

**COMMERCIALISATION OF MERINO SHEEP FARMING BY
EMERGING FARMERS IN LESOTHO**

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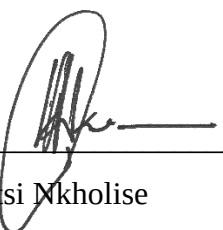
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Bloemfontein

DECLARATION

I,*WETSI NKHOLISE*....., declare that the thesis that I herewith submit for the PhD in Business Administration qualification at the UFS Business School, University of the Free State is my independent work, and that I have not previously submitted it for a qualification at another institution of higher education. I also hereby cede the copyright to the University of the Free State.



Wetsi Nkholise

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DEDICATIONS

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ABSTRACT

Commercialisation of emerging Merino sheep farmers remains a key ingredient for the inclusive economic and agricultural growth for communities at the base of the income pyramid. In Lesotho, the Merino sheep sector contributes significantly towards the country's gross domestic product. However, the agricultural productivity in the fragile rural communities continue to deteriorate does not contribute significantly in the rural economy and agricultural growth. In the same vein, the ever-changing regional political economy – Mining industry specifically has resulted in reduced opportunities for the Basotho migrant labour force, which used to be the major source of livelihoods in the Lesotho's rural communities. As such, rural poverty is on the increase. Rampant rural poverty and food insecurity have been linked to the Lesotho's agricultural sector experiencing low productivity in general.

Sheep, especially Merinos, play the most important role in the country's livestock industry due to their versatility. However, Merino sheep farming is becoming more challenging in an increasingly competitive and volatile environment, yet it should all be about efficiency – be productive with less. Empirical evidence reveals that emerging Merino sheep farmers' participation in its markets is skewed in the sense that only a limited number of emerging Merino sheep farmers account for the Lesotho's marketed volumes. The low market participation is influenced by the constraints emerging Merino sheep farmers face in their farming environment, yet the Merino sheep markets look promising. The government of Lesotho's development efforts have yielded minimal success. Most agricultural programmes introduced over the past years to stimulate commercialised Merino sheep production have generated stable and encouraging results. Similarly, there is limited empirical evidence to demonstrate the impact of Merino sheep farming commercialisation on emerging farmers' livelihoods in the context of emerging Merino sheep farmers in Lesotho.

In order to understand the determinant factors associated with successful transition to commercial-based Merino sheep farming that can be applied in Lesotho, it was essential to establish: *“How can successful transition towards commercial Merino sheep farming be facilitated in Lesotho?”* This was the primary research question of this study. Apart from comprehending the determinants, an in-depth understanding of the constraints faced by commercialising emerging Merino sheep farmers in Lesotho is imperative to develop a

strategic and tactical support framework for commercialisation to meet the research objectives. The qualitative exploration of the research objectives in responding to the primary research question revealed: Social status, Income and Culture; Asset Holding; Education and Training; Agricultural Support Services; Funding; Resources; Markets, Access and Information; Transaction Costs; Technology and Innovation; Policy Environment; and Infrastructure as the main themes for commercialisation of Merino sheep farming in Lesotho. These themes are antecedents of the proposed support framework for the commercialisation of emerging Merino sheep farmers in the research area and its environs. Most of these antecedents are envisaged as constraints for the commercialisation of emerging Merino sheep farmers.

The findings revealed that the potential benefits of the commercialisation of emerging Merino farmers also contributed towards the development of the proposed support framework including innovative options to facilitate commercialisation for inclusive agricultural growth in Lesotho. Recommendations on policy, practice and theory on the basis of the proposed support framework are also chronicled. Addressing prevailing constraints in the research areas could result in improved market participation for inclusive economic and agricultural growth in rural Lesotho.

Key terms: Commercialisation, Merino sheep, emerging Merino sheep farmers, support framework for commercialisation, inclusive agricultural growth, antecedents, Resources-based theory, Innovation diffusion theory, constraints and determinants.

TABLE OF CONTENTS

DECLARATION	i
ACKNOWLEDGEMENTS	ii
DEDICATIONS	iv
ABSTRACT	v
LIST OF TABLES	xvi
LIST OF FIGURES	xvii
LIST OF ACRONYMS AND ABBREVIATIONS.....	xviii
 CHAPTER 1: INTRODUCTION AND BACKGROUND TO THE STUDY	1
1.1 INTRODUCTION AND BACKGROUND TO THE STUDY	1
1.2 STATEMENT OF THE PROBLEM AND RESEARCH QUESTION.....	2
1.3 RESEARCH OBJECTIVES	4
1.4 DELIMITATION AND LIMITATIONS OF SCOPE.....	5
1.5 CONCEPTUAL FRAMEWORK	5
1.6 RESEARCH DESIGN AND METHODOLOGY	6
1.6.1 Design and methodological approach	7
1.6.2 Sampling design	8
1.6.3 Research environment	9
1.6.4 Data collection.....	10
1.6.5 The structure of data collection during the research	10
1.6.6 Data quality and analysis.....	12
1.7 VALUE OF THE RESEARCH	12
1.7.1 Theoretical value	12
1.7.2 Practical value	13
1.8 DEFINITION OF KEY TERMS	14
1.9 CHAPTER CONTENT ANALYSIS	15

1.10	CHAPTER SUMMARY	17
 CHAPTER 2: LITERATURE REVIEW: THE CONTEXT OF AGRICULTURAL COMMERCIALISATION AND MERINO SHEEP FARMING 18		
2.1	INTRODUCTION	18
2.2	THEORETICAL FOUNDATION OF COMMERCIALISATION OF AGRICULTURE	19
2.2.1	Drivers of agricultural commercialisation.....	22
2.2.1.1	Global-scale driving forces	23
2.2.1.2	Country-scale drivers	24
2.2.1.3	Local and household-scale drivers	24
2.3	THE CONCEPT OF EMERGING FARMERS.....	25
2.3.1	The role of emerging farmers in the agricultural sub-sector.....	27
2.4	OVERVIEW OF THE VALUE CHAIN FOR WOOL PRODUCTION IN LESOTHO	29
2.4.1	Lesotho's wool market	34
2.4.1.1	Government woolsheds	35
2.4.1.2	Private traders.....	36
2.4.1.3	Unofficial traders	38
2.4.2	Policy environment	39
2.4.2.1	Government policy.....	39
2.4.2.2	Trade policies	41
2.4.2.3	International Trade Agreement for Lesotho.....	42
2.5	RATIONALE FOR COMMERCIALISING EMERGING MERINO SHEEP FARMERS	44
2.5.1	Household effects.....	45
2.5.2	Socio-economic effects	46
2.5.3	Environmental effects	47

