretical aspect refers to the themes and findings which may come from the interview. The researcher would be alert about these things in conducting the interview. These are important elements for the analysis and final write-up of the findings of the study.

4.7.3.3 Focus group discussions.

The other type of interview which was employed in this study is focus group discussions, where a group of six to 10 members on average, with a similar background, were asked to respond to a list of questions (Shamoo & Resnik, 2015:89) (*cf.* Appendices H, I & J). As the name suggests, the participants focus on the questions that the researcher raises. This method has the advantage to get a lot of information in a short period of time and generating perceptions as well as information in participants may not think of or forget when they are asked individually and serves as a complement to other methods of data generation (Neuman, 2011:364).

It is also possible to get a better generalisation in comparison to the results of individual interviews (Haeffele, 2012:42). According to Igras et al. (2012:17), two to four focus groups are considered enough for single research. In this study, four focus group discussions were held in various parts of the district to generate as much information as possible. The researcher tried to ensure that the focus group discussions were carried out in a quiet, comfortable place so that participants would feel relaxed and inclined to speak (Igras et al., 2012:19). The focus group participants for the study were organised in a circle so that they could see each other, and a flip chart was used for recording issues (Shamoo & Resnik, 2015:91). A tape recorder was also used to record the discussions.

In this study, the researcher followed Igras et al.'s (2012:21) suggestion that to start the focus group discussion with a starter or ice-breaker question. The starter question presented the basic topic for the session with the aim of motivating each participant to give some meaningful response or opening statement and thereafter, the discussion was open to the group. The key feature of the starter question is that one should easily be able to respond to it (Igras et al., 2012:21). After the starter question, the interviewer

tapped into the topic guide as well as trying to relate the questions to what has been mentioned during the opening statements (Igras et al., 2012: 21). Shamoo and Resnik (2015: 99) suggest that focus groups should last about 90 minutes. However, it is better to announce to the group that it could take a longer period. To indicate that the discussion was ending, the researcher asked each participant for a final summary statement within which participants were asked to point out what they thought were the most important points raised in the discussions. This helped for the analysis part (Igras et al., 2012:22). Neuman (2011:364) advises that at the end of the discussion, the researcher should remember the common courtesy to thank all participants for their time and energy and provide whatever refreshments that might be appropriate in the setting.

4.7.3.4 Non-Participatory Observation

This method is called naturally occurring data (Gwimbi & Dirwai, 2011:74) and is an essential tool, as the researcher can benefit a great deal by observing what is happening in the field of study (Ellsberg & Heise, 2015:105; Gwimbi & Dirwai, 2015:74). In this case, the researcher observed how the school agriculture curriculum is implemented in the Masvingo rural district, how the government assists farmers in boosting agricultural production, thereby addressing the issue hunger and poverty in the district. Gwimbi and Dirwai (2011:74) suggest that as the researcher observes all events in the field, he/she must record them, analyse and interpret what would have been observed. However, Neuman (2011:365) argues that observation on its own is not what you can do as a researcher; observation does work in conjunction with other methods. The advantages of the observation method are that it is a direct technique as one simply observes the activities and events. The method also validates the message obtained in interviews (Igras et al., 2012:26; Shamoo & Resnik, 2015:98). Data from the observation checklist and other relevant documents were summarised in line with the sub-questions of the study. In this study, the researcher observed learners and smallholder farmers practising farming.

4.7.3.5 Document Analysis

Neuman (2011) posits that document analysis is qualitative research in which documents are reviewed by an analyst to assess an appraisal theme. Documents are interpreted by the researcher to give a voice and meaning around an assessment topic

(Ellsberg & Heise, 2015:105). In this study, the researcher also analysed some documents in order to triangulate findings.

4.8 DATA ANALYSIS

Neuman (2011:370) posits that in conducting research, after having gathered the required data using the appropriate instruments, the next step is data analysis and interpretation. In the analysis of qualitative data, researchers are advised to start the process early; they do not wait until all the data is gathered like in quantitative research (Gwimbi & Dirwai, 2013: 89; Ellsberg & Heise, 2015:105 ;). As a result, the researcher started data analysis as soon as data was gathered which reduced the problem of accumulating loads of data to the extent that it would have become a difficult task to sort and analyse.

Data analysis is defined as the process of thoroughly searching and arranging the field note, interview transcriptions, and other relevant contents to arrive at the conclusion of the study, following specific procedures such as coding and searching for patterns (Wahyuni 2012:74; Gwimbi & Dirwai, 2013: 91). Data analysis holds the key to an understanding of the issues under research. It makes sense out of large amounts of raw data (Kitchin & Tate, 2013:88). Data analysis explores data through a wide variety of techniques designed to suggest aspects of data or modelling techniques that might be worth investigating in detail (Gwimbi & Dirwai, 2013:88). There are many ways to analyse qualitative data.

As Streubert and Carpenter (2011:50) observe, there is no single method for analysis of qualitative data. Analysis and presentation of data depend on the purpose of the report and its audiences. Therefore, researchers are advised to choose the most useful presentation style to communicate their findings (Streubert & Carpenter, 2011:50). A thematic descriptive approach or more in-depth methods could be used (Igras et al., 2015:102). Thematic analysis, which looks across all the data to identify the main themes that summarise all the views collected, is the most common method for descriptive qualitative projects (Igras et al., 2015:102) and was used in this research.

The key stages in a thematic analysis in this research was reading and annotating the field notes. After carefully reading the field notes, important notes were identified from

the content by grouping similar points of the notes. From there, by listening to the recorded interviews and focus group discussions on the audio tape, the content was transcribed verbally. Not all content was transcribed unless it was relevant and related to the issue under investigation (Igras et al., 2015:105). The content was analysed in a cross-case analysis method (Gwimbi & Dirwai, 2013:102) which is a method of organising the responses of all participants according to topics raised in the interviews. This was the most basic stage where preliminary observations were made. This is particularly useful with the first few transcripts, where one is trying to get a feel of the data (Ellsberg & Heise, 2015:104). Having done that, the researcher read the transcriptions many times to identify and code key ideas in the data.

The next step was to start looking in detail at data, to start identifying themes and summaries of what is going on. As part of the reading, In the margins of each transcript or set of notes, I started to note what the interviewee was referring to and tried to make these as abstract as possible. This meant not summarising the text but thinking what the text is an example of (Shamoo & Resnik, 2015:107). It was useful to number the lines, to make it easy to refer to each segment of data when coding (Igras et al., 2015:102). Igras et al. (2015:103) highlight that it is useful to begin developing the coding scheme as soon as initial data have been collected and whenever possible, add and develop the coding scheme often working with colleagues. This helps to avoid going down narrow analysis paths and it ensures that individual bias about what is going on is kept in check.

Applying these codes to the whole set of data, by either writing codes on the margins of transcripts or notes and marking the text online ensured that the whole data set was coded. Going through the data in detail allowed the opportunity to amend the coding scheme (Igras et al., 2015:103; Shamoo & Resnik, 2015:108), which ensured that the analysis did not just concentrate on the atypical or exotic extracts of data and that it was a truly comprehensive analysis (Neuman, 2011:371; Gwimbi & Dirwai, 2013:100).

Thereafter, categories, that is, patterns, were formed out of the list of key points or codes. Gwimbi and Dirwai (2013:99) explain that the initial themes can now be gathered to develop a list of all themes and the codes that applied to the data with each broad code having several sub-codes. Theme formation follows the steps of segmenting, coding, categorising, developing hierarchy, identifying relationships, and

corroborating and validating results for interpretation, as described by Gwimbi and Dirwai (2013:90). As noted by Robson (2012:201), when all the data have been coded, the data extracts can be taken out of their original context (that is interview or focus group transcripts and sorted into categories.

Neuman (2013: 101) explains that concepts, themes, and general ideas are useful as analytic tools for generalising and categories in the data analysis and interpretation process. Data from the observation checklist and other relevant documents were summarised in line with the sub-questions of the study. These points would be considered in the analysis and discussion of the whole data. Similarly, important points from relevant documents would also be considered in the analysis and discussion of the findings of the study.

The conclusions of this study would, therefore, be based on the categories formed, interpretations and explanations given by taking extracts out of the transcripts of the interview to support these interpretations. In addition, the discussion part would be organised in line with sub-questions of the study. This would help to organise and see the whole picture in line with the study.

Interpretation refers to developing ideas about the findings, considering the review of literature, and explaining them to the readers. Igras et al. (2015:104) posit that to interpret data, the researcher should take note of how much emphasis to give a topic and how many groups mentioned the topic. In this study, the number of groups who mentioned the topic and how much energy and enthusiasm the topic generated from participants was considered. This is called group-to-group validation.

For any specific topic, group-to-group validation means that whatever a topic comes up, it generates a consistent level of energy among a consistent proportion of participants across all groups (Wahyuni, 2012:77; Ellsberg & Heise, 2015:104; Shamoo & Resnik, 2015:302;). Despite the unstructured nature in which qualitative data is collected, it remains important to ensure that the analysis maintains meticulous records of all the interview and group discussions and documents the process of analysis in detail (Neuman, 2011:372).

4.10 TRUSTWORTHINESS OF THE RESEARCH

Bowling (2012:57) explains that a qualitative researcher needs to ensure that the validity or trustworthiness of findings is maximised. In conducting qualitative research, it is expected that researchers follow certain techniques which show the rigorous nature of the procedures in generating and analysing the data obtained. Readers will consider these steps to evaluate the study.

In relation to this issue, the following aspects were considered: that is, credibility, transferability, conformability, and dependability (Bowling, 2012:57) which are synonyms of validity and reliability in the qualitative study. To add credibility and trustworthiness to qualitative research, the research procedures should be explained in detail for transparent purposes. Clear details of research methods must be indicated to avoid any bias or carelessness in conducting the study and the research should be evidence-based in its analysis and interpretation.

4.10.1 Credibility

Bowling (2012:57) suggests that for the study to be reliable to participants of the study, researchers are advised to collect data in many contexts and situations, to get rich data. Researchers also must generate data over a long period of time to get authentic data. Credibility was highly considered in this study. The data for this study was gathered over a long period of time and in different contexts that is, the school and the community.

4.10.2 Transferability

Transferability refers to the extent to which findings of the research can be transferred from one context to another similar situation (Bowling 2012:59). The researcher should clearly describe in detail the nature of the research context and participants so that readers will see the similarity and differences in comparison with other researchers (Streubert & Carpenter, 2011:63). This study clearly described in detail the nature of the research context and the participants of the research. This helps the readers to see and compare similarities and differences with other researchers.

4.10.3 Confirmability

On this issue, researchers are encouraged to present in full detail the data they used to conduct their study so that other researchers can consider the reliable nature of the study (Bowling 2012:60). Confirmability also shows in detail the thought process and evidence that were important to lead to the conclusion (Streubert & Carpenter, 2011:63). To ensure confirmability of the study, the researcher presented a full detail of the data used in the research such that other researchers can consider the reliable nature of the study.

4.10.4 Dependability

Fraenkel et al. (2018) define dependability as the consistency and reliability of the research findings and the degree to which research procedures are documented allowing someone outside the research to follow, audit, and critique the research process. In this study, the research procedures and findings were explained and documented.

4.10.5 Triangulation

This is one method for increasing the validity of findings, through deliberately seeking evidence from a wide range of sources and comparing findings from those different sources. Bowling (2012:60) notes that if the researcher has used interviews and focus groups, he/she should compare the findings from each. If the findings coincide, that strengthens faith in having identified important issues. It is important for the study to ensure that conclusions are based on supporting evidence and include analysis of cases that fit within the conclusions and enough contexts for readers to judge interpretation (Bowling 2012:60).

In line with this, data for this study was gathered using different methods and many participants. Semi-structured interviews, focus group discussions, observation and document analysis were used as data gathering tools. This was done to strengthen the trustworthiness of the study.

4.11 ETHICAL CONSIDERATIONS

Ethics in research refers to methods, procedures, or perspectives for deciding how to act and for analysing complex problems and issues (Resnik, 2015:98). Research

ethics is a matter of balancing values between the search for knowledge and the respect for participants of the study (Neuman, 2011:300). Many different disciplines, institutions, and professions have standards for behaviour that suit their aims and goals. These standards also help members of the discipline to coordinate their actions or activities to establish the public's trust in the discipline (Resnik, 2015:98). Ethical norms also serve the aims or goals of research and apply to people who conduct scientific research or other scholarly or creative activities (Resnik, 2015:98).

Resnik (2015:78) reports that there are several reasons why it is important to adhere to ethical norms in research. Firstly, norms promote the aims of the research, such as knowledge, truth, and avoidance of error, for example, prohibitions against fabricating, falsifying, or misrepresenting research data, promoting the truth, and minimising error. Secondly, since research often involves a great deal of cooperation and coordination among different disciplines and institutions, ethical standards promote the values that are essential to collaborative work, such as truth, accountability, mutual respect, and fairness. Most researchers want to receive credit for their contributions and do not want to have their ideas stolen or disclosed prematurely. Thirdly, ethical norms in research also help to build public support for research. People are more likely to fund a research project if they can trust the quality and integrity of the research. Ethical lapses in research can significantly harm human and animal subjects. Some of the ethical principles, as given by Resnik (2015:79) include:

Honesty: The researcher should honestly report data, results, methods and procedures, and publication status. The study should not fabricate, falsify, or misrepresent data. The researcher should not deceive colleagues, research sponsors, or the public.

Objectivity: Here the researcher should avoid bias in data analysis, data interpretation, personal decisions, and other aspects of the research where objectivity is required. The researcher should also avoid minimising bias or self-deception.

Integrity: This teaches the researcher to keep promises and agreements and work with sincerity and strive for consistency of thought and action.

Carefulness: The researcher should avoid careless errors and negligence and should carefully and critically examine his or her work. Moreover, good records of research activities such as data collection, and research design should be kept.

Respect for intellectual property: On this aspect, the researcher should give proper acknowledgment or credit for all contributions. He/she must never plagiarise.

Social Responsibility: The researcher should strive to promote social good and prevent or mitigate social harms through research.

Human Subjects Protection: When conducting research on human subjects the researcher should minimise harms and risks and maximise benefits, and respect human dignity, privacy, and autonomy. There should be special precautions for a vulnerable population and the researcher should strive to distribute the benefits and burdens of the research fairly.

The above principles were solidly recognised and applied in this research. The participants chose whether to participate in the study or not. Moreover, about the above principles, the researcher carefully considered the context in which she was working, the aim of the research, and how sensitive the topic might be. The researcher considered whether the questions asked were traumatising or made respondents uncomfortable or fearful of consequences. It is very important that the researcher took care of how questions were asked and where to choose to ask questions. Two issues to be considered in any research are consent and confidentiality (Gwimbi & Dirwai, 2018:43).

To conduct the research, the ethical guidelines of the University of South Africa (UNISA) were adhered to, and the researcher was issued a certificate of ethical clearance prior to conducting the study. This served as a reference for the data gathering and analysis process (*cf.* Appendix A Certificate Number 2018/09/12/58554920/29/MC). Permission was requested from and granted permission by the Administrator of the Masvingo District (cf. Appendices B & C) to conduct the study in the area. The participants were briefed about the strategies and procedures of the study in interviews, focus group discussions, and observations in the Shona language. Thereafter participants were given a letter of information with its consent form, written in English. Participants were asked to sign the letter of consent

after having read the letter, which it was assumed that they would understand as the level of literacy has improved in Zimbabwe since independence in 1980.

Informed consent gives the chance for participants of the study to decide upon what may happen to them by being involved in the research (Bowling, 2012:53). Participants would, therefore, get a clear explanation about the research purpose, procedures, risks, benefits, confidentiality, and anonymity. After understanding the issues, participants would be free to decide either to participate or to decline.

The confidentiality and anonymity of individuals were taken seriously in this study to protect them from any harm or any threat which may come from anybody at any time (Bowling, 2012:61). Participant responses would not be shown to anyone to protect them from any form of threat. Names of participants would not be disclosed. This study had no physical or mental risk associated with participants of the study at the individual or community level; rather, the research has potential benefits for poverty alleviation.

4.12 RAPPORT

As raised by Igras et al. (2015:75), all qualitative researchers need to consider how they are perceived by interviewees and the effects on personal characteristics such as ethnicity, status, gender and social distance. The researcher must think of what he/she is wearing and how he/she is presenting himself/herself. Is it appropriate for the context? (Igras et al., 2015:75). Wearing expensive jewellery and clothes may be intimidating to participants but a scruffy appearance may make interviewees disrespected. The interviewees need to trust the researcher, which means that the researcher should show that he/she is interested in the participants and what they have to say and most importantly, that he/she will not judge them whatever their answers (Igras et al., 2015:75).

According to Shamoo and Resnik (2015:272) and Igras et al. (2015:76), the researcher must start by introducing himself or herself (giving his or her name), outlining the aims of the interview, reminding that the interview can stop at any time (should the interviewee feel uncomfortable/unhappy) and should allow time for questions. Here the researcher needs to be sensitive to the needs of respondents who need to be comfortable and helped if they are frail or do not hear well, for example (Igras et al., 2015:76). A key issue is to remember that a research interview is not like a clinical

interview or an interrogation (Bowling, 2012:69; Igras et al., 2015:77). The aim is to be as non-judgemental as possible and not to lead respondents to answers as the research is interested in their views and not their responses to the researchers' views (Bowling, 2012:69). In this research, participants gave their own answers.

4.13 CHAPTER SUMMARY

The chapter has described the methodology used in conducting the research and included aspects such as the research paradigm, research design, research approach and type and research methods. The research methods included the study population, the sampling strategy and participants, data generation strategies as well as data analysis. The trustworthiness of the research and the ethical considerations were also described in detail. The next chapter presents the finding of the data analysis.