2.5.4	Implications of agricultural commercialisation for inclusive growth	47
2.6	IMPORTANCE OF COMMERCIALISING EMERGING MERINO SHEEP FARMERS	49
2.7	CRITICS VIEW OF COMMERCIALISING EMERGING MERINO SHEEP FARMERS	52
2.7.1	Household income risk and food insecurity	52
2.7.2	Employment and health effects	53
2.7.3	Environmental and human risks	54
2.8	CHAPTER SUMMARY	54
CHAPTER 3: LITERATURE REVIEW: DETERMINANTS AND CONSTRAINTS ASSOCIATED WITH SUCCESSFUL COMMERCIALISATION OF EMERGING FARMERS.....		56
3.1	INTRODUCTION	56
3.2	DETERMINANTS ASSOCIATED WITH COMMERCIALISATION OF EMERGING MERINO FARMERS	57
3.2.1	Population growth and demographic change	59
3.2.1.1	Gender and age of farmers	60
3.2.1.2	Level of education achieved by farmers	61
3.2.1.3	Training received by farmers	63
3.2.1.4	Membership to agricultural organisations.....	63
3.2.2	Household income.....	64
3.2.3	New agricultural technologies.....	65
3.2.4	Institutions.....	67
3.2.4.1	Formal institutions	67
3.2.4.2	Informal institutions	68
3.2.5	Risks	69
3.2.6	Markets, their integration and access to credit by emerging farmers.....	70

3.2.7	Transaction costs	72
3.2.8	Asset holdings	73
3.2.9	Government Policies	74
3.3	CONSTRAINTS ASSOCIATED WITH COMMERCIALISATION OF EMERGING FARMERS	75
3.3.1	Socio-economic characteristics of emerging farmers	75
3.3.2	Lack of access to sufficient agricultural support services.....	80
3.3.3	Transaction costs and other institutional factors	83
3.3.4	Insufficient and/or missing infrastructure	85
3.3.5	Effect of climate change-induced risks and uncertainty	89
3.3.6	Absence of extension officers in commercialisation of emerging farmers	90
3.4	CHAPTER SUMMARY	91
CHAPTER 4: LITERATURE REVIEW: CONCEPTUAL FRAMEWORK DEVELOPMENT		93
4.1	INTRODUCTION	93
4.2	THE RESOURCE-BASED THEORY	94
4.2.1	Competitive Advantage.....	99
4.2.1.1	Emerging Merino sheep farm's Resources	99
4.2.1.2	Competitive Advantage and the RBT	100
4.2.1.3	Resource Attributes: Resource Heterogeneity and Immobility	104
4.2.2	Critics review of RBT	106
4.3	ROGERS'S INNOVATION DIFFUSION THEORY	108
4.3.1	Relative advantage	112
4.3.2	Perceived compatibility.....	113
4.3.3	Perceived complexity	114
4.3.4	Perceived Trialability	115

4.3.5	Observability	116
4.4	INCLUSIVE INNOVATION	117
4.4.1	Characteristics of Inclusive Innovation.....	118
4.4.1.1	Mashelkar's characteristics of Inclusive Innovation.....	118
4.4.2	Four factors for adoption of Inclusive Innovation:	119
4.4.3	Inclusive innovation models.....	120
4.5	INCLUSIVE GROWTH	122
4.6	PROPOSED CONCEPTUAL MODEL.....	124
4.6.1	RESEARCH QUESTION AND IDENTIFIED OBJECTIVES.....	124
4.7	CHAPTER SUMMARY	125
	CHAPTER 5: RESEARCH METHODOLOGY AND DESIGN.....	127
5.1	INTRODUCTION	127
5.2	RESEARCH PHILOSOPHY	127
5.3	RESEARCH METHODOLOGY	128
5.3.1	Primary characteristics of qualitative research.....	129
5.3.2	The appropriateness of qualitative research application	131
5.4	CASE STUDY DESIGN	132
5.4.1	Rationale for the use of the exploratory case study	133
5.4.2	The rationale for adopting multiple cases	134
5.4.3	Case study protocol	135
5.5	RESEARCH TECHNIQUES ADOPTED	139
5.5.1	Sampling design	139
5.5.2	Units of analysis.....	140
5.5.2.1	Sample size.....	141
5.5.3	Research environment	142
5.5.4	Data collection instruments	144

5.6	DATA ANALYSIS APPROACHES AND TOOLS	146
5.7	QUALITY CRITERIA FOR A QUALITATIVE RESEARCH APPROACH.....	147
5.7.1	Credibility.....	147
5.7.2	Transferability (external).....	148
5.7.3	Dependability (reliability)	148
5.7.4	Pilot study.....	149
5.8	RESEARCH DIARY	149
5.9	ETHICAL CONSIDERATIONS	150
5.10	CONSTRAINTS	151
5.11	LIMITATIONS OF THE METHODOLOGY	152
5.12	CHAPTER SUMMARY	153
CHAPTER 6: DATA ANALYSIS, RESULTS AND PRESENTATION OF FINDINGS.....		154
6.1	INTRODUCTION	154
6.2	BRIEF DESCRIPTION OF CASES.....	154
6.3	DATA ANALYSIS PROCESS	155
6.3.1	Written interviews, notes and transcribed interviews	156
6.3.2	Observations.....	157
6.3.3	Consolidating analysis.....	157
6.4	PRESENTATION OF RESEARCH FINDINGS FROM THE DATA	158
6.4.1	Demographics of the sampled respondents.....	159
6.4.1.1	Age and Gender.....	159
6.4.1.2	Literacy and educational qualifications.....	160
6.4.1.3	Marital status	160
6.4.2	Theme – 1: Social status, income and culture	161
6.4.3	Theme – 2: Asset Holding.....	163

6.4.4	Theme – 3: Education and Training	165
6.4.5	Theme – 4: Agricultural support services	168
6.4.6	Theme – 5: Funding	173
6.4.7	Theme – 6: Resources	175
6.4.8	Theme – 7: Markets, access and information.....	178
6.4.9	Theme – 8: Transaction costs.....	180
6.4.10	Theme – 9: Technology and innovation.....	182
6.4.11	Theme – 10: Policy environment	186
6.4.12	Theme – 11: Infrastructure.....	189
6.5	CONSOLIDATED ANALYSIS	191
6.6	VALIDITY AND TRUTHFULNESS	193
6.7	CHAPTER SUMMARY	193
 CHAPTER 7: PROPOSED SUPPORT FRAMEWORK FOR		
COMMERCIALISATION OF EMERGING MERINOS SHEEP		
FARMERS 195		
7.1	INTRODUCTION	195
7.2	THE SUPPORT FRAMEWORK FOR COMMERCIALISATION OF EMERGING MERINO SHEEP FARMERS IN LESOTHO.....	196
7.3	SYNOPSIS OF THE PROPOSED SUPPORT FRAMEWORK FOR COMMERCIALISATION.....	198
7.3.1	The antecedent phase of commercialisation of emerging Merino sheep farmers.....	198
7.3.1.1	Education and training	199
7.3.1.2	Infrastructure	200
7.3.1.3	Funding	201
7.3.1.4	Asset holding.....	202
7.3.1.5	Social status, Income and Culture	203