CHAPTER 5: DATA ANALYSIS AND INTERPRETATION

5.1 INTRODUCTION

The previous chapter presented the research design and methods that the researcher utilised to conduct the empirical study to realise the aim of the study. This chapter presents the findings that were obtained from the analysis of interviews conducted with the teachers, learners, AGRITEX officers, DDF officials, and documents analysed as well as data from observation of smallholder farmers' practices. The findings are qualitatively presented and interpreted in line with the study objectives to answer the main research question: *How relevant is the agricultural education curriculum in poverty alleviation in the Masvingo rural district in Zimbabwe?*

The theoretical framework (constructivism, Welfarist, and the Capability theories as discussed in Chapter 2) underpinning this study and the literature reviewed were used to guide the study discussion. The first aspect of the empirical findings highlights the profiles of the participants.

5.2 PROFILE OF PARTICIPANTS

Before the interviews began, Secondary Agricultural subject teachers, parents of learners, AGRITEX officers, Smallholder farmers, and DDF officials gave informed consent to participate in the research study in accordance with and within the guidelines of the research ethics. Teachers, learners, AGRITEX officers, smallholder farmers, and DDF officials all agreed to participate in the interviews and to furnish the researcher with pertinent documentation.

Thus, the researcher was able to gather data in the natural environment of the participating teachers. The participant teachers in the study were designated as T#1–T#4, and the researcher alone is aware of their names and identities. Four had consequently consented to take part in the investigation. Officers participating in AGRITEX were designated as AGr#1 through AGr#6. Four had consequently consented to take part in the investigation. The smallholder farmers that participated were designated as SHF#1–SHF#6. Twelve had agreed to participate in the study. With regard to learners who were classified as AGrL#1- AGrL#12 in order to hide their

identity, twelve of them received permission from their parents to participate in the study. Their profiles are presented in Table 5.1 below.

Table 5.1: Profile of participants in the research study

Pseudonym	Position	Experience
T#1	Teaching Agricultural science	20 years
T#2	Teaching Agricultural science	15 years
T#3	Teaching Agricultural science	10 years
T#4	Teaching Agricultural science	6 years
T#5	Teaching Agricultural science	5 years
AGr#1	AGRITEX officer	25 years
AGr#2	AGRITEX officer	15 years
AGr#3	AGRITEX officer	14 years
AGr#4	AGRITEX officer	8 years
AGr#5	AGRITEX officer	6 years
AGr#6	AGRITEX officer	2 years
SHF#1	Smallholder farmer	4 years
SHF#2	Smallholder farmer	3 years
SHF#3	Smallholder farmer	10 years
SHF#4	Smallholder farmer	20 years
SHF#5	Smallholder farmer	38 years
SHF#6	Smallholder farmer	45 years
AGrL#1	Learner	Form 4
AGrL#2	Learner	Form 4
AGrL#3	Learner	Form 4
AGrL#4	Learner	Form 4
AGrL#5	Learner	Form 3
AGrL#6	Learner	Form 4
AGrL#7	Learner	Form 4
AGrL#8	Learner	Form 3
AGrL#9	Learners	Form 4
AGrL#10	Learners	Form 3
AGrL#11	Learners	Form 4
AGrL#12	Learners	Form 4

It can be deduced from this table that there are teachers with many years of experience and those with a lesser number of years of teaching experience. The participant teachers' experiences highlighted their variety of views in terms of the impartation of

practical knowledge and skills with learners. The table also shows the number of years that each AGRITEX officers has been in the position, which tended to yield differing data to the study at hand. The smallholder farmers' number of year in practising farming contributed to gathering valuable information about the relevant knowledge and skills required in farming, which helped to address the research questions at hand. In this study, semi-structured interviews, non-participatory observation, and document analysis were used as data collection instruments. Each instrument is reported separately to answer the sub-research questions (*cf*. 1.2.1). For reflecting on the trustworthiness of the research instruments, the researcher triangulated the data collected using emergent themes and categories to develop a comprehensive understanding of phenomenon under study.

5.3 PRESENTATION OF EMERGENT THEMES AND CATEGORIES FROM ANALYSIS OF DATA

Data reduction, reorganisation and representation were three crucial processes in the analysis of the data for this study (Struebert & Carpenter, 2011).

Emergent themes from the analysis of the interview data, aligned with the research sub-questions, are presented in Table 5.2 below.

Table 5.2: Emergent themes for the study

Sub-Research Question	Themes	Categories
How relevant is the agricultural education curriculum in poverty alleviation in the Masvingo rural district in Zimbabwe?	1. Learners and teachers' understanding of the nature of agricultural practice in schools and the community.	1.1 Nature of agricultural practice in schools and the community, type of crops and domestic animals 1.2 The relevance of the agricultural education curriculum in poverty alleviation 1.3 Smallholder farmers' perspectives on the relevance of the agriculture education curriculum poverty alleviation

Which strategies can agricultural teachers employ to equip learners with farming knowledge and skills?	2. Teachers' strategies to equip learners with agricultural knowledge and skills.	2.1 Learners' agricultural fieldwork/ practical activities
What are the challenges smallholder farmers in the Masvingo rural district face when implementing the Zimbabwean National Agriculture Policy Framework to alleviate poverty?	3. The challenges of smallholder farmers in the Masvingo rural district	3.1 Contribution of the National Agriculture Policy Framework toward poverty alleviation in the Masvingo rural district 3.2 Improving the National Agricultural Policy Framework to alleviate poverty
What government intervention strategies can be employed to improve smallholder farming practices?	4. Government intervention strategies	4.1 Government National Agricultural Policy Framework awareness programme for smallholder farmers

5.3.1 Theme 1: Learners and teachers' understanding of the nature of agricultural practice in schools and the community.

The theme reflects on the understanding of the nature of agricultural practices in schools and communities by secondary teachers and learners in the Masvingo district. The theme centres around participants' understanding of various types of crops that are grown in school gardens and the community. From the analysis of the interview data, the theme was flagged in the categories presented below.

Category 1.1: Nature of agricultural practice in schools and the community, types of crops and domestic animals

The findings on the type of agriculture practised in the Masvingo rural district are presented in this section. Additionally, it examines the sorts of agriculture practised in schools, as well as the animals raised there. Focus is also given to the types of crops, and household animals kept by smallholder farmers and how the locals store and preserve their agricultural produce. To explore the nature of agricultural practices in schools and the community, participant teachers and learners were asked to indicate various types of crops that are commonly grown in the Masvingo rural district. It

emerged that participants know the various types of crops that are grown in the Masvingo rural district as indicated in the extract:

In this district, we grow crops such as maize, sorghum, millet, and ground nuts. (AGrL#1)

Sharing similar types of crops, AGrL#3, indicated that *smallholder farmers grow round nuts, cow peas, and vegetables.*

Although indicating the same types of crops, T#4, pointed out *that cotton, maize, sorghum, millet, ground nuts, round nuts, cow peas, and vegetables are common crops in this district as they are major sources of income for smallholder farmers.*

In supporting T#1, T#6, stated that *maize, sorghum, millet, ground nuts, round nuts, cow peas are commonly ploughed since they form part of the domestic animal food.*

The agriculture instructors claimed to have given the sports department maize. *The corn is processed to make maize meal, which would then be used to prepare "sadza," a staple dish in Zimbabwe, during sporting events. Additionally, some corn would be fed to the goats, bunnies and chicks. Maize might also be utilised to feed learners at boarding institutions.* (AGr#5)

The participant teachers and learners' responses indicated that they have an understanding of different types of crops that are planted in the Masvingo rural district in Zimbabwe. Although learners just gave the types of crops, however, the teachers provided the value of each crop to the community, such as food for people and even for domestic animals. The agriculture instructors claimed to have given the sports department maize to be processed to make maize meal, which would then be used to prepare "sadza," a staple dish in Zimbabwe while sporting events were taking place. Additionally, some corn would be fed to the goats, bunnies and chicks. Maize might also be utilised to feed students at boarding institutions. This indicates the importance of the smallholder farmers in providing the necessary food for both the humans and animals in the community, as articulated by Welfarist theory.

It could be derived from the analysis of data that aligned with the curriculum, the growing and harvesting of different types of crops for that specific area is taught. Observations conducted in several secondary schools revealed that during the rainy

season, maize, sorghum and millet were planted in several secondary school vegetable gardens. Despite the limited quantities, some of these crops, particularly maize, may be seen in school gardens. In most cases, agriculture students in Form four grew the corn as a project. It was observed that students were doing some kind of practical farming in similar ways in the various schools visited. The agriculture departments in the three participating secondary schools were able to harvest a lot of maize, for example. The Ministry of Primary and Secondary Education encourages all schools, both primary and secondary, to utilise all available agricultural land to create school vegetable gardens generate income for schools since many schools are constrained by income shortages (MoPSE, 2022).

When probing further on types of crops that smallholder farmers grow and domestic animals that they rear, smallholders and AGRITEX officers indicated that:

The most common food crop is maize, given that it is the major component of the community's staple food, 'sadza'. Other crops such as ground nuts, round nuts, and cow peas, were intended to supplement nutrition though they are not very common. (SHF#2)

Small grains such as millet and sorghum are not common, though there are families that prefer to grow them. Millet and sorghum are found in households that have elderly people. (SHF#4)

I grow crops such as cotton, maize, sorghum, millet, ground nuts, round nuts, cow peas and vegetables. Cotton generates income more when compared to the other crops which had a dual purpose of being also used as a source of food. (SHF#6)

It is difficult to convince the younger generation to migrate from maize farming towards small grains which tend to be capable of withstanding the low rainfalls in the area. (AGr#2)

We also produce crops to feed our domestic animals. We feed turkeys and chicken, with maize, sorghum, millet, ground nuts, and ground nuts. Some of the crops we feed cattle. (SHF#1)

Other domestic animals such as cattle, goats, sheep, and donkeys feed on the stalks and remains of cotton, maize, sorghum, millet, ground nuts, round nuts, and cow peas.

After harvesting, the farmers would gather the stalks and other remains of their crops and preserve them so that the domestic animals would have food in the dry season and towards the rainy season when food for animals is scarce in the community. (AGr#3)

Yes, Chicken, turkeys, pigeons, "hanga", goats, sheep, pigs, and cattle are our common domestic animals that were rare in our farms. They are a good source of our income (SHF#3)

It was reported that in addition to school vegetable gardens, *some schools in Masvingo rural district also kept goats, sheep, pigs, turkeys, and "hanga". This was in accordance with the requirements of the competency-based curriculum which advocated for practical agriculture to be taught in the schools such that when the learners leave school, they would be equipped with agricultural knowledge to practice farming, thereby eradicating hunger and poverty in their families and the country as a whole.* (AGr#1)

T#4 indicated *that the new curriculum agriculture syllabus enabled them to produce learners who could become excellent farmers direct from the secondary schools due to the type of content they teach. We teach subject content such as animal husbandry and crop production from Forms one to four.*

It is particularly important that learners are equipped with the knowledge of the types of crops and range of farm animals that can be grown and raised on smallholder farms. In some cases, the crops and animals are for a food supply but in some cases sold for income. For example, poultry, turkeys, pigeons, "hanga", goats, sheep, and cattle were all kept by smallholder farmers in the Masvingo rural district to meet families' dietary demands. Since farmers raise both native breeds and broilers, chicken was the most popular food item. Native chickens were primarily raised for domestic consumption, whereas broilers were meant to be sold to other members of the community and to local businesses. The majority of homes in the neighbourhood had a pen for the goats, thus they were common. Fewer households were found to be raising pigs and sheep, according to observations.

In some cases, cash crops are grown, such as cotton; however, it was observed that there was a declining trend regarding the farming of cotton, which the community

members regarded as labour intensive, in the face of declining market prices for the crop and general loss of fertility of the soil which was hampering yields. As a result, not all households were engaged in cotton farming; rather, there were certain areas that were deemed appropriate. Moreover, in some of the fields where cotton was found, it was on a small scale, as the smallholder farmers preferred crops with a dual purpose such that when they have bumper harvests, the surplus can be sold for income.

It is evident from the analysis that learners, teachers, smallholder farmers, and the AGRITEX officers have a similar understanding of the different types of crops planted and animals that are being reared in Masvingo rural district in Zimbabwe. The AGRITEX officers seem to be hands with researching what products are preferred by smallholder farmers for the purpose of feeding themselves, and their animals and generating income and what is most appropriate for the area.

Category 1.2: The relevance of the agricultural education curriculum in poverty alleviation: learners and teachers' perspectives.

The Ministry of Primary and Secondary Education (MoPSE, 2022:36) in the *Curriculum Framework for Primary and Secondary Education 2015-2022* states that for agriculture education, "learners engage in practical and theoretical learning about horticulture, apiculture, floriculture, soil, water, plant and livestock management. This learning area entails identification, investigation, problem-solving and carrying out of agricultural activities in a sustainable manner. Learners also acquire business enterprise skills relevant to agriculture and maintain coursework records".

When answering the question on how relevant the agricultural education curriculum is to address poverty in Zimbabwe, learners in Form 4 indicated the following:

AGrL#1 indicated that, *the new agriculture school curriculum*[i] *is relevant in reducing poverty alleviation among smallholder farmers in the Masvingo rural area, since it equips us with skills to participate in practical agriculture at school and even at home.*

I am actually involved in farming, I am, therefore, motivated to have my own small farm where I can use the skills taught to us at school. (AGrL# 6)

The new agriculture school curriculum allows us to do research, with the assistance of our parents and as such our parents are also increasing their knowledge base in agriculture and this contributes to poverty alleviation in our homes. (AGrL# 4)

AGrL# 2 stated that*, learning about cooperatives and their advantages makes us to pass the ideas to our parents who are the smallholder farmers.*

The government of Zimbabwe engaged in a fast-track land reform programme in 2000, so the school curriculum agriculture policy is supporting the government's goal to alleviate poverty among its citizens, Masvingo rural district included as well. (AGrL# 7)

As learners we are also contributing to poverty alleviation in Masvingo rural district because we adopt the concepts taught at school to our families who are the smallholder farmers, and this has assisted much in poverty alleviation. Myself for example, I stay with my old grandmother, she is not very strong to work these days because of age and sickness, so as a Form 4 learner I help her as well as teaching her conservation agriculture. This has assisted us as a family. We harvested enough grain in the past farming season. When I complete school, I would engage in smallholder agriculture in order to assist my family. (AGrL# 5)

To answer the question on how relevant the agricultural education curriculum is to address poverty in Zimbabwe, agriculture teachers responded differently as indicated below:

The new school curriculum agriculture provides learners with skills, knowledge, and competences important for personal development and useful in life. (T#1)

The new agricultural school curriculum in Zimbabwe teaches learners about research. (T#2)

The updated school curriculum agriculture embraces new and dynamic ways of working and modern farming practices with a particular focus on hands on experience and the use of appropriate equipment and technologies. (T#4)

The updated school curriculum agriculture produced learners with practical agricultural knowledge that echo with the needs of the agriculture sector. (T#3)

The school curriculum agriculture in Zimbabwe closely relates the school to the productive sectors of the economy. (T#5)

The updated school curriculum agriculture in Zimbabwe exposes the learners to community work. (T#3)

Learners in their diversity acquire necessary agricultural knowledge, positive attitudes and skills from grassroots level. (T#2)

The findings revealed that both teachers and learner concurred that the new agricultural education curriculum is aimed at knowledge, skills and competence, teaching learners to develop enterprise, leadership and agribusiness skills. This was evident with some learners who had started a broiler keeping business with the assistance of their families. The learners reported that keeping broilers assists them and their families financially. They reported that their lives, despite the economic hardships in the country were better as the business contributed.

The findings indicate that participant teachers and learners believed that the updated agricultural education curriculum trains learners to be active citizens assisting them in acquiring and developing the relevant knowledge and skills. The majority of the learners come from deprived families where food supply is a great challenge; however, they were hopeful that what they had been taught at school and with the acquired agricultural knowledge, they could maintain their smallholder agriculture enterprise.

According to the literature, an active and critical learning style should be promoted in classrooms rather than rote learning in order to achieve the country's national goal of producing knowledge-based citizens (Chikwati 2021). To equip learners with the relevant knowledge and skills, learners are required to conduct research for them to be awarded an Ordinary Level certificate by ZIMSEC. The new agricultural education curriculum incorporates research and learners from Forms three to four are expected to carry out research on an agricultural topic of interest. Learners work on what are referred to as Continuous Assessment Learning Areas (CALAs). Involving learners in research helps them when they complete school in that they are able to face challenges and find solutions to problems on their own which could assist in ensuring a constant food source and thus address the issue of poverty. T#5 stated that *the updated school curriculum agriculture embraced new and dynamic ways of working*

and use of modern farming practices with a particular focus on hands-on experience and the use of appropriate equipment and technologies. Granting learners the opportunity to have a hands-on approach on modern farming equipment for instance, helps them leave school having acquired important skills which they can apply in farming, thereby producing more food and reducing poverty in their communities.

Both teachers and learners reiterated that conducting research on specific topics developed critical thinking and problem-solving skills and as such, learners were able to pass the knowledge and skills on to their smallholder parents and by putting that into practice, could produce better crop yields and raise better livestock and thus reduce poverty in the Masvingo rural district. Since there was high unemployment rate in the country due to the closure of many industries, teachers and learners cited smallholder farming as a relevant business for school leavers where their application of the knowledge and skills gained from school, could assist in addressing the poverty status of the Masvingo rural area by providing a constant food source.

According to the findings, teachers and learners indicated that the agricultural education curriculum taught the learners leadership and self-management and as such, the learners who engage as farmers may become good practising farmers. They added that a mismanaged farm would not reap good yields whilst a well-managed farm would therefore produce positive results that could solve poverty and hunger situation in Masvingo rural area.

Participant teachers and learners pointed out that the agricultural education curriculum links with the productive sectors of the country's economy. This means that the curriculum stipulates that teachers should teach learners agricultural production, through practising real farming in the school setup. Learning through practice and producing food at school would equip the learners with knowledge, skills and interest in engaging in farming either at a small scale or large scale. The findings revealed that through practical application of acquired agricultural concepts and knowledge in their communities, the young farmers, if they engage in smallholder agriculture, can perform well, assuming that there are no other constraining factors such as climate change effects, lack of inputs and any other factors which can deter farming.

The findings also indicated that the new agricultural education curriculum provides learners with practical knowledge, skills and competences important for personal

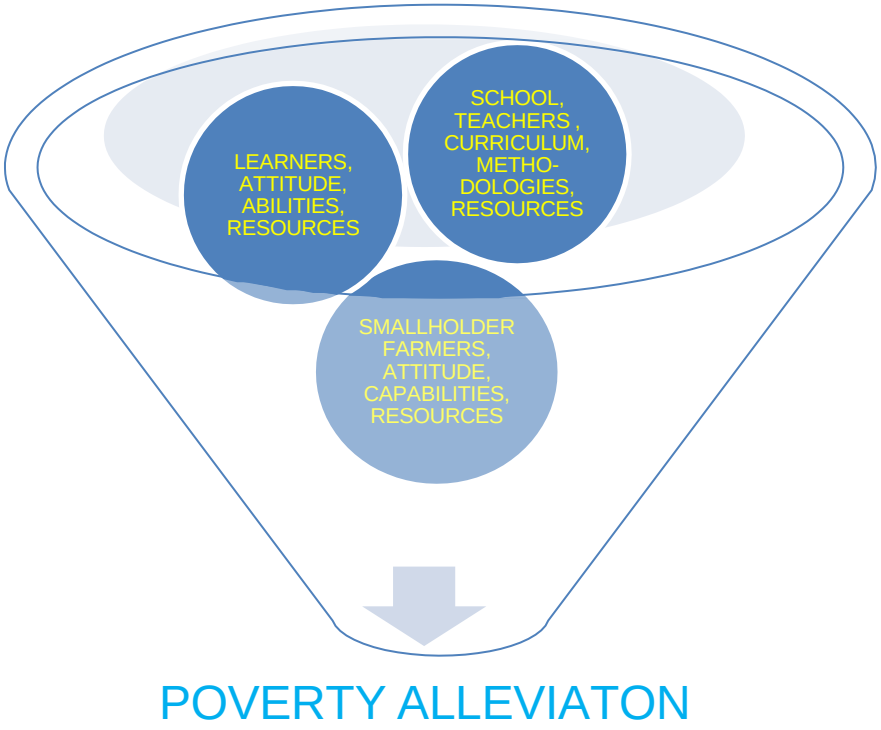
development and useful in life that echo with the needs of the agriculture sector. As such, the content taught in agriculture and the practical lessons equip learners with skills which they can apply at home as smallholder farmers or even large-scale farmers. Applying the learned skills would improve smallholder agriculture and that improved agricultural production, contributed to more food and thereby resulting in poverty alleviation among smallholder families.

The young farmers have the potential to boost agriculture especially at a smallholder scale resulting in poverty alleviation in the Masvingo rural district. However, the teachers interviewed also revealed that, despite the positive contributions of the new agricultural education curriculum, its contributions to poverty alleviation are slowed down by the young generation's attitudes towards farming, especially smallholder agriculture in the communities*. The youths feel they are too smart to engage in smallholder agriculture. They would rather go for gold panning nowadays, than to spend their times in the communal land*s *waiting for the erratic rains* (T#4). The interviewed teachers added that this is the reason for more adult smallholder farmers in the Masvingo rural district than youth farmers who had completed their secondary education. The findings revealed that *today's youths, are lazy and spoiled to work as smallholder farmers, thus for smallholder agriculture to alleviate poverty in Masvingo rural district, a lot of campaigning, and awareness is required on the part of these young school leavers* (T#1).

The findings indicate that the updated agricultural education curriculum exposes learners to teamwork and community work. Poultry keeping, cultivation of school gardens and school fields train learners on community agriculture, so that when they leave school, they would have acquired farming experience and would be able to produce adequate food resulting in poverty alleviation in the Masvingo rural district. The competent-based agricultural education curriculum has topics on planting, harvesting, fertilisers, herbicides and pesticides. Correct use of fertilisers, pesticides and herbicides would result in environmental protection, as well as human and animal health protection. Developing a vital knowledge base equips learners who engage in smallholder agriculture to be better practicing farmers who are able to produce food to alleviate poverty in the Masvingo rural district.

The findings revealed that felt that if effectively implemented, the agricultural education curriculum could be relevant in alleviating poverty among smallholder farmers in the Masvingo rural district because learners in their diversity acquire necessary agricultural knowledge, positive attitudes and skills from grassroots level as they practise farming at school. The updated agricultural education curriculum enables learners to be proactive, productive and to add value to the community as well as the national economy. The study findings indicate that learners who engage as smallholder farmers would be productive, providing food for their communities and thus assisting in alleviating poverty in the Masvingo rural district. Due to the agriculture base that learners acquire from school, they would value the dignity of using their labour and start engaging in smallholder agriculture and maximising land production.

For the agricultural education curriculum to play a role in poverty alleviation in the Masvingo rural area, the teachers, learners and smallholder farmers have to each play their part. The learners who are the intermediators between the school and the community (smallholder farmers) must be active participants so that at the end of the process, the issue of poverty in Masvingo rural district is addressed. This is reflected in Figure 5.1 indicating the relationship between the role of the school (agriculture teachers, curriculum, teaching strategies, resources, attitude), the role of learners (attitude, abilities, resources) and the role of smallholder farmers (attitude, capabilities, resources, support) who would work together to address this issue of poverty in the Masvingo rural area.



(Source: Mandivengerei, 2022)

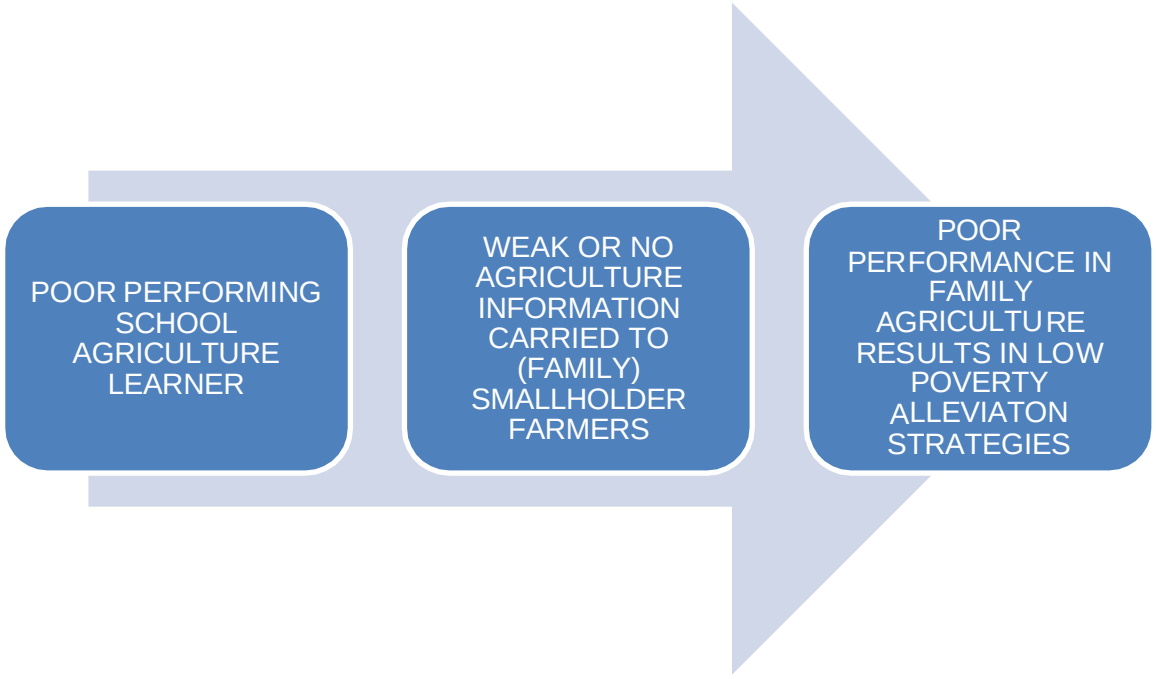
Figure 5.1: The relationship between teachers, learners and smallholder farmers in poverty alleviation in the Masvingo rural district

As indicated earlier, the three players, school teachers, learners and smallholder farmers have to play their part. For instance, the agriculture teachers have to use constructivist teaching methodologies in order to reap the benefits (*cf.* Chapter 3), learners and smallholder farmers should have resources and a positive attitude towards farming. Such a scenario would address the issue of poverty in the Masvingo rural district in Zimbabwe.

However, the findings indicate that some participant learners complained that the agricultural curriculum was difficult particularly as continuous assessment learning areas (CALAs) were too demanding. It seems that the teachers required learners to work on their own, taking responsibility for their learning and developing independence, which was a challenge for many. As a result, learners dropped out of the subject despite it being a compulsory subject in Zimbabwe. Learners' negative attitude towards the subject also affected learner performance and consequently had a knock-on effect. T#4 indicated that *some learners are ignorant to utilise or pass on*

the acquired knowledge to their elders or smallholder farmers at home such that poor unproductive farming methods continue to be applied in their families. This may cause inadequate food production resulting in a vicious cycle of poverty in the Masvingo rural district.

Figure 5.2 demonstrates how agricultural information is transmitted from school to the smallholder farmers by learners. How the learners grasp agriculture concepts and practices would influence the information that smallholder farmers receive in the community.



(Source: Mandivengerei, 2022)

Figure 5.2: The transmission of agricultural education curriculum from learners to smallholder farmers

Figure 5.2 demonstrates that, when learners perform poorly in agriculture it may affect the kind of agricultural information they communicate at home. T#5 complained that, *many learners label agriculture as a subject for the less competent learners such that they do not work seriously in the subject, so they would not be able to engage in productive agriculture on their own or to pass on the acquired knowledge to their parents who work as smallholder farmers in the Masvingo rural district.* Teachers argued that the school agricultural knowledge alone may fail to improve smallholder agriculture in the Masvingo rural district.

The AGRITEX officers, the DDF personnel and the smallholder farmers identified many other contributing factors to poverty in the Masvingo rural district. The factors included inadequate government support to the agriculture policy implementation, such as inadequate supply of farming inputs to farmers, poor roads and incompetent AGRITEX officers. T#2 also cited climate conditions such as drought, flood, hail and cyclones often experienced in the Masvingo rural district. These factors have an effect on school leavers who are hesitant to engage in smallholder farming after completing Ordinary Level examinations.

Category 1.3: Smallholder farmers' perspectives on the relevance of the agricultural education curriculum on poverty alleviation

Findings from the focus group discussions with smallholder farmers in Masvingo Rural District about the relevance of the agricultural education curriculum in poverty alleviation indicate that agricultural education curriculum had indeed influenced their smallholder farming practice. The smallholder farmers were grouped into two groups, that is, former secondary school learners who had studied the updated agriculture school curriculum and the elderly farmers (including farmers who had not studied the competent based curriculum). Below are some extracts from the farmers.

The methodologies used by our agriculture teachers such as demonstrations, experimentations, debate, dramatisation, education tours and collections among other methods were very interesting such that we mastered what agriculture is. Today, farming our own fields is not a difficult task because we almost had practical agriculture lessons daily in our schools. (SHF#1)

The school curriculum agriculture assisted us very much because we did practical agriculture in our schools for example animal husbandry like piggery, broiler keeping and crop production. (SHF#3)

We used to weed and apply fertilisers, carryout some projects as well as giving dosages to the school cattle and many other practical activities. (SHF#4)

The practical tasks we carried out at our schools are the same aspects that we carry on our smallholder farms. (SHF#2)

In some cases, the smallholder farmers were older and had not progressed through the updated agricultural education curriculum, but it was inadvertently having an effect on their practice:

Our children teach us what they learn from school. (SHF# 5)

We assist our children with CALAs and in the process we learn agriculture as well. (SHF#6)

Smallholder farmers indicated that agriculture is a source of income. They keep road runner chickens and goats, grow vegetables for the family as well as selling in order to get money. The farmers pointed out that although the profits were small, it enabled them to buy essential items like washing soap and salt. The smallholder farmers who have been through the updated agricultural education curriculum revealed that they were equipped with sustainable agricultural knowledge for example conservation agriculture popularly known as *"pfumvudza",* which means a new season of increased productivity; it is a season of producing more on less land and with less resources; Pfumvudza has great potential to contribute towards household food security if implemented following the stipulated recommendations such as land preparation and timely planting and acquiring inputs which assists in improving soil fertility, reducing pest infestations and diseases, and minimising total crop loss during severe weather occurrences. Conservation agriculture is done around September – October before the rainy season. Farmers dig holes in the land which they fill with organic manure and soil. Seeds and fertilisers are given to the farmers in accordance with the Pfumvudza Programme. Planting seeds is done when the rains fall. The method works soundly with smallholder farmers in the Masvingo rural district.

Smallholder farmers revealed that the updated agricultural education curriculum equipped them with problem-solving skills and this assisted them in their endeavours as smallholder farmers in the Masvingo rural district (SHF#1, SHF#3). For instance, after realising siltation at the Musvovi dam, farmers cited that the smallholder community sought help from the government via the constituency member of parliament and were assisted with machinery to remove silt that had clogged up the Musvovi dam and prevented farmers from watering their livestock and vegetable gardens. After the removal of silt, the erratic rainfall slowly began to fill the dams, when sufficient rains fall, gardening will once again thrive in the Masvingo rural district.

Smallholder farmers reported that the updated agricultural education curriculum had assisted them in developing communication skills which helped them in marketing products as well as bidding with would-be buyers. In Zimbabwe today, because formal employment is not very common, many people survive by selling goods of all types, ranging from farm products, second-hand clothes and blankets, to mention a few items. The smallholder farmers reported that they sell tomatoes, beans, green vegetables especially around the Nemamwa, Morgenster, and Mushandike areas and some grains in times of bumper harvests. However, the farmers emphasised that in 2022, because of the low rainfall, they were unable to produce grains to sell.

In contrast, elderly smallholder farmers (those who did not study the competent-based curriculum) felt that the school curriculum was less relevant to their farming. The farmers argued that they had been farmers from birth and had performed well before the introduction of competent-based curriculum. Their grandparents and parents as well as AGRITEX officers and other supporting agents from the government and non-governmental organisations had taught them agriculture. *As AGRITEX officers we provide guidance to smallholder farmers on appropriate inputs, such as types of fertilisers to buy and crops to plant.* AGr3#. The smallholder farmer participants narrated that there were a myriad of factors to consider for poverty to be alleviated amongst them. Some of the factors raised included political factors that influenced the distribution of inputs, climatic factors like drought, health and level of education among other factors.

5.3.2 Theme 2: Teachers' strategies to equip learners with agricultural knowledge and skills.

The findings revealed that agriculture teachers use varied constructivist teaching methods to equip the learners with agricultural skills. Agriculture is a practical subject, hence the need to tackle it with the hands-on approach to teaching and learning. The teachers interviewed in the selected schools gave some of the sampled excerpts given below.

Sometimes we employ the lecture method (T#3)

Demonstration/experimental learning is one of the best strategies to use in agriculture. (T#5)

Discussions are also a teaching strategy we sometimes use in agriculture (T#6)

Problem-solving approach is one of the best teaching-learning methods that agriculture teachers can use (T#2)

Even digital learning can do (T#3)

We *use projects as a teaching method in order to instil critical thinking in our learners.* (T#4)

We *use field trips, whereby we visit nearby farming areas.* (T#1)

The findings revealed that strategies used by teachers to equip learners with agricultural knowledge and skills included the use of the lecture method, discussion method, demonstration method, problem-solving approach/discovery method, class projects, digital learning, tours and field trips, each of which is discussed below.

Category 2.1: Lecture method

The lecture method was a common strategy used by the sampled teachers in teaching content in the classroom. The participant teachers indicated that they use talk and chalk or textbooks to teach agriculture when employing the lecture method. *The approach is teacher centred with little participation from learners*. (T#4) *The teacher is seen as the source of all knowledge while the students are passive recipients of knowledge transmitted by the teachers in the learning process*. (T#6) However, the participant teachers indicted that properly structured lectures may be the best teaching method especially when suited to the transmission of conceptual and systematic knowledge. The advantages of using the lecture method were also noted as having the ability to get huge amounts of information to a lot of people in a short amount of time. However, retention of the information might be a challenge. The study noticed that the lecture method is the least effective in developing agricultural skills. This study realised that students are not passive recipients who should be fed with knowledge. However, the lecture method used in conjunction with other teaching strategies for the teaching and learning of secondary school agriculture in the Masvingo rural district in Zimbabwe will ensure that learners are active participants with prior foundational knowledge, with their new knowledge and skill being developed through guidance by the teacher.

Category 2.2: Discussion method

Participant agriculture teachers indicated that they use the discussion method as a teaching strategy in their teaching of agriculture. The teachers explained that the use of discussion method, as a primary teaching strategy, stimulates critical thinking as the learners become involved in the discussion questioning and querying. The discussion method helps the teacher to establish a rapport with the students, demonstrating an appreciation of their contributions and challenging them to think more deeply and to articulate ideas more clearly (Njura et al., 2020; MoPSE (2022). The participant teachers added that the frequent questions asked by both the teacher and the students provide a means of measuring learning and exploring in depth the key concepts of the lesson. Through classroom discussions, a set of acquired skills that is necessary for establishing and developing interpersonal relationships such as cooperation, communication and critical thinking, is developed (Lohman & Hurst 2021; MoPSE, 2022). This study suggests that agriculture teachers should incorporate this approach to help learners develop agriculture skills useful in life. Njura et al. (2020) posits that discussion can be improved through incorporation of digital technology. This would assist learners who are not comfortable to speak in class; they may post a 'Tweet' to contribute to a class discussion.

Category 2.3: Demonstration method

The demonstration method was another teaching strategy which participant teachers incorporate in lessons. The interviewed teachers commented that through demonstration method, they explain the step-by-step process to learners. The teachers would for instance demonstrate how to plant vegetable seeds, wash pigs and structure the school fence. Njura et al. (2020) explains that the demonstration may include diagrams, e-learning, charts and other illustrative materials accompanied by an oral explanation or in the case of the teaching of agriculture, a practical demonstration in the vegetable gardens or with livestock. The participant teachers indicated that in this teaching strategy, the students would observe the process, listen to the explanations and pose questions during or after the conclusion of the demonstration. Njura et al. (2020) argue that the demonstration method increases students' interest and understanding and as a result, promotes a high achievement rate. The researcher observed that incorporating demonstration in lessons improves

both recall and psychomotor skills when the students are allowed to repeat the same procedure either individually or as a group and develop competence.