7.3.1.6	Agricultural Support Services	204
7.3.1.7	Resources	205
7.3.1.8	Markets, Access and Information	206
7.3.1.9	Transaction Costs	207
7.3.1.10	Technology and Innovation.....	208
7.3.1.11	Policy Environment.....	209
7.3.2	Exploration phase for commercialisation of emerging Merino sheep farmers.....	210
7.3.3	Desired consequence phase for commercialisation of emerging Merino sheep farmers.....	212
7.4	CHAPTER SUMMARY	212
CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS		214
8.1	INTRODUCTION.....	214
8.2	GENERAL CONCLUSIONS MADE FROM THE RESEARCH	215
8.3	CONCLUSION ABOUT THE RESEARCH PROBLEM.....	219
8.4	CONCLUSION ABOUT THE RESEARCH OBJECTIVES	220
8.5	LIMITATIONS OF FINDINGS	222
8.6	IMPLICATIONS FOR POLICY AND PRACTICE	222
8.7	IMPLICATIONS FOR THEORY – PROPOSED SUPPORT FRAMEWORK FOR COMMERCIALISATION.....	224
8.8	GENERAL RECOMMENDATIONS	225
8.8.1	Recommendations for innovative strategies for commercialisation of emerging Merino sheep farmers.....	225
8.8.1.1	Increase investment in research.....	225
8.8.1.2	Proactive agricultural support services	226
8.8.1.3	Inclusive credit funding.....	227
8.8.1.4	Resuscitate Merino sheep breeding facilities	227
8.8.1.5	Climate smart rangeland management	228

8.8.1.6 Empower women in Merino sheep farming.....	228
8.8.2 Recommendations for further research	229
8.9 PERSONAL REFLECTIONS	230
8.10 CONCLUSION.....	230
REFERENCES.....	232
APPENDIX – A: ETHICAL CLEARANCE.....	260
APPENDIX – B: PARTICIPANT CONSENT FORM	261
APPENDIX – C: PARTICIPANT CONSENT FORM (<i>SESOTHO TRANSLATED</i>).....	264
APPENDIX – D: INTERVIEW SCHEDULE.....	267
APPENDIX – E: SEMI-STRUCTURED INTERVIEW QUESTIONS.....	269
APPENDIX – F: SEMI-STRUCTURED INTERVIEW QUESTIONS (<i>SESOTHO TRANSLATED</i>)	274
APPENDIX – G: CODE LIST.....	279
APPENDIX – H: RESEARCH DIARY	282

LIST OF TABLES

Table 1.1: Target sample and rationale for selection.....	9
Table 1.2: The structure of data collection during the research	11
Table 3.1: Factors and the consequences of use of ICT	88
Table 4.1: The lifecycle of RBT: Selected key papers	95
Table 4.2: Rogers' five-stages of adoption.....	111
Table 4.3: Types and classification of innovations	114
Table 5.1: Summary of the primary characteristics of qualitative research	129
Table 5.2: Case study protocol for the research	136
Table 5.3: Target sample and rationale for selection.....	141
Table 5.4: Total sample achieved.....	142

LIST OF FIGURES

Figure 1.1: Theoretical framework.....	6
Figure 4.1: The cornerstones of competitive advantage.....	101
Figure 4.2: The relationship between resource heterogeneity and immobility, value, rareness, imperfect imitability, and substitutability and sustained competitive advantage	105
Figure 4.3: Ladder of inclusive innovation	122
Figure 4.4: Proposed conceptual framework.....	124
Figure 5.1: The relationship between philosophy, approach, method and techniques of research methodology adopted	138
Figure 6.1: Association diagram of Commercialisation of Merino sheep network diagram	158
Figure 6.2: Relationship network diagram of Social Status, Income and Culture theme	163
Figure 6.3: Relationship network diagram of Asset Holding theme	164
Figure 6.4: Relationship network diagram of Social Status, Income and Culture theme	168
Figure 6.5: Relationship network diagram of Agricultural support services theme.....	173
Figure 6.6: Relationship network diagram of Funding theme.....	175
Figure 6.7: Relationship network diagram of Resources theme.....	177
Figure 6.8: Relationship network diagram of Market, Access and Information theme ..	180
Figure 6.9: Relationship network diagram of Transaction Costs theme	182
Figure 6.10: Relationship network diagram of Technology and Innovation theme.....	186
Figure 6.11: Relationship network diagram of Policy Environment theme	188
Figure 6.12: Relationship network diagram of Infrastructure theme	191
Figure 7.1: Proposed support framework for commercialisation of emerging Merino sheep farmers	197

LIST OF ACRONYMS AND ABBREVIATIONS

ACP	African, Caribbean and Pacific countries
BKB	Boeremakelaars Koöperatief Beperk Ltd
BoP	Base of Pyramid
MERCOSUR	Doha Development Round and Mercado Comun Del Sur
DOI	Diffusion of Innovation
DoLSL	Department of Livestock Services Lesotho
DoTEL	Department of Trade and Export Lesotho
EFTA	European Free Trade Area
EU	European Union
GDP	Gross Domestic Product
GoL	Government of Lesotho
IFAD	International Fund for Agricultural Development
ICT	Information and Communications Technology
LDC	Least Developed Countries
LNWMGA	Lesotho National Wool and Mohair Growers Association
OECD	Organisation for Economic Co-operation and Development
RBT	Resource Based Theory
SACU	Southern African Customs Union
SADC	Southern African Development Community
USD	United States Dollar
USA	United States of America
WAMP	Wool and Mohair Project
WTO	World Trade Organisation

CHAPTER 1

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 INTRODUCTION AND BACKGROUND TO THE STUDY

The conventional wisdom, the transition to commercial agriculture represents a key ingredient for the economic development of low-income countries (Fredalette, 2017). In Lesotho, the agricultural sector contributes significantly to the country's gross domestic product (GDP). However, as farming is precarious and is usually at the mercy of nature, it is invariably an arduous struggle for emerging farmers to make ends meet (Wikle, 2015a:85). Sheep, especially Merinos, play the most important role in the country's livestock industry due to their versatility (Fredalette, 2017; Mpiti-Shakhane *et al.*, 2002:71; Rantšo, 2016a).

They are widely distributed across different agro-ecological zones of the land-locked country, where they contribute to the livelihoods of the human population as a source of income, food security, and poverty alleviation (Rantšo, 2016a). For many families in Lesotho, sheep, irrespective of breed, are treated as a delicacy; causing them to be reserved for special guests or for ceremonial gatherings such as weddings, funerals, chief inaugurations, field days, and circumcision ceremonies. They are also given as sacrificial offerings to appease vengeful spirits and ancestors (Mvinjelwa, Mapekula, Maphosa & Muchenje, 2014).