Category 2.4: Problem-solving approach/discovery method

The participant teachers indicated that they use the problem-solving approach as well when teaching secondary school agriculture. According to Piaget (1952), (the founder of cognitive development in children), the discovery approach is a child-centred approach to teaching where learners participate in the learning process by contributing problems, analysing the factors associated with the problems, developing possible solutions to the problems, putting the solutions into action and evaluating the results of the solutions. The problem-solving approach can be enriched by adding digital learning for example videos, films, audios, and software (MoPSE, 2022). As explained in Chapter 2, Piaget and Vygotsky's problem-solving approach is a constructivist approach to learning. The participant teachers assigned learners to investigate soil maintenance and find ways to maintain moisture in the soil, among other tasks. The teacher is a facilitator and the learners become responsible for developing the information. This teaching-learning approach ends with a presentation of solutions and an evaluation of the processes used in solving the problem (Njura et al., 2020).

The participant teachers indicated that the use of discovery learning in secondary school agriculture helps students to develop an extensive and flexible knowledge base, as well as developing effective problem-solving strategies. The researcher observed that learners also develop self-directed, lifelong learning skills and they also become effective collaborators. Moreover, they also become intrinsically motivated to learn (Njura et al., 2020; Lohman & Hurst, 2021; MoPSE, 2022). Discovery learning was found by participant teachers to be effective in promoting higher-order thinking. It was found to improve student motivation and interest. Whilst discovery teaching motivates learners to become active participants in the learning process, this study recommends that the method should mostly be used when learners are in groups so that weaker or slow learners are assisted by fast-thinking learners.

Category 2.5: Class projects

The participant teachers also indicated that they use class projects to equip learners with agricultural knowledge and skills. The project teaching method is based on the

conviction that learning by doing, discussing in groups, and revisiting ideas and experiences are superior ways of gaining a better understanding of one's environment (Njura et al., 2020). The competent-based curriculum in Zimbabwe supports the development of a relevant farmer-centred and market-oriented agriculture education system informed by research (Simango, 2021). The participant agriculture teachers indicated that secondary school learners are required by the new competent-based curriculum to work on Continuous Assessment Learning Areas (CALA) (MoPSE, 2022). As such teachers in Zimbabwe assign learners' projects to work on. The participant teachers elaborated that they could assign the projects to learners as teams or as individuals. Observations revealed the use of projects in agriculture as an effective teaching strategy as the teaching method stimulates critical thinking and a hands-on approach to learning.

Category 2.6: Digital learning

Some teachers mentioned the use of digital learning although it was a challenge due to lack of digital gadgets, internet connectivity and network. Digital learning is appropriate to youths who want to be farmers in the future. Whilst the participant teachers were aware of information communication technology (ICT) tools such as radios, videos, mobile phones and televisions, many schools were not well-resourced and could not afford to buy these technologies. Lohman and Hurst (2021) explain that videos have the potential to stimulate social learning because they combine visual and audio elements that facilitate internalisation and contextualisation of knowledge or information, which would enable learners to share and learn from experiences. Njura et al. (2020) argues that when incorporated into the classroom setting, the social learning nature of ICT devices can fast track skills development in agriculture and the attraction of making learners more interested in agriculture. Due to the facts raised about digital learning, though not used in Masvingo rural district, this study recommends that secondary schools adopt the use of digital learning in their teaching.

Category 2.7: Tours and field trips

The research found that secondary school agriculture teachers also use tours and field trips to equip learners with agricultural knowledge and skills in the Masvingo rural district in Zimbabwe. The participant teachers argued that outdoor training through tours and field trips helped learners to develop team work skills. *Moreover, field trips*

to agricultural centres, farmlands, and industries where students get first-hand experience and practice of the theoretical methods of agriculture are very helpful (T#2). Njura et al. (2020) suggest that assignments, write-ups, and projects must be given to students to aid them participate effectively in the field trips. Most of the participant teachers complained that scheduling tours in schools was a great challenge due to the wide updated curriculum in Zimbabwe. Tours and field trips in secondary schools may impinge on the school time table and hence need proper timing and be conducted during mid-term breaks and holidays (Omiti, 2020; Njura et al., 2020). The researcher in this current study is of the view that engaging learners in tours and field work would make them benefit them and develop team spirit to participate in school-based and community projects such as gardening and poultry projects. Learners may use community-based approaches like cooperatives *(humwe, mushandirapamwe)* as they engage in smallholder agriculture later in life.

5.3.3 Theme 3: The challenges faced by smallholder farmers in the Masvingo rural district.

Theme 2 of the research explored the challenges encountered by smallholder farmers in the Masvingo rural district in Zimbabwe. The findings indicate that most challenges faced by smallholder farmers emanated from the implementation level of the National AGricultual Policy Framework (2018-2030). Below are some extracts from smallholder farmers, AGRITEX officers and DDF officers.

Food insecurity (SHF# 5, SHF#4)

The presidential inputs scheme, whereby beneficiaries are given 10kg maize seed and some fertilisers does not meet all the household's needs. Farming inputs and implements benefit only a few privileged. (SHF#1)

Lack of access to financial assistance (SHF# 6, SHF#5)

Inadequate livestock (SHF# 1, SHF#4, SHF# 3)

There are few irrigation facilities, leaving us to rely on rain-fed agriculture. (SHF#3)

There are no community government sponsored storage facilities which are intended to benefit the Masvingo rural district community. (SHF# 4)

Farmers' produce is destroyed by pests and termites. (SHF#6)

GMB and Cotton Company of Zimbabwe determine the prices for the commodities. (SHF# 5)

Poor road networks make it difficult to access the market. DDF is ill-equipped to execute duties. (SHF#2, DDf#1)

Funds are budgeted but never remitted to the intended recipients. (AGr#1)

Much of the resources are retained in offices which undermines the effectiveness of officers on the ground. (AGr# 2)

Lack of transport and lack of incentives. (AGr#4, DDf#3)

Underfunding of AGRITEX activities, which greatly affect the effectiveness in providing the required service to smallholder farmers. (AGr#5)

The study findings revealed that smallholder farmers in the Masvingo rural district in Zimbabwe faced many challenges as they practised farming. One of the major challenges identified in the research was food insecurity resulting in poverty and hunger in the Masvingo rural district. Though some farmers reported that their families have enough to eat, the norm was that households were reduced to two meals a day with some farmers not knowing how they would manage until the following harvesting period.

The AGRITEX officers indicated that poverty and hunger were high amongst the farmers. It was noted that the farmers lacked knowledge and resources on the preservation of their yields. Even though a household would have obtained enough from their fields, they were some harvests were destroyed by pests and termites. Livestock also suffered because of lack of vaccination, which worsened their vulnerability to poverty. DDF officials also acknowledged the high rate of poverty amongst the smallholder farmers, indicating that their poverty was due to inability to produce enough from the fields, it was partly attributable to their reliance on donor agencies. The farmers were said to prefer hand-outs from the donor community than to working on their own. It is notable that despite the cause of food unavailability in the area, the small-scale farmers were food insecure, and in need of assistance to assist them out of their poverty-stricken situation.

The farmers indicated that the provision of farming inputs and implements challenging their practice. The inputs were said to come in small quantities, benefitting a few selected ones and often very late into the planting season. It was noted that the scheme provided 10kg maize seeds and 100kgs fertiliser, which were often shared amongst households, yet an average household require at least 30kgs maize seed and 200kgs of fertiliser. The situation was exacerbated by the late provision of the inputs, as crops would not have adequate time to mature before harvesting. Given these aspects, the scheme was found to have a minimal effect on poverty alleviation in the area. On acquisition of inputs, there was a challenge as agro-dealer prices were very high, yet no subsidy was being provided by the government to make the prices reasonably affordable for the small-scale farmers. As a result, most community members were reported to continue to suffer in poverty, with a significant number being extremely food poor.

The smallholder farmers had no access to finance assistance from formal financial institutions. The farmers indicated that they had not yet borrowed from financial institutions; neither had they received finance from the government. Their lack of financing from formal financial institutions was attributed to their lack of collateral security. They could not use their land as surety for loans. As such, they had no finance to purchase sophisticated agricultural equipment and equipment for irrigation. As a result, their farming was not mechanised, and they relied on draught power or hand equipment. As they could not install irrigation, they had to rely on the erratic rain. As such, the farmers had no other income-generating activities or off-season farming activities.

AGRITEX officers were concerned with the smallholder farmers' donor syndrome. It was noted that the farmers were unwilling to dispose of some of their livestock to buy the necessary veterinary medication or to sell their grains to buy preservatives for the remaining grains. Instead, they preferred hand-outs and donations, which aggravated their situation. They were not willing to sacrifice the little they had to escape their poverty situation.

An assessment was made on the livestock owned by the smallholder farmers in the Masvingo rural district. It was noted that those households with livestock owned mostly cattle, goats and sheep. The AGRITEX officers highlighted that a considerable number

of households no longer had cattle evidence by unused cattle pens in several households. It was noted that livestock was declining due to drought, poverty and hunger. The area has been hit with drought over a number of years, with food and water for livestock becoming scarce. Farmers also confirmed that they would at times sell their livestock in order to buy grains for food, as they normally produce food which may not cover their food needs until the following season. Without adequate livestock, the households are deprived of the requisite draught power, and this adversely affects their farming activities. They have to rely on borrowed draught power, which often comes after others have already planted their fields. In such cases, the one who relies on borrowing would be destined to have crops which rarely reach maturity stage; thus they are part of the poverty circle year to year.

The community had few government-backed irrigation facilities. This is despite the area receiving very low rainfall which would preclude good harvests. The community members were, thus, left with few options, either to rely on rain-fed agriculture which entails seasonal farming, or to personally invest on irrigation equipment. Reliance on rain-fed agriculture limited chances of obtaining adequate food as rainfall is erratic and seasonal. Investing in irrigation equipment would be hindered by resource constraints as the smallholder farmers could not access finance from financial institutions. As a result, the community continued to be pushed more and more into poverty, as their farming was seasonal amid low rainfall.

The Masvingo rural district lacks adequate dams from which water for irrigation can be obtained, neither were there boreholes to use for irrigation, even at small-scale level. Available boreholes were used for drinking water and not for agriculture. Coupled with this challenge is the lack of pipes and infrastructure to carry water from areas far from the farmers' fields. As a result, smallholder farmers rely on rain for their crops, without any off-season agricultural activities to supplement their income.

The non-existence of irrigation facilities in the Masvingo rural district is a fact also established in prior studies. According to Mutami (2015), the irrigation schemes which once existed in the area have faced numerous challenges as the canals and underground pipes were damaged and engines that pump water for irrigation had broken down and were no longer working. In view of this, Marongwe (2014) was

sceptical about the sustainability of irrigation schemes and their role in fighting poverty in such circumstances.

The community had no government-backed storage facilities to preserve their farming produce. Some farmers made use of sacks and makeshift barns, while others stored their produce in homes and in the open. The farmers' produce was, thus, exposed to the elements and was destroyed by pests and termites. The lack of storage facilities resulted in farmers selling their food despite lack of surplus, hoping to rebuy it when needed. The option available, selling the produce to the Grain Marketing Board (GMB), was found untenable as GMB prices were not favourable. The sales value from the GMB would be obtained after some months from date of sale, which is unfavourable in the changing economic environment where farmers' value would be eroded by inflation. The other option was to sell the produce to other people in the community. This option was not easy, given that the entire community relied on farming for survival; hence there was often no market in the harvesting period. At the same time, access to the local shopping centre was hindered by the state of the roads. Thus, the farmers are stuck with their farming produce and often would watch the produce of their sweat being destroyed by pests and termites, further driving them into poverty.

The community members are challenged in finding a market for their produce. GMB prices are unattractive as they are low, payment from the GMB is delayed, farmers have no control over selling prices for their commodities, as the buyer is the one who dictates the price at which they prefer to buy the produce, the price is often not reflective of the associated costs which the farmers incur from the land preparation to harvesting and up to the time they transport their produce to the buyer, the GMB. However, farmers were compelled to sell more of their food in return for less money, thus increasing poverty levels.

Participants in the study revealed that although the government provided a market for farmers' grains through the GMB and a market for cotton through the Cotton Company of Zimbabwe (COTTCO), farmers were worried about the power of these organisations to determine the prices for the commodities. Farmers had little if any in the price for their commodities; hence they were forced to accept the very low prices. In such cases, the farmers would resort to selling their produce to private agro-dealers and private cotton companies which may offer more reasonable prices. In some cases,

selling to private individuals gave the farmers a chance to sell at prices of their own choice. However, private dealers were limited further increasing their potential to set prices in the same manner as the GMB.

Government contribution to rural agriculture was also noted through the local District Development Fund (DDF), responsible for maintaining a good road network. A good road network would ease the transportation of farm produce from the fields to the home and from the home to the market. However, for the Masvingo Rural District, the situation was different as the smallholder farmers indicated that there was a poor road network, which made it difficult for them to access the market. They noted that the *"DDF is ill-equipped to execute its mandate",* hence roads were mostly not passable. Potential buyers of farm produce found it difficult to come to the area and buy the produce. As a result, the farmers kept most of their farm produce at home which limited their income sources. The farmers who were engaged in gardening and production of vegetables were mostly affected, as their produce turned bad before reaching the market as such produce is perishable.

The AGRITEX officers indicated that at the time of the study, government support to smallholder farmers through agricultural research was non-existent, as no research was taking place. The officers acknowledged that the usefulness of their department emanated from their ability to keep pace with changes in the environment in which the farmers operated. Farmers in the Masvingo area were noted as having aged fields which have been used for long periods for farming purposes. Significant changes in the soils and environment have occurred, which warranted a new approach to farming. Development of such a new approach to farming was being retarded by the lack of research which is tailor-made for the relevant area. One of the AGRITEX officers highlighted that their bid to advance research on soil types was halted by the lack of results on soil samples sent to the laboratory some 12 months previously. The AGRITEX officers were relying on information from prior research, whose findings were likely to have less positive impact for the present-day farming activities. The lack of research in Masvingo area has left the AGRITEX officers with the alternative of using recommendations from research done in other parts of the country.

The findings indicate that the government has invested in institutional and human resource capacity to strengthen research and service delivery, as there are institutions

for higher learning in agriculture in Masvingo. However, the effectiveness of these institutions was affected by lack of funding and maintenance, to the extent that some of these institutions are no longer functioning. It was noted that researchers are there but are incapacitated as they lack required resources and transport. An AGRITEX officer indicated that a visit to one of the once renowned training institutions provides a sorry sight, given how standards and equipment have deteriorated. This view suggests that while an investment in institutional capacity was made in previous years, there has been lack of follow-ups and improvement in the capacity of these institutions for continued agricultural research.

AGRITEX officers indicated that their work involves the AGRITEX extension arm that disseminates information to the farmers. Such information is obtained from the AGRITEX research arm, from workshops conducted. As such, workshops between these departments are of paramount importance, and so are workshops between the AGRITEX extension arm and farmers. The findings suggest that one-day workshops were found to lack the substance and depth necessary for a good job. It was noted that the workshops were more theoretical and mere outlines on what should be done based on textbook evidence, which may lack relevance to the target area.

Retraining of the officers was being done through workshops which were held occasionally, for instance, after three years. This affected the effectiveness of the workshops in the provision of relevant information and training to the AGRITEX officers. Thus, intellectually, the officers have become under-resourced, thereby adversely affecting their effectiveness on the ground.

The budgeting process in relation to AGRITEX activities was raised. It was noted that the government at times engaged in bottom-up budgeting, whereby those at lower levels participated in the budgeting process. They were required to set their targets and indicate the resources which might be required for them to effectively carry out their work. However, there were concerns as funds required were said to be budgeted for but would not be remitted to the intended recipients. The officers believed that much of the resources were more expended in office work than in the field where most of the work is done. As a result, the officers on the ground would go without the required resources and were left to improvise on their own and as a result, were not able to reach their maximum potential in assisting farmers.

The findings revealed that farmers believed that provision of farming education and training, which is all inclusive, without excluding small farmers, is another step towards assisting them out of poverty. It was noted that AGRITEX officers' activities were predominantly tailored for the benefit of large-scale farmers, those near shopping centres and those along good roads. Thus, smallholder farmers in some areas were deprived of the much-needed training and assistance. As a measure to provide attention to such marginalised smallholder farmers, the farmers recommended the need to reduce the AGRITEX officers' catchment areas by increasing the number of AGRITEX officers in the area. Having fewer farmers under their auspices, will make it possible for the AGRITEX officers to give attention to a greater number of farmers.

The farmers also suggested the need to promote the treatment of farmers which is not based on partisan grounds. The growing influence of politics in farming activities was noted, as politicians would at times override gatherings arranged by AGRITEX officers for farmer training for their own advantage. Hence, farmers from a different political orientation would be discouraged from participating in AGRITEX officer-arranged gatherings. As a result, such farmers are deprived of the much-required knowledge and training, which further pushes them down the poverty tunnel. Removing the political element from farmers' gatherings would help to improve participation and uptake of advice provided, which in turn helps to improve the quality of farmers' yields.

The findings revealed that with the ploughing of community members' fields using DDF tractors, only residents close to Masvingo town and larger fields benefited from DDF ploughing resources. Smallholder farmers who were located away from the town were not benefitting from this service because of lack of fuel. As this DDF is not provided with fuel allocations from the government, farmers were required to buy their own fuel. Thus, smallholder farmers found it costly to acquire DDF ploughing services. Consequently, the scheme only benefits those who have stable income sources and adequate resources.

Lastly, the farming equipment owned by the farmers included mostly ploughs and harrows and wheelbarrows. These are the basic implements necessary for a household's farming activities. There was no household which owned a tractor, combine harvester or bigger farming equipment. A few households owned a scotch cart which could be used for the purpose of ferrying farm produce from the field to the

home and from the home to the market. In some cases, households had no farming implements and relied on borrowing or hiring from those who owned the farming implements. The unavailability of adequate farming implements affected the households' farming initiatives. For instance, households relying on borrowing or hiring were destined to plant very late into the planting season. In such cases, they were bound to have crops did not matured. Their harvests were very low and of poor quality, such that they could not afford to produce in excess of their own consumption needs. Thus, they cannot raise income to procure the farming implements they lack; hence they are trapped in their poverty circle.

Category 3.1: Contribution of the National Agricultural Policy Framework toward poverty alleviation in the Masvingo Rural District

The contribution of the National Agricultural Policy Framework towards poverty alleviation in Masvingo rural district was assessed using the views drawn from the AGRITEX officers, DDF officials and smallholder farmers. The views are discussed below.

Category 3.1.1: Farming inputs and implements.

There was an agreement amongst the participants that the government was providing farming inputs to small scale farmers in the Masvingo rural district. It was however, noted that the schemes had some shortcomings when it comes to addressing poverty in the Masvingo rural district. There was selective provision of inputs as the inputs came in few quantities. Very few people would stand to benefit, with some political elements taking control of the input distribution exercise for their own personal benefit. In such cases, people perceived to hold different political views, were excluded, further increasing their vulnerability to poverty. This was escalated by the provision of inputs late into the planting season which affected the maturity of the crops. The views provided suggests that the AGRITEX officers and farmers were not satisfied with the manner in which input schemes were handled, as this would not suffice to address poverty in the community.

There is a striking contrast on the existing situation and that of 1985 to 1986 period when remarkable rural agriculture production was attained. During the 1985 to 1986 period, farming inputs and resources were provided to deserving farmers without

consideration of political affiliation. This is likely because of the non-existence of a formidable political opposition during that era soon after independence. However, in the existing situation, Mutami (2015) reports that inputs under the Presidential Well-Wishers Special Agriculture Input Scheme (PWSAIS) were largely distributed through The Zimbabwe African National Union Patriotic Front (ZANU PF) structures, hence allegations that opposition supporters were not allocated inputs, particularly in communal areas like Muzarabani, Chipinge and Gokwe.

The selective provision of inputs is similar to what happened during the land distribution wherein Mayaki (2010) found that poor individuals and actual farmers were not selected as beneficiaries. In such cases, farming inputs may be provided to individuals who may not require them, and they end up not maximising the usage of such inputs which undermines efforts to reduce poverty. The provision of farming inputs to a few privileged individuals amounts to the exclusion of the marginalised ones. Inequity and exclusion can be associated with the influence of politics on development and implementation of government policy. Kanbur (2004) notes that through exclusion, there will be social deprivation which hampers people from fully participating in social activities. Marongwe (2014) indicates that exclusion undermines the effectiveness of the agricultural policy as household food security would not be attained when some people are not included in government programmes which benefit the community.

Category 3.1.2: Irrigation facilities

The findings indicate that an agreement amongst the participants that lack of regard for irrigation facilities in the Masvingo rural district was hindering efforts to alleviate poverty in the area. The farmers relied on rain-fed agriculture, yet the area experienced low rainfall. The lack of irrigation facilities leaves farmers with the option of relying on rain fed agriculture. This is unsustainable, given that the Masvingo area is currently recording low annual rainfall which cannot sustain production of large grains which the community is used to.

Marongwe (2014) found that relying on rain-fed agriculture was exposing the households to poverty as their yields are increasingly becoming low. The effect induced by the lack of irrigation facilities was also highlighted by Marongwe (2014) who reported that rural poverty is intensified by underutilisation of small dams for

irrigation. Though there may be well developed dams, they are not being exploited to maximum through the development of smallholder irrigation facilities. Mutami (2015) was also concerned with the vandalism of some irrigation schemes as canals are damaged, underground pipes are damaged and engines that pump water for irrigation had broken down and no longer working.

Category 3.1.3: Storage of farm produce

Storage facilities for farmers' farm produce are provided through the GMB facility to whom farmers can sell their grains, although it was found that the GMB facilities were inadequate to address storage requirements for the small-scale farmers. In the rural areas, the lack of GMB presence in the vicinity of the farmers affected farmers' ability to sell to the GMB. The roads connecting the shopping centre and the community were not in a good condition; hence it is difficult and costly for farmers to transport their grains to the GMB. There were no community-based storage facilities as an alternative and farmers resorted to using own storage facilities and much of their yields were destroyed by termites as they could not afford preservation chemicals. As a result, the farmers were only producing for subsistence and did not help with reducing poverty in the area.

The results on storage and preservation facility requirements within the Masvingo rural district reveals the high level of poverty in the community as they cannot afford to preserve what they have managed to produce from their labour. On another note, the AGRITEX officers suggested that their advice to farmers was to sell part of their produce and to preserve the remaining yield. However, this advice was not often welcome as the farmers believed that someone, the government mostly, should provide them with the means to store and preserve their yields. These sentiments have their roots in the welfarist approach to poverty assessment wherein the assessment of someone's well-being is considered as consistent with the ordering of preferences revealed by that person's free choices (Kanbur, 2004; Panudulkititti, 2008; Pindiriri, 2015).

Category 3.1.4: Road networks

The farmers and DDF officials agreed that the roads in the area were not trafficable, which hindered the transportation of perishable produce to the market especially if

there was excess to sell. The non-availability of an effective road network system was a major hindrance to rural agriculture in the Masvingo rural district. This adversely affected the realising of government goals of alleviating poverty, as intended in the Zimbabwe Agriculture Policy Framework and Strategy (1995-2020). Having no proper road network affects institutional development that focuses on efficient, more private service delivery to smallholder farmers.

Bad roads are a disservice to smallholder farmers who rely on road transport for their daily needs. This in turn affects the goal of increasing food production that may ensure household food security. As farmers were not able to ferry their products to the market, they were not able to access the markets. This affects another intended goal of the Zimbabwe Agriculture Policy Framework and Strategy (1995-2020) which seeks to improve earnings of the farming community in real terms. In this regard, the road networks were not contributing towards poverty alleviation. In other words, they were contributing towards poverty amongst the rural farmers operating at a small scale.

Category 3.1.5: AGRITEX officers' service/assistance to smallholder farmers

The existence of an AGRITEX department in the area was intended to ensure that farmers are provided with the knowledge and training necessary for improving their yields. While this assistance was being provided in the Masvingo rural district, both the farmers and AGRITEX officers concurred that it was not up to the best standard. AGRITEX officers had no transport, and their morale was affected by the lack of basic necessities such as decent accommodation.

The arrangement with China to have some of their technocrats in agriculture and mechanisation providing assistance to local personnel is a laudable measure which could improve the community's knowledge base in agriculture. However, the associated incapacitation of the AGRITEX department affects the transmission of knowledge and expertise to the farmers. According to Moyo (2013), retarded skills transmission means a slowdown in the indigenous farmer empowerment process. Moyo (2013) states that local farmers would have a high production rate if there was a proper induction and learning period wherein farmers are properly trained on good methods of agriculture relevant to their area. Such a period may help traditional farmers to gain skills and expertise and prevent the massive drop in food production.

Category 3.1.6: Agriculture research

The research division in the AGRITEX department was indicated as responsible for agriculture research wherein new information is developed and solutions for the community's problems are sought. Despite the government having setup facilities for agricultural research, it was noted that no research was being done at the time of the study and officers were relying on studies done many years ago and those done in other areas. Such findings may not be relevant for the current situation in the area and thus, may adversely affect farmers' yields.

The government of Zimbabwe realises the importance of agricultural research as this may improve agriculture knowledge to farmers. This is denoted in several policy documents including the Nyanga Document developed in 2007 by the Ministry of Agriculture, with technical assistance from the Food and Agriculture Organisation (FAO). The Nyanga Document sought to improve the provision, through public-private entities, of financial, marketing research and extension services and to strengthen agricultural institutions to deliver advice and services to farmers. However, Mutami (2015) highlighted that though sound policy documents are developed, the major challenge is on implementation of the policy pronouncements. Similar concerns were raised by Kapuya et al. (2012) who found that due to diverging political stances within the Ministry and the change of Ministers, the Nyanga Policy Document was never adopted. Basing agricultural initiatives on political reactions to on-going socio-economic and political development, evident in the post-2000 period, has retarded development in the agriculture sector with adverse consequences on small scale rural farmers.

Category 3.2: Improving the National Agricultural Policy Framework to alleviate poverty.

This section discusses the results obtained on ways for enhancing the implementation level of the Zimbabwean National Agricultural Policy Framework to raise the standards of living for the people. Views were obtained from the AGRITEX officers, DDF officials and small-scale farmers.

Category 3.2.1: Farming inputs and implements.

The participants concurred that efforts to improve the agricultural policy implementation level in Masvingo rural district should include improving ways in which farming inputs and implements are provided in the communities. It was found necessary to ensure farming inputs and implements are provided to all the households without discrimination. Such provision, if made prior to the rains, would enable farmers to plan accordingly and ensure that their crops reach maturity stage. It was also found necessary to ensure that all community members benefit from government provisions regardless of political orientation, as leaving out certain households would compromise the aim of eradicating poverty in the area.

Category 3.2.2: Irrigation facilities

Investing in irrigation facilities to benefit the small-scale farmers was also suggested as a measure for enhancing implementation of the agricultural policy in the Masvingo rural district. This would enable farmers to engage in farming activities during the off season while also enabling them to depend solely on rain-fed agriculture, given the low rainfall now being received in the area. As such, it was found necessary for the government to facilitate the construction of dams, repairing and maintaining existing boreholes and establishing new ones to enhance access to water for the smallholder farmers.

Category 3.2.3: Storage and preservation of farm produce

The need to improve on storage and preservation of farm produce is an issue raised by the farmers and AGRITEX officers. It was noted that some farmers would go into poverty and hunger despite having harvested enough to sustain their families to the next season due to failure to store and preserve their farm produce. They suggested that GMB facilities should be made more accessible to the smallholder farmers to enable them to be able to buy back their grains when needed. The need for community barns was also highlighted to enable community collaboration towards storing and preserving their own farm produce in line with local conditions. The role of the government would then be to provide preservation chemicals or subsidise their prices to make them affordable to the small-scale farmers.

Category 3.2.4: Market for farm produce

The results show that all the participants agreed that there is need for a market for the farmers' produce. The smallholder farmers were facing challenges to sell their grains to the GMB, as such, there is need for an improvement of GMB services to suit the needs of smallholder farmers or to develop other alternative markets. This would involve establishing GMB depots nearer to the communities to eliminate the burden of individual farmers transporting their grains to a central GMB depot. This should be coupled with a system whereby farmers have a say in determining the prices of their commodities instead of the buyer deciding the price as this would not normally suffice to cover farmers' operational costs.

Category 3.2.5: Road networks

Improving road networks is another consideration for improving agricultural policy implementation in the Masvingo rural district. The participants indicated that there is need for road networks connecting the communities with local shopping centres using motor vehicles or scotch carts. It was also suggested that the existing roads need to be repaired and maintained as they are no longer trafficable. Efforts to this effect were attributed to the need to revamp the DDF services through provision of adequate financial and human resources to the DDF department. Improving the state of roads and road networks would enhance production in excess as farmers are guaranteed that they would be able to ferry their farm produce to the markets.

Category 3.2.6: Farming knowledge

The results highlighted that smallholder farmers were deprived of the necessary knowledge on agriculture. This was attributable to the fewer number of AGRITEX officers to disseminate the much-needed knowledge and offering farmer training. It was suggested that increasing the number of AGRITEX officers in the area would reduce the number of farmers being advised by a single AGRITEX officer which may enhance their effectiveness and efficiency in addressing farmer needs. It was also noted that reducing political influence on rural farming would promote free gatherings of all the rural farmers regardless of political affiliation. By so doing, all the farmers would be able to benefit from the AGRITEX officers' workshops and training sessions.

Category 3.2.7: Agriculture research

The participants emphasised the importance of agriculture research which would enable farmers to operate in line with changes in their environment. However, while institutions for research and research personnel were available, they were not currently engaging in research due to lack of required equipment and transport. To improve rural agriculture in the Masvingo rural district, it was suggested that the government provide requisite equipment and transport needed by the agricultural researchers.

Category 3.2.8: Direct assistance to farmers

The participants acknowledged the existence of efforts to provide direct assistance to the smallholder farmers through mechanisation programmes. However, it was noted that the programmes were falling short of the communities' expectations. It was suggested that the government should ensure that mechanisation programmes such as the previous tractor programme also benefits smallholder farmers. Instead of being given to individuals who often monopolise such public assets, it would rather be ideal to distribute them to DDF depots so that farmers looking for assistance, may be assisted. This could be augmented by government provision of fuel to enable those farmers who cannot afford the charges to also benefit from the mechanisation programme.

4.3.4 Theme 4: Government Intervention Strategies

Government support to rural agriculture was assessed in terms of its support of knowledge generation, provision of inputs, irrigation facilities, storage of farm produce and access to markets.

Category 4.1: Government National Agricultural Policy Awareness Programme for smallholder farmers

There are so many intervening strategies that have been used by the government of Zimbabwe in attempt to make smallholder farmers aware of the existing agricultural policy. The intervention strategies and policy awareness programmes are categorised and discussed below.

Category 4.1.1: Government backed institutions.

The results shows that the government was supporting rural agriculture through the establishment of several institutions whose services may aid rural farmers' activities. Such institutions include the AGRITEX department that has a division on research with a mandate to carry out agriculture research intended to advance agriculture information and discoveries. The information is provided to the public for use and to the AGRITEX extension services division which has direct contact with the farmers. As a result, the AGRITEX department is expected to develop agriculture knowledge in line with local requirements to benefit local communities. The study observed that AGRITEX officers held agriculture shows, field days and quiz show with smallholder farmers. *The best practising farmers would get incentives on such particular days* (SH#6). On such day's farmers were trained on the best farming practices.

This arm of the government had the mandate to distribute inputs to the farmers. The provision of agricultural inputs to the rural farmers is in line with the government's undertaking to implement the agriculture policy as well as making smallholder farmers aware of the policy. The study however, found that whilst the AGRITEX officers had the mandate to distribute farming inputs to the farmers, they were at times side-lined by politicians resulting in unfair distribution of the seeds and fertilisers. In line with Government initiatives to promote cultivation of sorghum and millet which are compatible with low rainfall, AGRITEX officers disseminated such vital information to the smallholder farmers. However, the research found that small grains such as millet and sorghum were not common, though there were families that indicated that such were some of their crops. An observation made suggested that millet and sorghum were found in households that had the elderly people. They were not common to the younger generation which was not comfortable with these crops which they regard as not palatable. This was confirmed by the AGRITEX officers who highlighted having difficult times in convincing the younger generation to transfer from maize farming towards small grains which tends to be capable of withstanding the low rainfalls in the area.

The AGRITEX officer in the Masvingo rural area also held workshops on farmer training, which was in line with the goals of the National Agriculture Policy. However, the researcher found that farmer attendance on such workshops was low. It seems

that farmers who did not benefit from presidential inputs scheme, do not belong to the ruling party and would not attend such workshops.

Government intervention strategies to smallholder communities should also include supply of irrigation facilities to reduce food shortage in the country. Other government-backed institutions whose service should benefit the rural communities includes the DDF depots. These have a mandate to improve, repair and maintain infrastructure in rural areas. Such infrastructure includes road networks, boreholes, and dams. Having such a DDF department in the area, shows that the government is concerned with the provision of safe and reliable road networks in the rural areas. It also shows the government's commitment towards provision of reliable sources of water through dams and boreholes.

The existence of government-backed institutions which support agriculture is in line with the Zimbabwe Agriculture Policy Framework and Strategy (1995-2020) which seeks to promote institutional development that focuses on efficient, more private service delivery to small-scale farmers. This has been augmented by relations the country pursues with other countries to empower the knowledge and resource base on agriculture. The case in point is that of Zimbabwe-China arrangement which saw China providing assistance with loans for agriculture mechanisation programme which resulted in Zimbabwe receiving tractors and farming implements targeted to improve rural agriculture. On the knowledge base part, China stepped in to partly fill the void with study tours and short courses for key personnel at Zimbabwe's Ministry of Agriculture Mechanisation and Irrigation Development (IPRCC, 2012). In addition, China also seconded some of its agriculture experts to the Department of Agriculture, Technical and Extension Services (AGRITEX) and the Zimbabwe public extension service. Zimbabwe has specified the preferred skills to the staff to be provided. Such initiatives are meant to improve the knowledge base and empower personnel who provide services to rural farmers to improve their productivity in line with the country's targets in the post-independence era of improving the productivity of small-scale farmers to improve household food security.

Category 4.1.2: Inputs provision

The results also show that the government supported rural agriculture through the input schemes wherein inputs are distributed to rural communities during the planting season. The beneficiaries to the input schemes are given maize seed and fertiliser.

These are intended to supplement the farmers' efforts in acquiring farming inputs, specifically assisting the unfortunate ones who cannot access the inputs from agro-dealers. On acquisition of inputs, there was a challenge as agro-dealer prices were very high, yet no subsidy was being provided by the government to make the prices reasonably affordable for the small-scale farmers.

The provision of agricultural inputs to the rural farmers is in line with the government's undertaking in its public policy on agriculture where the major thrust is to improve food production in the country. The Zimbabwe Agriculture Policy Framework and Strategy (1995-2020) has its major goals including, *inter alia,* focusing on increased food production that ensure household food security. Manjengwa, Kasirye and Matema, (2014) indicated that reforms in agriculture made in the post-independence period sought to reduce the concentration of agricultural production in the hands of a few individuals by improving production of many small-scale farmers, though efforts were being made to avoid jeopardising large-scale commercial farming. Thus, the agricultural policy and land reform exercise sought to ensure food security at household level. Taking cognisance of that fact that it becomes imperative to empower the smallholder farmers by providing them with resources for their activities. When properly done, the provision of inputs to farmers has the capacity to improve food provision as experienced in the 1985 to 1986 period where a significant proportion of grains marketed to the GMB came from the smallholder rural farmers (Janson & Rukovo, 1992).