The main economic sheep products are wool, meat, milk, leather, and other by-products such as dung for fuel or fertiliser (Toro-Mujica, Aguilar, Vera & Cornejo, 2016). Sheep are also an important symbol of wealth (Lôbo, Pereira, Facó & McManus, 2011:94; Musaba, 2010:104), but the relative importance of each function varies with breed, production system, rangeland type, and farmers' socio-economic factors, as is the case with other animal species (Oteros-Rozas, Martín-López, González, Plieninger, López & Montes, 2014:1272). Merino flocks allow families the opportunity to experience the reward of raising sheep, while providing additional income for the family.

In mountainous Lesotho, sheep survive in rangelands where other domestic animals cannot. Their ability to survive on limited amounts of coarse feed is an opportunity for

emerging Merino farmers to realise more income from raising sheep (Matarira, Pullanikkatil, Kaseke, Shava & Manatsa, 2013; Wikle, 2015a). Although the Government of Lesotho (GoL) and other development practitioners have been advocating for the commercialisation of Merino sheep farming, in recent years studies indicating an attempt to develop a programme to facilitate successful transition in the inclusive innovation context are rare. This makes it difficult to design and implement communal area-based developmental programmes that can benefit such emerging Merino farmers.

In this vein, it is imperative to understand the current status, especially in terms of constraints faced by emerging Merino sheep farmers in Lesotho. The development of market-driven Merino sheep farming can be a sustainable way of improving the socio-economic status of resource-limited emerging farmers (Hounkonnou, Kossou, Kuyper, Leeuwis, Nederlof, Röling, Sakyi-Dawson, Traoré & van Huis, 2012). Scholars such as (Mago & Hofisi, 2014; Poole, Chitundu & Msoni, 2013) and (Mago & Hofisi, 2014; Poole *et al.*, 2013) further suggested that this in turn may initiate a virtuous cycle which has the potential to improve household income, thus improving the socio-economic status of rural households; hence the development and significance of this research.

1.2 STATEMENT OF THE PROBLEM AND RESEARCH QUESTION

Although sheep farming is a potentially profitable sector of animal husbandry in Lesotho, challenges such as inadequate enabling environments and weak institutions, including dilapidated rural infrastructure and services such as roads, irrigation, and extension facilities; depleted productive assets and limited access to inputs; insufficient livestock finance; high indebtedness; low production due to inadequate livestock management practices and insufficient use of improved technologies; high transaction costs, high risks, asymmetry of information, and low bargaining power; weak access to markets; political instability; and land tenure insecurity (Rantšo, 2016b; Tanga and Manyeli, 2017).

The majority of these farmers barely produce enough to meet their family food requirements (IFAD, 2014). The sector is generally characterised by low family incomes and high incidences of poverty (Boughton, Mather, Barrett, Benfica, Abdula, Tschirley & Cunguara, 2007). Tanga and Manyeli (2017) found that in the case of Lesotho, 92.9 percent of livestock owners reside in the rural areas, while only 7.1 percent stay in urban areas. Obi, Schalkwyk and Tilburg (2012); Obi and Seleka (2011) also advocated that poor

people earn the highest proportion of their incomes from livestock, while the opposite is true of the rich. Merino sheep farming has contributed significantly to the livelihoods of people living in rural areas and to the rural economy, which has been evidenced to have positively impacted the national economy of Lesotho (Rantšo, 2016b).

According to the Obi *et al.* (2012); Obi and Seleka (2011), the GoL, with the support of development partners, has endeavoured to channel substantial resources towards the commercialisation of Merino sheep farming in recent years. However, these interventions should be aimed at encouraging the commercialisation of this sector in order to increase rural outcomes, participation in the mainstream economy and ensuring food security. The low level of commercialisation is identified as the significant catalyst of rural poverty in Lesotho. As such, if commercialisation is not explored, Lesotho's emerging Merino sheep farmers will continue to be entrapped in a traditional farming cycle activity with insignificant rewards.

There exists an opportunity to instil a commercial culture to emerging Merino sheep farmers where theft is not prevalent. To ensure that emerging Merino sheep farmers can compete favourably with commercial farmers and to receive market related income for their stock. There is a need for a concerted effort to improve the genetic material of existing Merino livestock owned by emerging farmers which the market regards as inferior (Tanga & Manyeli, 2017). According to International Fund for Agricultural Development (IFAD) (2014), Lesotho possesses the most significant potential for inclusive market orientated Merino sheep development for inclusive agricultural growth. However, the weak access to the wool market impacts the potential for better rewards to farmers, who in most cases end up settling for non-market related rates for their livestock produce.

Globally, there is understanding that economic growth is the main vehicle for reducing poverty and that growth in the agricultural sector plays a major role in the overall growth of the economy, as well as in connecting the poor to growth (Bernard & Spielman, 2009). Studies such as Mutibvu, Maburutse, Mbiriri and Kashangura (2012) state that, meeting the challenge of improving rural incomes in the Southern African Development Community (SADC) requires some form of innovative transformation out of the subsistence, low-input, and low-productivity farming systems that currently characterise much of rural Africa. The question is then,

How can successful transition towards commercial Merino sheep farming be facilitated in Lesotho?

Jayne, Mather and Mghenyi (2010); Pingali (2010); Pingali, Khwaja and Meijer (2005) for example, hypothesised that commercialisation of agriculture remains a key premise for structural transformation of semi-emerging agrarian society to a more diversified and food-secure economy with improved livelihoods. A key proposition of agricultural commercialisation as a developmental strategy for those at the base of the income pyramid is creation of maximised household incomes through innovative farming techniques (Boughton *et al.*, 2007). That can maximise available resources through increased market opportunities and using earned income for household consumption in ways that are more efficient than subsistence production (Boughton *et al.*, 2007).

The evidence from the literature demonstrates that the exclusion of Merino sheep farming from commercialisation research is overwhelming (Pingali, 2010). There is limited reliable information on emerging Merino sheep farmers' performance levels; constraints and opportunities; economic viability (profitability and riskiness) and strategies to ensure commercialisation (Tanga & Manyeli, 2017). This further applies to the aspirations and goals of these farmers to transcend towards commercial production with specific reference to Lesotho. Additionally, there is no study that demonstrates key aspects for innovative commercialisation of Merino sheep farming by those at the base of income pyramid.

Against the above background and the challenges faced by emerging Merino sheep farmers in Lesotho, the overarching aim of this research is to go beyond the identification of determinants of successful transition to commercial Merino sheep farming by emerging farmers in Lesotho and attempt to develop a programme to facilitate successful transition in the inclusive innovation context.

1.3 RESEARCH OBJECTIVES

In order to achieve the stated overarching aim, the current study's specific objectives are to:

- Investigate determinant factors associated with successful transition to commercial-based Merino sheep farming that can be applied in a developing country context;

- Establish why emerging Merino sheep farmers in the research area have not yet transitioned to commercial-based Merino sheep farming;
- Analyse the livelihood trajectories of Lesotho's emerging Merino sheep farmers to transition from subsistence to commercial farming;
- Qualitatively explore options to ensure that emerging Merino sheep farmers' commercialisation contributes to more inclusive agricultural growth in Lesotho; and
- Develop a support framework for the successful transition to commercial Merino sheep farming, together with innovative options to facilitate commercialisation for inclusive agricultural growth in Lesotho.