Category 4.1.3: Irrigation facilities

The research participants concurred that there was lack of government support in provision of irrigation facilities to the smallholder farmers. The Masvingo rural district lacked adequate dams from which water for irrigation can be obtained and there were no boreholes to use for irrigation even at small scale. Available boreholes were being used by people for drinking water which means that these boreholes could not be used for agriculture. Coupled with this challenge is the lack of pipes and infrastructure to carry water from areas far from the farmers' fields. As a result, small scale farmers tend to rely on rain-fed agriculture, without any off-season agriculture activities to supplement their incomes.

The non-existence of irrigation facilities in the Masvingo rural district is a fact

established also in prior studies. According to Mutami (2015), the irrigation schemes which once existed in the area have faced numerous challenges as the canals are damaged, underground pipes are damaged and engines that pump water for irrigation have broken down and are no longer working. In view of this, Marongwe (2014) was sceptical about the sustainability of irrigation schemes and their role in fighting poverty in such circumstances.

Category 4.1.4: Storage of farm produce

The participants cited the government's commitment to the provision of storage facilities for the farmers' produce through the GMB depot. Farmers with excess seeking funds may sell their grains to the GMB in return for money. The GMB has also a facility whereby farmers can buy the grains when needed. By so doing, the GMB acts as a storage facility whereby grains, excess to requirements, are stored at GMB and those in need finds the GMB as a source of the required grains.

The existence of a nationally coordinated storage facility for farm produce is in line with the Zimbabwe Agriculture Policy Framework and Strategy (1995-2020) which seeks to promote increased food production that ensures household food security. The same policy also seeks to develop public – private sector investment programme to support agriculture development. In this regard, GMB is used as a tool to attain desired level of National self-sufficiency, wherein we produce in excess to requirements having sure that the excess will be properly catered for and availed when need arises. In view of this, Mutami (2015) indicates that Zimbabwe's food security policy aims to ensure food self-sufficiency, while keeping prices low for consumers, targeting specifically grains such as maize, wheat and millet products. As such, the GMB is intended to encourage food production in excess of requirements so that there would be national food security as households would have access to the staples whenever this is required.

Category 4.1.5: Market for farm produce

Lastly, the government was supporting rural farmers through the provision of market for their farm produce. The GMB depot was available to buy the farm produce of those producing grains in excess to household requirements. The Cotton Company was also cited by those engaged in cotton farming as a ready buyer of cotton from the farmers. Having ready buyers for the farmers' products serve to encourage production in large

quantities as farmers are aware of a ready market for their products. By so doing, they produce for their own while the surplus adds to the national basket.

The GMB is a ready market where farmers may sell their grains after harvesting. The liberalisation of grain marketing in 2009 helped to reduce GMB on the purchasing, importing, and selling of maize and several other grains (Mutami, 2015). This widened markets for the farmers, a move which would improve their incentive to produce more grains, being sure of a market which is free from monopoly which may provide better prices for their farm produce.

5.5 CHAPTER SUMMARY

In this chapter, the findings emerging from the analysis of data were presented. The data collected were analysed and interpreted with the view of answering research questions using themes that emerged from the interviews and focus group discussions. The chapter also presented the discussion of the findings in line with the policy pronouncements and prior studies. The discussion highlighted that the school curriculum agricultural policy although relevant, could not alleviate poverty on its own. It needed complementary support from the National Agriculture Policy Framework. However, the policy was not properly implemented in a way that enhances its potential to realise the intended goal of improving smallholder farmers' capacity. Major concerns in this regard pertain to the lack of associated funding and resourcing, making the policy more reliable on paper than in practice. Of utmost consideration is the political influence which is undermining the impact of the policy. The lack of resourcing of the institutions supporting rural farmers' activities is also a cause for concern on the effectiveness of implementing the agricultural policy in Zimbabwe. The final chapter presents the conclusions and recommendations that are derived from the study.

CHAPTER 6: SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 INTRODUCTION

The previous chapter presented the analysis of data that was obtained from interviews, focus group discussions and observations. This chapter presents the findings; it summarises the findings of the empirical study in an attempt to answers the research questions and meet the objectives of the research.

The limitations of the research are also presented, and how these were mitigated to reduce their effect on study findings and conclusions. Drawing from the study results, recommendations are made on the best ways through which smallholder farmers in Masvingo rural district can escape poverty. This chapter begins by presenting a summary of literature review and then findings from the empirical study.

6.2 SUMMARY OF THE EMPIRICAL STUDY

The empirical study aimed at exploring the relevance of agricultural education curricula in poverty alleviation in Masvingo rural district in Zimbabwe. The study used qualitative approach embodied within a case study to get insight into the studied phenomenon. The research methods included the sampling strategy, data collection methods that are the semi-structured interviews and focus group discussion and observation. The data collected was followed by data analysis which went alongside with data collection from research sites. Ethical measures and trustfulness which were adhered to in the proceedings of data collection and analysis were also considered.

Several themes emerged from participant teachers, learners, smallholder farmers, AGRITEX officers and DDF officers. The emergent themes included, Learners' and teachers' understanding of the nature of agricultural practice in schools and the community, Nature of agricultural practice in schools community,& type of crops and domestic animals, The relevance of the school curriculum agriculture policy in poverty alleviation, Smallholder farmers' perspectives on the relevance of school curriculum Agriculture policy on poverty alleviation, The challenges of smallholder farmers in Masvingo rural district, Contribution of the policy towards poverty alleviation in Masvingo rural district, Improving Agricultural policy to alleviate poverty, Teachers'

strategies to equip learners with agricultural knowledge & skills Learners' Agricultural fieldwork /practical activities, Government intervention strategies and Government agricultural policy awareness programme for smallholder farmers.

The participants of the research revealed that the school agriculture curriculum was relevant to poverty alleviation in Masvingo rural district, but it needed to work aside with the national agriculture policy for poverty in Masvingo rural area to be alleviated through agriculture. However, teachers and learners interviewed agreed that the school agricultural education curriculum imparted skills and knowledge in learners such that when they leave school, they would be good practicing farmers. Also, an exploration of the implementation level of the national agriculture policy has revealed that although the policy is very important in alleviating poverty among the smallholder farmers, it has not been fully implemented by the smallholder farmers because they are not receiving adequate support from essential stakeholders like the government. There are other conversion factors like drought which deter farming in Masvingo rural area.

6.4 SYNTHESIS OF RESEARCH FINDINGS

The synthesis of the research findings is drawn from the themes outlined in Chapter 5, the theoretical framework in Chapter 2 and the review of literature in Chapter 3.

Regarding *the nature of agricultural practice in the Masvingo rural district,* the data revealed that agriculture practice was more aligned with subsistence farming rather than large-scale commercial farming, with farmers growing crops such as maize, sorghum and wheat and kept domestic animals like cattle, chickens, and goats. The findings concur with literature on smallholder agriculture in Kenya.

The *participant teachers* noted that the agricultural education curriculum, *Curriculum Framework for Primary and Secondary Education 2015-2022,* currently in place in Zimbabwean schools was relevant in equipping learners with the relevant knowledge, skills and competence to fulfil a role in farming and *address the poverty issue* in the Masvingo rural district. The participant agriculture teachers reported that the curriculum, which is defined as the combination of instructional practices, learning experiences and students' performance assessment that are designed to bring out and evaluate the target learning outcomes of a particular course (Chikwati, 2021),

teaches and imparts agriculture knowledge and skills to learners, which can be used by the learners to by the learners when they become smallholder farmers or even passed on to their parents to improve smallholder farming practice.

The *learners* also reported that the implementation of the curriculum with the practical learning methods employed by teachers helped them to acquire knowledge and skills which could be used at home in smallholder agriculture. They were able to use their skills to help their parents and relatives who are smallholder farmers. This way there would be improved farming in the community resulting in poverty alleviation. Poverty alleviation is defined as the ways, methods or techniques adopted by the government, non-governmental organisations, or wealthy individuals to reduce or eradicate poverty (Oviasuyi, 2019). In contrast some participant learners felt that the curriculum was too demanding especially the CALA which required learners to work on their own. Learners' negative attitude affected how agriculture teaching and learning for adequately equip learners for their role as smallholder farmers and ensure that they were not victims of poverty.

As agriculture is a practical subject which requires a *hands-on approach to learning,* learners need to engage in practical activities such as, planting, ploughing, weeding and repairing fence, soil conservation, repairing equipment like wheelbarrows, tending of livestock, to just give examples. Learning by doing motivated the learners making learning more interesting and allowed conceptualisation of concepts and skills. The lecture method was supplemented by a wide range of strategies such as the discussion method, the demonstration method, the problem-solving approach/discovery method, class projects, digital learning, tours and field trips. The practical activities trained the learners to become farmers equipped with the relevant knowledge, skills and competence ready to start their farming after completing school. Form four learners worked on continuous assessment tasks (CALAs) and some on research problems. The methodologies employed by teachers to engage learners in visiting viable agriculture sites such as the sugar cane plantations in Chiredzi and Hippo Valley enabled learners to learn from the demonstrations done by the experts. This aligns with Chikwati (2021) who states that following the new curriculum and being exposed to a range of teaching strategies, learners should exit school with entrepreneurship skills to start their businesses.

The underpinning theory of *constructivism* emphasises the need to recognise the role played in learners' cognitive development as well as the social factors that influence children's learning. Lohman and Hurst (2021) posit that constructivism is more concerned with how learners constructing knowledge for lifelong learning rather than the transmission of knowledge and rote learning. Assimilation and accommodation are the distinct tenants of cognitive development (Lohman & Hurst, 2021) with assimilation being defined as the cognitive process of fitting new information into existing cognitive schemas, perception and understanding while accommodation is the cognitive process of revising existing cognitive schemas, perceptions and understanding so that new information can be incorporated – both assimilation and accommodation prepare learners to be able to learn (Piaget cited in Lohman & Hurst, 2021). Having knowledge on the stages of cognitive development by the agriculture teacher assist him or her in developing activities that will enable learners to be engaged and involved (McLeod 2019) through the use of a variety of teaching strategies to provide them with rich experience towards concept development (McLeod 2019) and develop vital skills such as problem solving, critical thinking through discovery learning skills.

A further important principle of constructivism theory is the role of socialisation towards meeting the learning needs in the teaching and learning of agriculture. Vgostky's social constructivism recognises the important role played by social interaction of individuals in knowledge development (MacLeod, 2019) and use of the Zone of Proximal Development (ZPD) (Yetmen, 2020). That is, learning occurs through interaction with others who are more knowledgeable about the concepts under study, such as collaborating with peers and being scaffolded by teachers, to enhance the learner's development and learning by guiding them through a task slightly above their level (Yetmen, 2020).

Farmers who had been involved in teaching and learning with the *implementation of the agricultural education curriculum* reported that it had influenced their smallholder farming practice as they had gained knowledge and skills on conservation agriculture popularly known as *"pfumvudza".* Smallholder farmers reported that apart from basic farming knowledge and skills, the curriculum had also them to develop problem-solving skills and communication skills which helped them in marketing their farm products. In contrast, older farmers were not taught under the curriculum and had

learnt from their grandparents and parents as well as AGRITEX officers and other supporting agents from the government and non-governmental organisations.

The *capability theory,* rooted in the works of Aristotle, Adam Smith and Karl Max, Sen (1980) and classicist and philosopher, Nussbaum (1988), also underpinned the research. The theory is based on two main tenants which are functionings and capabilities (Hart & Brando, 2018). Functionings are doings and beings, that is, the various states of human beings and activities that a person has achieved, such as being well nourished or being educated (Woods, 2020) while capabilities refer to real freedom to achieve, do and be equipped with the required means necessary to achieve, do and be (Sen, 1987, 1992, 2002, 2009 cited in Woods, 2020) The theory assisted in exploring the capabilities and functionings of smallholder farmers in the Masvingo rural district. The theory for instance looks at the means which should be available to the people (smallholder farmers). Means are goods and services which must be available to enhance well-being (Arneson, 2020).

In the context of this study agriculture teachers and learners require sufficient resources for effective agriculture learning to take place, for instance they need textbooks, seeds, chemicals and equipment specified in the curriculum and smallholder farmers in the Masvingo rural area need inputs and government support. However, within the capability theory, conversion of resources into individual capabilities and functionings is important (Crocker & Robeyns, 2009 cited in Woods, 2020) and may affect the ability and extent to which an individual can covert resources into functionings and capabilities (Arneson, 2020). Therefore, the extent to which smallholder farmers make use of resources will influence the rate at which poverty can be alleviated in the Masvingo rural district.

Conversion factors are grouped into, personal conversion factors, social conversion factors and environmental conversion factors. Personal conversion factors are internal to a person, such as physical condition, intelligence, gender, individual circumstances, background to mention a few. Social conversion factors are factors from the society in which one lives, such as social norms, public policies, societal hierarchies, power relations related to, for example gender, race or class. The environmental factors include aspects like one's geographical location, that is, climate, presence or absence of seas or oceans, pollution, proneness to drought or floods. All these factors

contribute to the effective practice of smallholder farming and its effect of poverty alleviation among smallholder farmers in Masvingo rural district.

Conclusively smallholder farmers agreed that the agricultural education curriculum and the National Agriculture Policy Framework should work in tandem to support smallholder farmers in an attempt to promote agriculture and alleviate poverty in their area.

Inadequate implementation of the policy was evident in the Masvingo rural area where adequate inputs per household were not evident. Participant farmers cited a number of challenges such as food insecurity, provision of seeds and fertiliser, the high cost of both, lack of farming equipment, dependency on rain rather than access to irrigation facilities such as dams and boreholes, GMB facilities located away from rural communities, quality-of-service delivery by the GMB, lack of storage facilities for the farm produce, transportation links with roads not being repaired or maintained and finally, inclusive education of training for farmers, without discriminating against small farmers

Effective implementation of the National Agriculture Policy Framework could play a major role in poverty alleviation. The provision of agricultural extension services to the small-scale farmers could assist in guidance regarding crops to plant and improving soil fertility improves the quality of harvests. At present, the AGRITEX department is challenged by lack of adequate funding and current agricultural research which results in little assistance to the smallholder farmers in the Masvingo rural district. However, AGRITEX officers suggested that increasing the number of officers in the area to reduce the catchment area per AGRITEX officer, plus the provision of adequate resources to cater for AGRITEX officers' welfare would enhance the AGRITEX officers' potential to reach greater parts of their catchment areas. Policy considerations were also suggested on the provision of finance as requested in the departmental budgets. The AGRITEX officers highlighted the need to reduce political influence on farming in the Masvingo Rural District

DDF officials highlighted the need for government to avail resources which capacitate them so that they can execute their mandate and by so doing, can help to address poverty in the Masvingo Rural District. Issues cited include the remitting of requested

finance as per the departments' budgets. The findings indicate that DDF officials were concerned with the lack of regular repair and maintenance of roads in the Masvingo Rural District. DDF officials highlighted the need for providing adequate funding for the food-for-work programme as a way of enhancing implementation of the agricultural policy in Zimbabwe, especially in the Masvingo Rural District. Improving the way in which direct assistance to farmers is being provided in the area was also suggested by the DDF officials.

Government institutions like AGRITEX provide and disseminate vital agriculture information to the farmers. AGRITEX officers interviewed had trained the smallholder farmers conservative agriculture (pfumvunza programme) The study observed that AGRITEX officers held agriculture shows, field days and quiz shows with smallholder farmers. The best practising farmers would get incentives on such particular days (SH#6). On such days, farmers where trained the best farming practices. Also, this arm of the government had the mandate to distribute inputs to the farmers. The provision of agricultural inputs to the rural farmers is in line with the government's undertaking to implement the agriculture policy as well as making smallholder farmers aware of the policy. In line with Government initiatives to promote cultivation of sorghum and millet which are compatible with low rainfall, AGRITEX officers disseminated such vital information to the smallholder farmers. However, the research found that small grains such as millet and sorghum were not common, though there were families that indicated that such were some of their crops. An observation made suggested that millet and sorghum were found in households that had the elderly people. They were not common to the younger generation which was not comfortable with these crops which they regard as not palatable. This was confirmed by the AGRITEX officers who highlighted having difficult times in convincing the younger generation to transfer from maize farming towards small grains which tends to be capable of withstanding the low rainfalls in the area.

Education and training for farmers in the Masvingo rural area was important, with AGRITEX officer holding workshops on farmer training and needs, which was in line with the goals of the National Agriculture Policy Framework; however, farmer attendance was poor which could be related to not belonging to the ruling party. This

kind of attitude would deter the national policy goal from achieving its aim of alleviating poverty and hunger among the people.

6.5 RESEARCH CONCLUSIONS

The conclusions presented in this section are expressed in terms of answers to the main research question of: *How relevant is the agricultural education curriculum in poverty alleviation in the Masvingo rural district in Zimbabwe?*

The sub-questions will be discussed first followed by a discussion of the main research question.

6.5.1 RQ1: How do teachers implement the Zimbabwean agricultural education curriculum to equip learners with relevant knowledge to practice farming?

The effectiveness of teachers in implementing the Zimbabwean agricultural education curriculum, *Curriculum Framework for Primary and Secondary Education 2015-2022,* was realised in the research through their conceptualisation of curriculum content, understanding of the curriculum content, objectives and aims. The teachers were guided by the syllabus content and their lesson plans indicated the use of learner-centred approaches like discussions, problem-solving, discovery learning, project work both in groups or individually and field work, to enable active learning.

This finding aligned with Piaget and Vygoskty's constructivism theories in that learner-centred approaches allow learners to master concepts under study with teachers facilitating the learning process. For example, each learner was required to complete CALAS, with minimum assistance from the teacher but were guided by their teachers to construct the knowledge to understand agriculture concepts. Teachers were therefore effective in the teaching and learning process and in equipping learners with the relevant knowledge, skills and competences which would support them in their future role as farmers in the Masvingo rural area, which could possibly ensure that they are not victims of poverty.