1.4 DELIMITATION AND LIMITATIONS OF SCOPE

This study is limited and delimited to the Merino sheep farming sub-sector of agriculture, particularly on the emerging farmers in a developing land-locked country Lesotho. Consequently, the investigative findings and results of this research may not necessarily be generalisable to the adoption of the support framework together with innovative options to facilitate commercialisation for inclusive agricultural growth outside the Merino sheep sector because of the uniqueness of the research environment.

1.5 CONCEPTUAL FRAMEWORK

This research adopts a multidimensional research and concepts approach. A conceptual framework is the end result of bringing together a number of related concepts to explain or predict a given event, or to provide a broader understanding of the phenomenon of interest or simply of a research problem (Swan, Purvis & Piper, 2008). The same authors adjudicated that the process of arriving at a conceptual framework is akin to an inductive process whereby small individual pieces (in the case of this study, concepts) are joined together to show a bigger map of possible relationships.

In relation to Swan *et al.*, (2008) lenses, the research is embedded within the social sciences sphere. It comprises a limited scope, the present study is guided by multiple concepts (namely Resource Based Theory (RBT), Diffusion of Innovation (DOI), inclusive innovation, and inclusive growth), and there is no single theory that can meaningfully drive

the research enquiry – hence a conceptual model is suitable. The conceptualised framework presented in Figure 1.1 below.

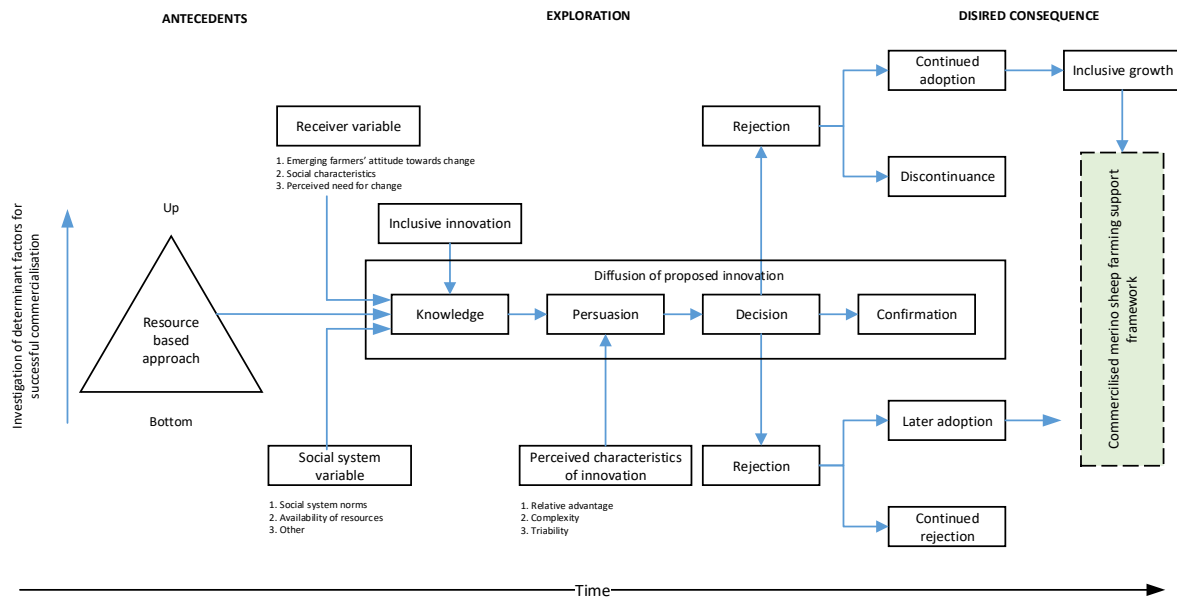


Figure 1.1: Theoretical framework

Source: Author's own illustration

The above conceptualised framework serves as an abstract representation of the overall purpose of this study, which is set out to investigate the key aspects of the successful transition to commercial agricultural farming by emerging Merino sheep farmers in a land-locked country. At the end, generate a methodological framework for facilitating effective transition from subsistence to commercial-based Merino sheep farming in an inclusive innovation context.

1.6 RESEARCH DESIGN AND METHODOLOGY

The stated overarching research question for this research requires an in-depth investigation of the key aspects for successful transition to commercial agricultural farming by emerging Merino sheep farmers in a land-locked country. In order to generate a methodological framework for facilitating effective transition to commercial-based Merino sheep farming in an inclusive innovation context. Therefore, conducting qualitative case studies, instead of other types of research strategies such as experiments and surveys, is deemed the most appropriate research methodology (Creswell & Creswell, 2017).

Qualitative case study methodology best supports the study of particular subject matter in depth; for example, empirical research on the determinant factors associated with transition to commercial-based Merino sheep farming in selected districts of Lesotho. Theorists such as Flick (2014) conceived of qualitative research as an umbrella term that encompasses a collection of explanatory techniques that seek to describe, decode, translate, and otherwise come to terms with the meaning – not the frequency – of certain more or less naturally occurring phenomena in the social world.

Qualitative researchers study objects in their natural settings, attempting to make sense of or interpret phenomena in terms of the meaning people bring to them (Lewis, 2015). They are interested in understanding the meaning people have constructed to make sense of their world and the experiences they have in the world (Creswell & Creswell (2017). concluded that qualitative research is more descriptive than predictive, as the goal is to gain a thorough understanding of the viewpoint of the research participants (Vanderstoep and Johnston, 2009:167).

This research adopted a critical realism scientific paradigm, in which the exploratory case study design is employed (Healy & Perry, 2000; Lewis, 2015). Realism is the preferred scientific paradigm because it is more suitable for case studies (Easton, 2010; Healy & Perry, 2000; Schwandt, Lincoln & Guba, 2007; Yin, 2017). This research furthermore adopt a cross-sectional survey research design as its framework to guide the process of data collection. Creswell and Creswell (2017) add that a cross-sectional survey research design is the collection of data mainly using questionnaires or structured interviews to capture quantitative or qualitative data at a single point in time.

1.6.1 Design and methodological approach

According to Easton (2010:121) definition, the summation case study design – which considers multiple elements within each case – were adopted in order to fulfil the requirements of a full research Doctor of Philosophy degree, as indicated by Mason (2010), where the research sample were drawn from a total of three districts in Lesotho. The use of a case study design is the most suitable approach because this study seeks to go beyond the identification of determinants of successful transition to commercial Merino sheep farming by emerging farmers in Lesotho and attempted to develop a support programme to facilitate successful transition. Furthermore, according to McKinnon

(1988:43), case studies are more effective when the bounds of the information sought are unknown. Additionally, within the context of the realism paradigm, Tsang (2014a); Yin (2017) and Tsang (2014) corroborate McKinnon (1988) by arguing that real-world problems are best researched using case study methodologies. In order to satisfy the overarching aim of this research, the use of a case study methodology is preferred.