6.5.2 RQ2: Which strategies can agricultural teachers employ to equip learners with farming knowledge and skills?

Agriculture teachers use varied constructivist teaching methods to equip the learners with agricultural knowledge and skills. Agriculture is a practical subject, hence the

need to tackle it with the hands-on approach to teaching and learning. Learners have to practically perform the tasks. The teachers used the lecture method as a teaching strategy to convey the vast amounts of theoretical information. However, integrating other teaching strategies into the lecture methods ensured that a more learner-centred approach was used. The discussion method equipped learners with farming knowledge and skills as they questioned and queried the information given in lecture sessions, stimulating critical thinking. Frequent questions asked by both the teacher and the students provide a means of measuring learning and exploring in depth the key concepts of the lesson. Discussions assist learners to develop interpersonal relationships such as cooperation, communication, and critical thinking.

The use of demonstrations guides the learner through the process, explaining step-by-step and prepare learners the activity where they apply the theory to the practical. The demonstration method increases learners' interest and understanding and as a result promotes high achievement rate. Teachers were aware of the value of digital learning and if they were equipped with the relevant resources, could use the technology to expose learners to simulated demonstrations, videos, and a range of information.

Projects, both in groups and induvial, ensure that students work independently of the teacher who guides them through the process. The projects which included assigned CALAs for Form 4 learners, could either be practical or theoretical.

First-hand experience and practice of the theoretical methods of agriculture are also very helpful. The agriculture teachers took learners on tours and field trips to equip expose them to the theory into practice, to develop team work skills and to see and grasp agriculture activities as they happen in the field. Not all learning occurs in the classroom and outdoor training through tours and field trips helped learners acquire that knowledge and skill.

6.5.3 RQ3: What are the challenges of smallholder farmers in the Masvingo rural district when implementing the Zimbabwean National Agriculture Policy Framework to alleviate poverty?

Smallholder farmers in the Masvingo rural district faced a number of challenges in their farming practice which resulted in poverty and hunger:

1. Food insecurity - few farming inputs and implements which helped only a few privileged farmers; inputs were not received on time; most people continue to wallow in poverty.
2. Few government-backed irrigation schemes - reliance on rain-fed agriculture; relying on seasonal farming; limited income sources.
3. No government-backed storage facilities to preserve their farming produce - farmers' produce is destroyed by pests and termites; lack of storage results in farmers selling food despite lack of surplus; produce is destroyed by unfavourable weather conditions.
4. Market challenges for farm produce - GMB prices are very low; farmers have no control over selling prices for their commodities; money from GMB takes long to be received by farmers.
5. Poor road networks - roads are in a bad state, farmers face challenges in transporting their produce; perishables turn bad before reaching the market.
6. Inefficient extension service support - underfunding people on the ground affects their effectiveness, lack of transport amongst AGRITEX officers reduces their ability to cover catchment areas, farmers are deprived of requisite knowledge and training, workshops that lack substance consumes resources with less benefit for farmers, farmers continue to use traditional methods that yield less in the face of climate change.
7. Drought - declining livestock.
8. No access to financial support from formal financial institutions.

6.5.4 RQ4: What government intervention strategies can be employed to improve smallholder farming practices?

Government intervention strategies include support from government backed-institutions, inputs provision, irrigation facilities, and provision of market and storage of farm produce.

The government supports rural agriculture through the establishment of several institutions whose services may aid rural farmers' activities. Such institutions include the AGRITEX department that has a division on research with a mandate to carry out agriculture research intended to advance agriculture information and discoveries. Other government-backed institutions whose service should benefit the rural

communities include the DDF depots which have a mandate to improve, repair and maintain infrastructure in rural areas. The existence of government-backed institutions which support agriculture is in line with the Zimbabwe Agriculture Policy Framework (1995-2020) seeks to promote institutional development that focuses on efficient, more private service delivery to smallholder farmers.

The government supports rural agriculture through the input schemes wherein inputs are distributed to rural communities during the planting season. The beneficiaries to the input schemes are given maize seed and fertiliser. The provision of agricultural inputs to the rural farmers is in line with the government's undertaking in its public policy on agriculture where the major thrust is to improve food production in the country.

Government intervention strategies to smallholder communities should include supply of irrigation facilities and schemes; however, lack of government support in provision of irrigation facilities to the smallholder farmers is a challenge as farmer depend on the erratic rains. The Masvingo rural district lacked adequate dams from which water for irrigation can be obtained.

The government provides storage facilities for the farmers' produce through the GMB depot. Farmers with excess crops and seeking funds may sell their grains to the GMB. The GMB has also a facility whereby farmers can come and buy the grains when needed. The Cotton Company is a ready buyer of cotton from the farmers.

6.5.5 MRQ: How relevant is the agricultural education curriculum in poverty alleviation in the Masvingo rural district in Zimbabwe?

This was the main research question of the thesis. From the findings of the research, revealed that the school agriculture education curriculum was relevant in that it could have an effect on alleviating poverty in Masvingo rural district if it was implemented effectively, equipping learners with the relevant knowledge, skills and competences to become successful farmers. However, in the context of this study, it did not have a visible effect on poverty alleviation, but it could be considered an additional strategy towards poverty alleviation in the district. Conversion factors, such as politics, environmental factors such as drought, the contributions by the AGRITEX department and DDF departments, farmers' age, health, and attitudes among other factors, which needed to be solved in their own ways which were not associated with the agricultural

education curriculum, need to be taken into consideration. The study came to the conclusion that the intervention of the government though implementation of the National Agriculture Policy Statement was necessary to improve the poverty level of Masvingo rural area rather than for the agriculture education curriculum to be a stand-alone policy.

6.6 LIMITATIONS

The extrapolation of this study findings to other settings requires careful attention. Despite that, the study accentuates the importance of acknowledging collaborative efforts amongst government agencies in the provision of comprehensive services to support smallholder farmers' activities. The value of the study is derived from the quality of responses obtained from the smallholder farmers and representatives of various government agencies. This makes consideration of this study's qualitative aspects dependent on the provision of unbiased information by the research participants, which reflects their predicament when it comes to agriculture and the state of poverty in their community. In view of this, the findings obtained are subject to inquiry which may need further qualitative methods of investigation before application to other settings. The need for longitudinal studies can also be valuable to assess the agricultural policy implementation and associated results over a longer period, to check on how it impacts the socio-economic of the target community.

6.7 RECOMMENDATIONS

Recommendations proffered in this study take into cognisance great effort that have been made so far in addressing the situation of smallholder farmers in the rural areas to emerge from their poverty situation in Zimbabwe. Since poverty amongst the smallholder farmers continue to be the limelight, it is imperative to note that addressing this predicament requires approaches from different angles. Hence, there is still much to be done when we consider the current state of affairs in the Masvingo rural district, The recommendations were proffered to relevant stakeholder groups, including those which are already engaged in the alleviation of poverty through the use of agriculture-based solutions. Based on the findings from the study, the following recommendations are offered:

6.7.1. Recommendations to Teachers

The researcher recommends that agriculture teachers should continue using the learner-centred approaches in the teaching of agriculture. This allows for the development of competent smallholder farmers equipped with the relevant information to cascade smoothly and correctly to other smallholder farmers. Teachers in Zimbabwe are challenged, but for the sake of their subject, should continue to promote knowledge and skill in agriculture education with the aim of eradicating of hunger and poverty in the community.

6.7.2 Recommendations to Learners

The knowledge and skills acquired from school can improve smallholder communities. Whilst the learners agreed that the agricultural education curriculum assisted them and their families in their farming practice, many learners were not engaged in the task such as digging, weeding and the CALA component. It is recommended that learners develop a positive attitude towards agriculture, since the agriculture industry is one of those viable industries in which one can earn a living.

6.7.3 Recommendations for Government

The role of the government as a policy maker and implementer of such policies is integral in the institution of laws and rules to be followed by people in a country. They develop policies, and can reconsider or amend or repeal policies, in line with changes in the environment. They can develop policies which influences government decisions and public expenditure, hence their importance in influencing the government's approach to the plight of smallholder farmers in rural areas.

An agricultural education curriculum, *Curriculum Framework for Primary and Secondary Education 2015-2022,* was developed and the National Agricultural Policy Framework been promulgated, and if properly implemented, may enhance the rural farmers' agricultural activities. However, significant challenges have hindered the effective implementation and sustainment of the policy.

These were observed in the financing of teachers and associated government agencies which ought to provide services necessary for the rural farmers' agricultural activities. Whereas there was a government agency responsible for the provision of agricultural

education to the rural farmers, its effectiveness was being hindered by a number of factors.

It is thus recommended that adequate funding be provided to the following government agencies:

Teachers are important in national building and economic development; therefore, this research recommends that the government of Zimbabwe should realize the importance of teachers and the services they provide to the Zimbabwean community. The value of the teachers should be realised and restored by giving them reasonable remunerations that allow them to live decent lives. This encourages teachers to work and produce competent learners who are able to alleviate poverty in the country.

The AGRITEX office should be provided adequate funding to finance their research initiatives. The ability to engage in on-going research will enhance the development of solutions and initiatives which make the farmers' agricultural activities relevant to the changes in the environment.

Funding should also be provided for the AGRITEX office's extension services. These are officers who have direct contact with the farmers and require equipment such as computers and other ICT devices for data capturing to ease their work. They also need finance for transport facilities such as scooters to enable them to reach the uttermost parts of the Masvingo Rural District.

The DDF department requires funding to procure equipment such as tractors, spades, and other essentials necessary for repairing roads, dams and boreholes. Roads are market used by the community to transport farm produce to the. There is also need for more human resources to eliminate the need to rely on volunteers from the community.

Government input schemes should be adequately funded to enable all deserving smallholder farmers to benefit. Provision of inputs to farmers who cannot afford them will help to ensure all farmers engage in timely planting of their crops, supplemented by fertilisers for better quality products.

In terms of policy implementation, the findings highlighted the adverse impact of a political hand. Provision of inputs and attendance at training meetings was being influenced by politicians which undermined their effectiveness. It is recommended that

the power of political parties on government processes is limited to enable government agencies and programmes to effectively operate in line with set policies.

6.7.4 Recommendations for Government Agencies Servicing Rural Communities

Smallholding rural farming presents communities with complex and varied agriculture needs which are seldom addressed by a single stakeholder. Such complexity of their situation necessitates the collaboration of efforts from different parties to address their needs. It is, thus, recommended that the different relevant organisations effectively provide their widespread services to provide sustainable and long-lived answers in an integrated manner.

6.7.5 Recommendations for Smallholder Rural Farmers

The findings indicated that farmers were operating as individual households in their farming activities. Considering the time that the farmers spend in their community and also considering the specific focus of their farming activities, the need for integrative approaches that are community focused, with a community component at the core.

It is recommended that the development of combined and integrated initiatives could enable, with reasonable accuracy, the intervention strategies to address smallholder farmers diversified and complicated needs. Community coordinated approaches worth of consideration includes community approach to storage of farm produce, procurement of dip tank chemicals, *humwe* ploughing or *mushandirapamwe*. These approaches may prove effective as the farmers are encouraged to work with what is within their means to collaborate towards alleviating poverty in their area.

The idea under community-mooted solutions to community problems is to reinforce cultural-based solutions to problem-solving. This is based in Africanism as Africans are brought up in a community, riding on *Ubuntu* tenets which may provide home grown solutions. By so doing, the solution starts from where people are. As a result, there will be some imitation of donor agencies' approach wherein people are made to work in groups so as to ensure a collective approach to fighting against poverty. Based on *Ubuntu* maxim that 'I am because we are', the communalism approach to problem-solving may be useful. We cannot say so if someone is suffering from poverty wherein others are thriving or others are benefiting from programmes which are intended for

the poor while the real poor are languishing. This approach may have a positive effect of eliminating donor syndrome while drawing the attention of communities towards collective efforts when fighting poverty.

6.8 RECOMMENDATIONS FOR FURTHER RESEARCH

The study was based on the case of small-scale farmers in Masvingo Rural District, focusing on how the school curriculum agriculture policy was relevant in smallholder livelihoods especially on poverty alleviation. Future studies may consider broadening the study to consider other districts in other provinces to assess how small-scale farmers are faring considering the school curriculum agricultural policy and poverty alleviation. Further research may also consider how the smallholder farmers' level of resilience or potential for home-grown solutions to enhance agricultural productivity address the poverty issue.

6.9 A FINAL WORD

This study explored the relevance of agricultural education curriculum in poverty alleviation in the Masvingo rural district in Zimbabwe. The theoretical framework of constructivist educational theories underpinned the teaching of agriculture in secondary schools and theories that affect human welfare underpinned learners' ability to apply that knowledge, skill and competence in becoming smallholder farmers. As a researcher, I found that even though the agriculture education curriculum was relevant and more often than not equipped learners to become farmers, support from the government, agencies, and non-governmental agencies was vital in ensuring that the National Agriculture Policy Framework is effectively and sustainably implemented in an attempt to address the issue of poverty in the country. However, community-mooted solutions to community problems could go a long way in reinforcing cultural-based solutions to problem-solving – *Ubuntu* – provides a home-grown solution that starts from where people are.

'I am because we are'.

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List of Appendices

Appendix A: Letter of Request to District Administrator to conduct Study.

LETTER REQUESTING PERMISSION TO CONDUCT RESEARCH

Request for Permission to Conduct Research in Masvingo Rural District

Title of the research: The relevance of agricultural education curriculum in poverty alleviation: a case of Masvingo rural district in Zimbabwe.

Date 26 April 2022

To the District Administrator Masvingo

I, Aplonia Mandivengerei am doing research under supervision of A.S. Mawela, a Professor in the Department of Curriculum and Instructional Studies towards a Doctor of Philosophy Degree in Education at the University of South Africa. The aim of the study is to explore the relevance of agricultural education curriculum in poverty alleviation. Your area has been chosen because it is a rural area with many smallholder farmers. The benefits of this study are that it seeks to find out how poverty can be reduced. Reduction of poverty is very beneficial to everybody in society since life standards are raised. There are no physical harms in getting involved in the study. However, there would be no reimbursement or any incentive for participating in the research. After the research findings, you will get feedback. Copies of the findings will be accessed in libraries of your local schools. You as the Chief you will get some copies as well Participation is voluntary and one may withdraw anytime without negative consequences.

Yours sincerely

Mandivengerei Aplonia (The Researcher)

Appendix B: Letter of Permission to Conduct Study

Correspondence should not be
Addressed to individuals

Telephone: 262077
Fax : 262386

District Administrator
Masvingo District

ZIMBABWE

Reference:

MINISTRY OF LOCAL, GOVERNMENT, PUBLIC WORKS
AND NATIONAL HOUSING
District Administration
P.O. Box 123
MASVINGO

03 December, 2018

Mandivengerei Aplonia

RE: REQUEST FOR PERMISSION TO CARRY OUT A RESEARCH IN MASVINGO DISTRICT ON THE IMPACT OF THE ZIMBABWEAN AGRICULTURE POLICY ON POVERTY ALLEVIATION

The above matter refers

This serves to notify you that you have been granted permission to carry out the above research in Masvingo District. We hope you will find information that will assist the district in the area of study you have chosen, hence please share your findings after completion of your study.

Yours Sincerely

Chikugu.J

For: District Administrator, Masvingo

cc Chief Executive Officer

cc Ward Councillors

cc Agritex

cc DDF

DISTRICT ADMINISTRATOR
MIN. OF LOCAL GOVT. PUBLIC
WORKS & NATIONAL HOUSING
03 DEC 2018
P.O. BOX 123, MASVINGO
ZIMBABWE

Appendix C: Interview Guide for Smallholder Farmers

My name is Aplonia Mandivengerei. I am a doctoral student at the University of South Africa, interested in conducting a study entitled, The relevance of agricultural education curriculum in poverty alleviation: a case of Masvingo rural district in Zimbabwe. My student number is 58554920. My supervisor is professor A.S. Mawela in the department of curriculum and instructional studies. His email address is mawelas@unisa.ac.za. and his phone number is +27764132156. Therefore, I kindly ask you to respond to my interview questions. Thank you in advance.

The interview questions are theme based, that is the three areas listed are A, B and C.

(A) Questions inquiring on awareness on the Agriculture Policy

Are you aware of the agriculture policy in Zimbabwe?

What does the policy stipulate concerning farming in rural areas?

(B) Questions on what the agriculture policy aims to achieve in districts around Zimbabwe.

(i) Crops grown and animals kept by small scale farmers

Which types of crops do you grow as small-scale farmers?

What types of animals do you keep?

What are the advantages of keeping such animals and growing those crops?

(ii) Increasing Yields for all crops

Do you use improved hybrid seed varieties for different crops which can adapt to your environmental conditions?

Are the inputs subsidised by the government?

Can you afford to buy the hybrid seeds as smallholder farmers?

Do you till and plant hybrid seeds on all the land available to you as smallholder farmers.

Do you sometimes use grain from previous harvests as seeds?

After harvesting crops do you have effective storage facilities which would not cause grain to be attacked by weevils?

Does the government assist with grain storage facilities to you as smallholder farmers?

(iii) Irrigation development

How many irrigation schemes are functional in your area?

How many irrigation schemes have ceased to operate in your area?

What challenges contributed to the closure of the irrigation schemes?

Is the government assisting you to repair previously equipped areas which are not functional?

Is there sustainable rehabilitation and modernisation of irrigation infrastructure?

Is the area equipped with irrigation infrastructure increasing? Why do you say so?

Is the government developing, equipping, and utilising potential irrigable areas within the underutilised internal dams in your district?

As famers in irrigation, are you adequately and timely funded by the government?

Where irrigation is done, describe the quantity and quality of food produced by farmers.

What are the benefits of irrigation?

How are the standards of living for farmers who are in irrigation schemes?

To what extend is the government support in irrigation farming in your area helping to reduce poverty among people?

Do you think irrigation farming can be a solution to poverty alleviation in Masvingo rural district?

(iv) Animal diseases

Do you have dip tanks in your village?

Who provides the dipping chemicals needed?

Are the chemicals in constant and adequate supply?

Does the government assist in curing animal diseases, or it is the farmer's responsibility?

Do you have problems of cattle diseases and other unfavourable environmental conditions that kill cattle?

What measures are taken by the government to reduce cattle loss?

(v) Input supply

Which government programmes supply inputs to you as smallholder farmers?

Are the government programmes constant in supplying the inputs?

Do every farmer benefit from the input programmes?

What forms of inputs are given to you by government?

Are the inputs timely available?