1.6.2 Sampling design

The estimated overall population of Lesotho is 2 007 201 (Lesotho Bureau of Statistics, 2016). The majority of the population in excess of 80 percent lives in rural areas and about 70 percent derives their livelihood, in part, from agriculture, while 51 percent of household members engage in subsistence farming (Lesotho Bureau of Statistics, 2016). Purposive sampling of cases (Creswell & Creswell, 2017; Yin, 2017) within the three districts of Lesotho, namely Quthing, Qacha's Nek, and Mokhotlong, were adopted. It was further influenced by geographic location, accessibility and willingness to participate – only emerging Merino sheep farmers in the selected districts were considered.

The selection of the three case districts was motivated by recommendations by Mason (2010); Creswell and Creswell (2017), who recommended “*small enough research area*” and “*ease of access to the research sample*” in sampling. The researcher aims to sample a large enough sample to allow the unfolding of a “*new and richly textured understanding*” of the phenomenon under study, but small enough so that the “*deep, multiple case-oriented analysis*” of qualitative data is not precluded (Yin, 2017). The Lesotho National Wool and Mohair Growers Association (LNWMGA) database were used to obtain the details of emerging Merino sheep farmers. The target sample was selected based on their influence and participation in Merino sheep farming. Table 1.1 highlights the target sample and rationale for selection of the target sample.

Table 1.1: Target sample and rationale for selection

Target sample	Sample size	Rationale for selection
Representatives from the LNWMGA	3	They provided access to the database of members (emerging Merino sheep farmers). They further provided Merino sheep farming output information and challenges.
Commercial Merino farming experts	4	They provided expert opinions pertaining to best practices of commercial Merino farming.
DoLSL representatives	6	This sample group provided insights into the potential challenges and dynamics facing emerging Merino farmers.
Department of Trade and Export Lesotho representatives	3	This sample group provided statistics largely concentrated on the characteristics of wool produced and exported.
Local chiefs from the selected districts	9	They have databases of flocks of Merino sheep in their respective areas of control.
Emerging Merino farmers	27	They provided practical experiences to the research inquiry. Other than this sample group being the locus of this research, they also provided needed information on the demographics of the group of farmers such as their socio-economic characteristics, farming practices, and other characteristics.

Overall target sample **52**

Source: Author's own illustration

Out of the overall target sample, three focus groups shall be conducted at each district. All focus groups were made of a representative from LNWMGA, commercial Merino farming experts, Department of Livestock Services Lesotho (DoLSL) representatives, Department of Trade and Export Lesotho (DoTEL), local chief and three emerging Merino farmers from each district.

1.6.3 Research environment

In order to establish new and richly textured understanding of the phenomenon under study, the researcher conducted multiple case studies at the three selected districts in Lesotho. The research was conducted at the actual field setting where key informants (emerging Merino sheep farmers) farm Merinos sheep. Keeping in mind that some of the participants are from different grazing regions, it was imperative to be in the field setting in order to inhibit the duplication of information. The researcher envisaged that such a research environment would provide an opportunity to systematically investigate, observe,

gather and document data of the sample experiences (Easton, 2010; Tracy, 2010). This was achieved through strategies such as participant observations, various written texts, face-to-face semi-structured interviews as well as focus-group interviews in a social and cultural context in which the learning occurs. Understanding the meaning that participants in the selected case districts gave to the events, situations and actions that they are involved with and of the accounts they gave of their lives and experiences was the main aim to conduct this research in the actual field setting. Finally, by being in the actual field setting, the researcher anticipated ease of rapport creation with the research participants.

1.6.4 Data collection

In order to render the research design more robust, multiple data-collection methods were used (Fusch & Ness, 2015; Tracy, 2010). This was because the phenomena under review are not clearly defined in theory, both induction and deduction were required (Easton, 2010; Yin, 2017). In-depth review of secondary literature (both academic and industry literature) constituted the preliminary data collection. Data from the in-depth review of secondary literature were used to develop an interview guide for primary data collection. Once the draft interview guide is concluded, experts' and promoter's opinions were sought to guide the research instrument. Following on, primary data collection included semi-structured interviews, observations, and focus groups. Use of multiple data collection methods provided rich data.

A total of about fifty-two interviews were anticipated to draw acceptable results (Marshall, Cardon, Poddar & Fontenot, 2013; Mason, 2010). Interviews persisted until a data saturation was reached. The interview schedule was finalised after an in-depth literature review and before the data collection. Tesch (1990:142-145) eight steps are deemed the most suitable to analyse the recorded data after transcription. The decision to use more than one respondent within each case, as well as multiple cases, is intended to improve the trustworthiness of the research (Cronin, 2014; Guba, 1981; Yin, 2017).

1.6.5 The structure of data collection during the research

This research took place in four phases, as outlined in Table 1.2.

Table 1.2: The structure of data collection during the research

Phase	Approach	Outcome
Phase 1	Review of secondary literature from the LNWMGA, the DoLSL, and the DoTEL.	Construction of a semi-structured interview guide.
Phase 2	Primary data collection from Quthing, Qacha's Nek, and Mokhotlong.	Comparison of results from Phases 1 and 2. The compilation of the interview guide was based on results from Phases 1 and 2.
Phase 3	Interview representatives from the LNWMGA, the DoLSL, and the DoTEL.	Comparison of results from Phases 1, 2, and 3 in order to compile an interview guide for focus groups and possible dialogue.
Phase 4	Focus groups comprised of representatives from the LNWMGA, the DoLSL, and the DoTEL including emerging Merino sheep farmers from selected districts (Quthing, Qacha's Nek, and Mokhotlong).	Construct a framework based on the results from the four phases.

Source: Author's own illustration

In Phase 1, the researcher reviewed and critically analysed secondary information from the LNWMGA, the DoLSL, and the DoTEL in order to construct an interview guide. In this phase, the following objectives were pursued:

- To explore the economic viability (profitability and riskiness) of Lesotho's Merino sheep farming.

Phase 2 comprised case studies conducted within the selected districts. Due to the nature of the research, semi-structured face-to-face interviews were conducted with emerging Merino sheep farmers.

This phase seeks to address the following set objectives:

- To empirically research the determinant factors associated with the transition to commercial-based Merino sheep farming in the selected districts of Lesotho.
- To qualitatively explore options to ensure that emerging Merino sheep farmers' commercialisation contributes to more inclusive agricultural growth in Lesotho.

Through semi-structured interviews with various representatives from the LNWMA, the DoLSL, and the DoTEL guided by Phase 1 and Phase 2, Phase 3 provided the basis for analysis to achieve the following objective:

- To analyse the livelihood trajectories of Lesotho's emerging Merino sheep farmers to transition from subsistence to commercial farming.