Can you state the quantities of seeds and fertilisers you usually receive from the government?

Are ago-dealers found in your local area, close to you as smallholder farmers?

Does the government subsidise the price of seeds and fertilisers to a level that enable you as smallholder farmers to access inputs at affordable prices?

Beside agro-dealers, do you have local input distribution co-operative unions promoted by government?

Do the co-operatives get the inputs constantly from the government?

The distribution by co-operatives, is it done fairly, that almost every farmer deserving assistance benefits?

Explain how input supply has aided to improve agriculture in Masvingo rural district as well as poverty reduction among the people?

vi) Agricultural mechanisation

Did you benefit from the mechanisation programme in the country?

How many smallholder farmers accessed the tractors from the government?

Are the tractors still functional and used by farmers in society who need them?

Are tillage services readily available to farmers?

How has the presence of mechanisation improved agriculture and poverty alleviation among smallholder farmers?

Are there some rural workshops to service and repair tractors and equipment?

Were you provided with training services on the correct use of farm machinery and equipment?

How effective has the introduction of mechanisation helped to increase food production and decreasing poverty levels among the people?

(vii) Agricultural Education and Training

Does the government provide agricultural education and training system that produce knowledge and skilled agricultural practitioners in your district?

When the last workshop was held, how was the turn-up by farmers?

Are women involved in the training?

How has the involvement of women helped agricultural performance and poverty alleviation in Masvingo Rural District?

How has farmer training assisted to improve farming and on the other side reducing poverty among farmers and the people of Masvingo rural district at large?

(viii) Output Subsidies

When you harvest more grain, do you sell surplus to the grain marketing board?

Do the producer prices guarantee farmers a market at viable prices?

Explain the level to which the selling of grain to the marketing board improves the life standards of the people?

(ix) Roads

How do you rate the roads in your district?

How often are the roads repaired and maintained?

Do the roads conveniently link your community and the grain marketing boards?

(x) Conservation of soil resources

In your community, how is the government promoting soil and moisture conservation?

To what extend has this helped agricultural production and reduction of poverty in your area?

Is the government promoting construction of small dams and weirs in your area?

How many dams have been constructed in recent years?

Can you give the names of the dams?

How useful has dam construction been in improving agriculture and eradication of poverty in Masvingo rural district?

(xi) HIV and AIDS in Agriculture

In your community, how is the government promoting the development and implementation of gender sensitive HIV and AIDS mitigation measures by all sectorial actors?

How have mitigation measures done on HIV and AIDS helped agriculture performance and poverty reduction in Masvingo rural district?

(xii) Agriculture Funding

As smallholder farmers do you have the opportunity to borrow money from banks?

Can you borrow money as co-operatives from banks?

Explain how agriculture funding affects agriculture and poverty reduction in your area?

(c) Questions on poverty assessment among smallholder farmers

(i) Food Consumption

As a smallholder farmer, do you have enough food?

What is your mean daily consumption of staple food (sadza)?

As smallholder farmers, are there some among you who are extremely food poor?

Do you have food problems yourself?

Can you spend a day or two without having normal meals?

(ii) Sanitation

Do you have a toilet at your home?

What are the sources of drinking water in your community?

The wells, are they open or closed wells?

Have you ever experienced outbreaks of cholera and typhoid in your community?

If yes to the above Question, when was that?

Do you have a rubbish pit at your homestead?

(iii) Assets

Do you own livestock?

How many livestock do you have?

As small holder farmers, do households own ox drawn ploughs?

Do you have a plough yourself?

Do you own any of the following, radio, television, cellphone, car or bike?

(iv) Housing

As a smallholder farmer, do you have adequate housing?

What is the type of flooring in your houses (clay, sand, cement, dung)?

What is the type of roofing in your homes (grass, zinc or asbestos sheets)?

Do you use electricity in your homes?

Is it hydropower electricity or solar power?

Do you use it for cooking and lighting, or it is for lighting only?

Do you rate yourselves as poor or rich?

(v) Education

Do you have any of your children aged between four to eight years who are out of school?

How many of your children have reached secondary level education?

What is the maximum level of education of any adult in your household?

(vi) Health

Is there any child who has died in your family?

(vii) Household head

Is the household head male or female?

Are you the household?

What is the age of the household head?

Is the household head sick or has been sick previously?

How many people are in your household?

(viii) Conclusive Questions

Do you think effective agriculture is the basis for poverty eradication in Masvingo rural district? Justify your response?

Is the implementation level of the agriculture policy effective to eradicate poverty among the people in Masvingo rural district?

What improvements are needed in the district/ village to improve agriculture performance and poverty alleviation?

Are there other physical factors that contribute to low agricultural output in your area?

How are the impacts of these natural factors being reduced or lessened in your area?

THANK YOU!

Appendix D: Interview Schedule for Teachers on School Curriculum Agriculture Policy

My name is Aplonia Mandivengerei. I am a doctoral student at the University of South Africa, interested in conducting a study entitled Exploring the relevance of school curriculum agricultural policy in poverty alleviation in Masvingo rural district in Zimbabwe. My student number is 58554920. My supervisor is Professor A.S. Mawela, in the department of curriculum and instructional studies. His phone number is +27764132156 and his email address is mawelas@unisa.ac.za. Therefore, I kindly ask you to respond to my interview questions. Thank you in advance.

The Interview questions.

1. How do you conceptualise of the School Curriculum Agriculture Policy in Zimbabwe?
2. Which types of agriculture practice do you carry at school?
3. Which crops do you grow, and which animals do you keep at school?
4. Which topics do you do in agriculture from Forms 1 to 4? (Syllabus Content).
5. Which teaching strategies do you use in agriculture?
6. Can you justify why use the teaching strategies above?
7. How relevant is the school curriculum agricultural policy to poverty alleviation in the Masvingo rural district?

Thank you for participating.

Appendix E: Interview Guide for Agricultural Research and Extension Officers

My name is Aplonia Mandivengerei. I am a doctoral student at the University of South Africa, interested in conducting a study entitled, The relevance of agricultural education curriculum in poverty alleviation: a case of Masvingo rural district in Zimbabwe. My student number is 58554920. My supervisor is professor A.S. Mawela in the department of curriculum and instructional studies. His e-mail address is mawelas@unisa.ac.za. and his phone number is +27764132156. Therefore, I kindly ask you to respond to my interview Questions. Thank you in advance.

The interview Questions are theme based, that is the, four areas listed are A, B, C and D.

(A) Agriculture Research

Is the government adequately resourcing agriculture research system?

Justify your response above.

Has the government built institutional and human resource capacity to strengthen research and service delivery?

Moreover, is the government providing budgetary allocation aimed at improving capital and recurrent expenditure for increased research output?

As a Ministry, are there opportunities to develop a mechanism for attracting, capacitating, and retaining staff for sustained research and service delivery?

(B) Agriculture Extension

Is the government increasing budgetary allocation to the extension service?

What is being done by the government to improve the effectiveness of agriculture extension service?

Is the government funding the production of extension materials and acquisition of ICT equipment?

Do you think as a Ministry you are being provided with adequate support by the government such that you can give the services to the farmers as well?

(C) Service Delivery to smallholder farmers

Which crops are grown by the farmers in the Masvingo rural district?

What livestock do the farmers keep?

As agriculture extension officers what form of service/assistance do you provide to smallholder farmers?

Do you equip smallholder farmers with sustainable land utilisation skills?

To what extend do the farmers observe/ use sustainable land utilisation methods?

Do you carry out some field days/quis days etc?

How effective have such programmes been in improving farming in the district?

How effective have your assistance helped to improve agriculture performance and poverty alleviation among smallholder farmers in Masvingo rural District?

Do you encounter challenges as you execute your duties?

Can you explain the forms of challenges you face in the field.

(D) <u>Poverty assessment</u>

How is the poverty level among the smallholder farmers in the district? Explain your response.

Can you say the performance of agriculture is helping to reduce poverty among the farmers?

Thank You!

Appendix F: Interview Guide for The Ministry of Local Government (District Development Fund Officers)

My name is Aplonia Mandivengerei. I am a doctoral student at the University of South Africa, interested in conducting a study entitled; The relevance of agricultural education curriculum in poverty alleviation: a case of Masvingo rural district in Zimbabwe.My student number is 58554920. My supervisor is professor A.S. Mawela in the department of curriculum and instructional studies. Her e-mail address is mawelas@unisa.ac.za. and his phone number is +27764132156. Therefore, I kindly ask you to respond to my interview Questions. Thank you in advance.

Is the government adequately funding your Ministry?

Justify your response above.

Has service delivery improved in your Ministry in recent years?

Moreover, is the government providing budgetary allocation aimed at improving local roads?

As a Ministry, how do you rate the conditions of local roads? Are they, excellent, very good, good, very bad, or bad?

Do the conditions of roads affect farmers in terms of transferring farm products to the markets?

Do you think poor roads contribute to poverty among smallholder farmers if they have challenges of transferring their products to markets?

Are there areas within Masvingo rural district which are very difficult to reach because of poor roads or no connectivity at all?

If yes to the above questions, how is farming affected by such situations.

Thank you!

Appendix G: Focus Group Discussion Questions for Smallholder Farmers

My name is Aplonia Mandivengerei. I am a doctoral student at the University of South Africa, interested in conducting a study entitled, the relevance of agricultural education curriculum in poverty alleviation: a case of Masvingo rural district in Zimbabwe My student number is 58554920. My supervisor is professor A.S. Mawela in the department of curriculum and instructional studies. Her email address is mawelas@unisa.ac.za. and his phone number is 0027 764132156. Therefore, I kindly ask you to respond to my interview Questions. Thank you in advance.

(a) ASSESSMENT OF THE IMPLEMENTATION LEVEL OF THE ZIMBABWEAN AGRICULTURAL POLICY IN MASVINGO RURAL DISTRICT

(i) The Agriculture Policy

Are you aware of the agriculture policy in Zimbabwe?

What are the main objectives of the policy?

(ii) Crops grown and animals kept by small scale farmers

Which types of crops do you grow as small-scale farmers?

What types of animals do you keep?

What are the advantages of keeping such animals and growing those crops?

(iii) Increasing Yields for all crops

Do you use improved hybrid seed varieties for different crops which can adapt to your environmental conditions?

Are the inputs subsidised by the government?

Can you afford to buy the hybrid seeds as smallholder farmers?

Do you till and use hybrid seeds on all the land available to you as smallholder farmers.

After harvesting crops do you have effective storage facilities which would not cause grain to be attacked by weevils?

Does the government assist with grain storage facilities to you as smallholder farmers?

(iv) Irrigation development

How many irrigation schemes are functional in your area?

How many irrigation schemes have ceased to operate in your area?

Is the government assisting you to repair previously equipped areas which are not functional?

Is there sustainable rehabilitation and modernisation of irrigation infrastructure?

Is the area equipped with irrigation infrastructure increasing? Why do you say so?

Is the government developing, equipping and utilising potential irrigable areas within the underutilised internal dams in your district?

As famers in irrigation, are you adequately and timely funded by the government?

In your opinion, what are the benefits of irrigation farming?

To what extend is the government support in irrigation farming in your area helping to reduce poverty among people?

Do you think irrigation farming can be a solution to poverty alleviation in Masvingo rural district?

(v) Input supply

Which government programmes supply inputs to you as smallholder farmers?

What forms of inputs are given to you by government?

Are the inputs timely available?

Can you state the quantities of seeds and fertilisers you usually receive from the government?

Are ago-dealers found in your local area, close to you as smallholder farmers?

Does the government subsidise the price of seeds and fertilisers to a level that enable you as smallholder farmers to access inputs at affordable prices?

Beside agro-dealers, do you have local input distribution co-operative unions promoted by government?

Do the co-operatives get the inputs constantly from the government?

The distribution by co-operatives, is it done fairly, that almost every farmer deserving assistance benefits?

Explain how input supply has aided to improve agriculture in Masvingo rural district as well as poverty reduction among the people?

(vi) Agricultural mechanisation

Did you benefit from the mechanisation programme that happened in the country?

How many smallholder farmers accessed the tractors from the government?

Are the tractors still functional and used by farmers in society who need them?

Are tillage services readily available to farmers?

How has the presence of mechanisation improved agriculture and poverty alleviation among smallholder farmers?

Are there some rural workshops to service and repair tractors and equipment?

Were you provided with training services on the correct use of farm machinery and equipment?

How effective has the introduction of mechanisation helped to increase food production and decreasing poverty levels among the people?

(vii) Agricultural Education and Training

Does the government provide agricultural education and training system that produce knowledge and skilled agricultural practitioners in your district?

Are women involved in the training?

How has the involvement of women helped agricultural performance and poverty alleviation in Masvingo Rural District?

How has farmer training assisted to improve farming and on the other side reducing poverty among farmers and the people of Masvingo rural district at large?

(viii) Output Subsidies

When you harvest more grain, do you sell to the grain marketing board?

Do the producer prices guarantee farmers a market at viable prices?

Explain the level to which the selling of grain to the marketing board improves the life standards of the people?

(ix) Conservation of soil resources

In your community, how is the government promoting soil and moisture conservation?

To what extend has this helped agricultural production and reduction of poverty in your area?

Is the government promoting construction of small dams and weirs in your area?

How many dams have been constructed in recent years?

Can you give the names of the dams?

How useful has dam construction been in improving agriculture and eradication of poverty in Masvingo rural district?

(x) HIV and AIDS in Agriculture

In your community, how is the government promoting the development and implementation of gender sensitive HIV and AIDS mitigation measures by all sectorial actors?

How have mitigation measures done on HIV and AIDS helped agriculture performance and poverty reduction in Masvingo rural district?

(xi) Agriculture Funding

As smallholder farmers do you have the opportunity to borrow money from banks?

Can you borrow money as co-operatives from banks?

How is agriculture funding affecting agriculture and poverty reduction in your area?

(b) Questions on poverty assessment among smallholder farmers

(i) Food Consumption

As smallholder farmers, do you have adequate food?

What is your mean daily consumption of staple food (sadza)?

In this community, are there some people who have food challenges?

In this community and other surrounding communities in Masvingo rural district, are there some small-holder farmers who can spend a day or two without having normal meals (breakfast, lunch and supper?

(ii) Sanitation

What are the sources of drinking water in your community?

The wells, are they open or closed wells?

Which group is the largest? Small- holder farmers with toilets in their homes or those without toilets?

(iii) Assets

Are there more smallholder farmers with livestock than those without livestock in this community?

On average how many livestock are owned by individual households?

Can you say there are more smallholder farmers, who own ox drawn ploughs than those who do not have ox- drawn ploughs?

Are there more farmers who own radios, televisions, cell phones, cars or bikes than those who do not have these assets in your community?

(iv) Housing

Can you say many households in this community have adequate housing?

What is the type of flooring used in many houses of this community (clay, sand, cement, dung)?

What is the type of roofing used by many people in this community (grass, zinc or asbestos sheets)?

Do you use electricity in your homes?

Is it hydropower electricity or solar power?

Do you use it for cooking and lighting, or it is for lighting only?

As a community do you rate yourselves as poor or rich?

(v) Conclusive Questions

Do you think effective agriculture is the basis for poverty eradication in Masvingo rural district? Justify your response?

Is the implementation level of the agriculture policy effective to eradicate poverty among the people in Masvingo rural district?

What improvements are needed in the district/ village to improve agriculture performance and poverty alleviation?

Are there other physical factors that contribute to low agricultural output in your area?

How are the impacts of these natural factors being reduced or lessened in your area?

Thank you!

Appendix H: Focus Group Discussion Questions for Learners

My name is Aplonia Mandivengerei. I am a doctoral student at the University of South Africa, interested in conducting a study entitled "*The relevance of agricultural education curriculum in poverty alleviation: a case of Masvingo rural district in Zimbabwe"*. My student number is 58554920. My supervisor is Professor A.S. Mawela, in the department of curriculum and instructional studies. His phone number is +27764132156 and his email address is mawelas@unisa.ac.za. Therefore, I kindly ask you to respond to my interview questions. Thank you in advance.

1. How do you conceptualise of the School Curriculum Agriculture Policy in Zimbabwe?

2. Which types of agriculture practice do you carry at school?

3. Which crops do you grow, and which animals do you keep at school?

4. How relevant is the school curriculum agricultural policy to poverty alleviation in Masvingo rural district?

Thank you for participating.

Appendix I: Focus Group Discussion Questions for Smallholder Farmers on School Curriculum Agriculture Policy

My name is Aplonia Mandivengerei. I am a doctoral student at the University of South Africa, interested in conducting a study entitled "*The relevance of agricultural education curriculum in poverty alleviation: a case of Masvingo rural district in Zimbabwe"*. My student number is 58554920. My supervisor is Professor A.S. Mawela, in the department of curriculum and instructional studies. His phone number is +27764132156 and his email address is mawelas@unisa.ac.za. Therefore, I kindly ask you to respond to my interview questions. Thank you in advance.

1. What do you understand by school curriculum agriculture policy in Zimbabwe?
2. How Relevant is the School Curriculum Agriculture Policy on Poverty Alleviation in Masvingo Rural District?

Thank you for participating.

Appendix J: Observation Checklist

Observation on the implementation level of the agriculture policy that is the projects/ programmes and other developments in the district.

Strength, weaknesses of practices and bias

Observation on indicators of poverty among smallholder farmers.

Link between policy implementation and poverty among smallholder farmers.

Observe the teaching of secondary school agriculture.

Observe learners' activities.

Appendix K: Proof of Editing

To whom it may concern

This letter serves to confirm that editing and proofreading was done for:

APLONIA MANDIVENGEREI

Student Number: 58554920

Philosophy of Education

Curriculum Studies

University of South Africa

THE RELEVANCE OF AGRICULTURAL EDUCATION CURRICULUM IN POVERTY ALLEVIATION: A CASE OF MASVINGO RURAL DISTRICT IN ZIMBABWE

Cilla Dowse
20 January 2023

Cilla Dowse	Rosedale
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[ii] Refers to the Ministry of Primary and Secondary Education (MoPSE) (2022). *Curriculum Framework for Primary and Secondary Education 2015-2022.* Harare: Zimbabwe.