Phase 4 consolidated the results from the preceding three phases to address and conclude the main research objective, which is set to go beyond the identification of determinants of successful transition to commercial Merino sheep farming by emerging farmers in the land-locked country and attempting to develop a programme to facilitate successful transition in the inclusive innovation context.

1.6.6 Data quality and analysis

The qualitative data analysis software, Atlas.ti™ (Flick, 2014; Friese, 2014), has been chosen as the preferred tool for the analysis. Data analysis consisted mostly of “*within-case analysis*” and “*cross-case analysis*”. Both these data analysis techniques were envisaged to improve the trustworthiness of the findings (Creswell & Creswell, 2017; Schwandt *et al.*, 2007).

1.7 VALUE OF THE RESEARCH

The value of this research is envisaged to be two-fold; theoretical and practical value.

1.7.1 Theoretical value

This research's central contribution is to literature on commercialisation of Merino sheep farming in the context of a land-locked country (Lesotho). There is limited, if no, literature from the body of knowledge on the commercialisation of Merino sheep farming in the context of Lesotho, as evidenced by the literature review. Given the above, this research has the potential to address this gap in the existing literature and body of knowledge. This research further generated knowledge on how the national and local governments at district level in Lesotho may stimulate and enrich emerging Merino sheep farmers' participation in the commercial Merino sheep market with specific focus on those in rural Lesotho.

Increased wool output and commercial market participation have the potential to address the rampant rural food insecurity and poverty.

Additionally, this research also contributed to literature on the commercialisation of emerging farmers in several ways. While most past empirical studies considered only one or a few selected crops to research the commercialisation of emerging farmers, the current study is based on commercialising emerging Merino sheep farmers comprehensively as a strategy towards poverty alleviation and curbing food insecurity. In this research, more innovative analytical models that have previously been common in agricultural economics, social sciences, and developmental studies were utilised. Furthermore, the use of inclusive innovation may present a potential to redefine commercial Merino farming in a development context.

This research further presented a theoretical interpretation of the commercialisation of Merino sheep farming dynamics by those at the base of the income pyramid in a Lesotho context. The fact that scholars such as Rantšo (2016e) found that employment opportunities are shrinking in the urban economy, the author argued that commercial Merino sheep farming by emerging Merino farmers may address rural poverty at a significant scale, addressing the needs of the vulnerable at the base of the income pyramid.

1.7.2 Practical value

In addition to making a theoretical contribution, this research is also likely to contribute practically by creating an understanding how transition to commercial Merino sheep farming can be successful in Lesotho which can be a premier strategy to enhance the rural socio-economic status of emerging farmers. Most importantly, this research can give a better insight in to the role Merino sheep commercialisation as an innovative in enhancing livelihood situation and reducing poverty of most emerging farmers in the SADC region. Additionally, given the resuscitation of its economy, Lesotho has, in recent years, become a significant player pertaining to wool export in the SADC region. Therefore, this research is likely to provide emerging farmers, practitioners and policymakers, and investment bodies with vital information aligned to the needs of emerging commercial Merino farmers for successful transition to commercial Merino sheep farming.

1.8 DEFINITION OF KEY TERMS

Key term:	Definition according to the nature of the research:
Antecedents	Dominant emergent themes prevailing in the farming area that precedes and influences the support framework to facilitate commercialisation of emerging farmers.
Commercialisation	An innovative transition from smallholder Merino sheep production to systematic market-orientated Merino sheep production by emerging farmers.
Constraints	A set of elements that act as bottlenecks for emerging farmers to effectively participate in the markets for improved livelihoods.
Determinants	A set of elements that act as enablers for emerging farmers to effectively participate in the markets for improved livelihoods.
Emerging Merino sheep farmers	Local farmers at the base of income pyramid who are in pursuit of participating in commercial markets and have intentions to maximise farm revenue from increased productivity to improve livelihoods, though they are constrained by their farming environment to participate in commercial markets.
Inclusive agricultural growth	An innovative agricultural transformation that is pro-poor aimed at increasing market participation of emerging farmers for improved rural socio-economic growth.
Innovation diffusion theory	One of the oldest theories in social sciences developed by E.M. Rogers in 1962. It originated in communication to explain how, over time, an innovation or idea gains momentum and diffuses (or spreads) through a specific population or social system (Rogers, 2010).
Merino sheep	A medium sized sheep breed characterised by high wool productivity that is one of the significant breed in the sheep industry.
Resources based theory	One of the mostly cited theories in social sciences, developed by Barney (1991) that provides a theoretical understanding of how resources can be employed for high enterprise performance outcomes which has been widely employed in different fields. The theory in contrast, postulates that “all enterprises are different, to a greater or lesser degree in essence, such a firm consists of a ‘unique bundle of resources and capabilities’, which can give them competitive advantages over rival enterprises” (Barney, 1991).
Support framework for commercialisation	A conceptual structure that illustrates the key relationships between the elements on how commercialisation of emerging Merino sheep farmers can be facilitated.

1.9 CHAPTER CONTENT ANALYSIS

This thesis follows the structured eight-chapter approach, which is the standard for doctoral theses in the social sciences discipline. Accordingly, the literature review as it pertains to this research is broken down into three separate but related chapters – Chapters 2, 3 and 4. In the former, the context of agricultural commercialisation, Merino sheep farming, and the unique determinants and constraints associated with commercialisation of Merino sheep farming are reviewed. Then, the development of the conceptual framework envisaged to be suitable for this research is presented in Chapter 4. Overall, the thesis chapters are structured as follows:

CHAPTER 1: INTRODUCTION AND BACKGROUND TO THE STUDY

This chapter introduced the research by outlining the background to the study in terms of a brief literature review, the research gap that was identified in the body of knowledge, and formulation of the research problem and question. Thereafter, the methodology used to answer the research question was briefly discussed since it was later presented in depth in the Research design and Methodology chapter. Following this, the chapter presented a synopsis of the structure of the thesis, limitations and scope of the study, and definitions of key concepts used throughout this research.

CHAPTER 2: LITERATURE REVIEW: THE CONTEXT OF AGRICULTURAL COMMERCIALISATION AND MERINO SHEEP FARMING

This chapter focused on the theoretical background from the existing body of knowledge as it relates to the research problem. It emphasised on expanding on the literature review of the context of agricultural commercialisation and Merino sheep farming, followed by overview of the value chain for wool production in Lesotho. Thereafter, the rationale of commercialising emerging Merino sheep farmers, the importance of commercialising Merino sheep farmers and it concluded by discussing critics' view for commercialisation of Merino sheep farmers.

CHAPTER 3: LITERATURE REVIEW: DETERMINANTS AND CONSTRAINTS ASSOCIATED WITH SUCCESSFUL COMMERCIALISATION OF EMERGING FARMERS

The existing body of literature was analysed in this chapter as it relates to the theory and practice context surrounding determinant factors associated with the successful commercialisation of emerging farmers have been explored from the body of knowledge. This was followed by the review of literature on hindering factors associated with the successful commercialisation of emerging farmers.

CHAPTER 4: CONCEPTUAL FRAMEWORK DEVELOPMENT

This chapter focused on the theoretical perspectives that this research adopted to validate its assertion and to add robustness to the significance of this research. For this research, resource-based, inclusive innovation, diffusion of innovation, and inclusive growth were selected theories to investigate and explain the multidimensionality of the phenomenon researched. The literature related to these selected theories and other relevant literature that explained various facets that could have had an influence in the transition to commercial-orientated Merino sheep farming in an inclusive innovation context were reviewed in this chapter.

CHAPTER 5: RESEARCH DESIGN AND METHODOLOGY

This chapter was consistent with the conceptual model earlier proposed in Chapter 1, this chapter contains a description of the suitable research methodology to address objectives set for this research. Justification of such is proffered by evaluating alternative research designs and methodologies, thus pronouncing the selected methodology as being most appropriate to answer the main research question and problem. Also, ethical issues, reliability and validity were discussed in this chapter.

CHAPTER 6: DATA ANALYSIS, RESULTS AND PRESENTATION OF FINDINGS

In this chapter, the collected data was analysed. The research utilised qualitative data with qualitative data analysis software ATLAS.ti™. The research results were also discussed in-depth in this section.

CHAPTER 7: PROPOSED SUPPORT FRAMEWORK FOR COMMERCIALISATION OF EMERGING MERINOS SHEEP FARMERS

This chapter focused on the overall development of the proposed support framework for commercialisation of emerging Merino sheep farmers for inclusive agricultural growth. The development of the proposed framework was based on the findings from the qualitative data analysis. In addition, it presented the summary of findings in relation to the proposed support framework.

CHAPTER 8: RECOMMENDATIONS AND CONCLUSIONS

This chapter served as the final chapter of the thesis. It concluded this research work with a detailed discussion of the implications of policy, theory and practice. In it, it outlined recommendations motivated by the findings from analysed data and reviewed literature from the body of knowledge and practice. Recommendations were made in the context of this research – innovative strategies for commercialisation of emerging Merino sheep farmers in the research area and its environs and the implications to theory. Finally, recommendations for further and follow-on-research was put forward. This chapter concluded with outlining personal reflections on the overall journey for this research work. The appendices mainly for reference and verification of information formed the ending section of the thesis.

1.10 CHAPTER SUMMARY

Chapter 1 laid the foundation for the research. It served as a guidance regarding why the particular topic was chosen and also how the study was carried out. It was the initial proposal for the study. Deviations from this initial chapter, were documented as well as the reasons for their existence. The presentation of the review of literature from the body of knowledge commenced in, Chapter 2. The review commenced with the review of literature as it pertained to the context of agricultural commercialisation and Merino sheep farming.

CHAPTER 2

LITERATURE REVIEW: THE CONTEXT OF AGRICULTURAL COMMERCIALISATION AND MERINO SHEEP FARMING

2.1 INTRODUCTION

The new environment that is marked by the rapid growth in population, income, urbanisation, policy reforms, technology, global interconnectedness, food industry restructuring and climate change requires transformation of agriculture. Commercialisation can achieve this goal by modifying the current production practices from the highly subsistence level towards a market-oriented level (Barrett, Bachke, Bellemare, Michelson, Narayanan & Walker, 2012; Bernard & Spielman, 2009; Boughton *et al.*, 2007; IFAD, 2014; IFAD, 2017; Omiti, Otieno, Nyanamba & McCullough, 2009; Pingali, 2010). Commercialisation is considered a possible driver of development and economic growth for less developed countries (Barrett *et al.*, 2012; Martey, Al-Hassan & Kuwornu, 2012; Pingali & Rosegrant, 1995; Von Braun, De Haen & Blanken, 1991). Although commercialising subsistence agriculture is perceived an essential strategy towards rural socio-economic development for most developing countries which rely on the agricultural sector, Lesotho has not maintained the pace of growth achieved elsewhere (IFAD, 2017; Mokhehi, 2015; Rantšo, 2016b; Wikle, 2015b). This is because most of the farmers in the country are marginal and emerging Merino sheep farmers. Therefore, inclusive agricultural growth in the country could be achieved through Merino sheep farming.

The welfare gains from market-oriented production develop from specialisation that builds on and creates competitive advantages, which is potential for large-scale production. Furthermore, dynamic technological, organisational and institutional change evolve through the flow of ideas due to exchange-based interactions (Martey *et al.*, 2012; Von Braun *et al.*, 1991). Therefore, commercialisation of agriculture can be achieved by promoting value added to highly appraised agricultural commodities, such as wool, red meat and other Merino sheep related products in the case of Lesotho which supports agribusinesses and links farmers with markets (Wikle, 2015a). Commercialisation has the vigour to link the input and output aspects of a market. This chapter focuses on the context of agricultural commercialisation; concept – Merino sheep farmers, followed by an overview of the value chain for wool production in Lesotho. Thereafter, the rationale for

commercialising emerging Merino sheep farmers, significance thereof; critics' view of commercialising Merino sheep farmers; and an extensive review of empirical literature.

2.2 THEORETICAL FOUNDATION OF COMMERCIALISATION OF AGRICULTURE

Lesotho just like other developing countries,' the majority of the population live in rural areas and depend primarily on subsistent agriculture as a source of livelihood. Boughton *et al.* (2007) for example, opine that agricultural transition from subsistence to more market-oriented farming can lead to growth in productivity, income, employment, and poverty alleviation. Several scholars (Fischer & Qaim, 2012b; Tipraqsa & Schreinemachers, 2009; Von Braun *et al.*, 1991) reveal that commercialised farms have a higher household income than subsistence-oriented farms, on exercising control over other relevant factors. Furthermore, the following studies, Muricho, Manda, Sule and Kassie (2017); Obi *et al.* (2012); Olwande, Smale, Mathenge, Place and Mithöfer (2015); Zhou, Minde and Mtigwe (2013), have confirmed that transition towards agricultural commercialisation promotes poverty alleviation among emerging African farmers.

Though commercialisation of agriculture has been the core theme in the social sciences research environment, literature suggests that it is a complex multidimensional issue and various literature sources suggest a variety of definitions thereto. There are various forms of agricultural commercialisation. Leavy and Poulton (2007a); Leavy and Poulton (2007b); Martey *et al.* (2012); Zhou *et al.* (2013), argue that the meaning of commercialisation lacks clarity and may result in misconception and an impediment in transforming policy into practice. Commercialisation can transpire as follows: from an output perspective with increased market surplus or input with increased utilisation of inputs. Therefore, this study focused on the output perspective.

Tilburg, Obi, Fraser and Schalkwyk (2011); Tilburg and Schalkwyk (2012) maintain that increased market-orientated agricultural output as a form of agricultural commercialisation is necessary to increase the size of the market to cater for industrial outputs because rural farming often constitutes the bulk of the market for a wide range of consumer goods produced by the industrial sector. This increased productivity can be achieved through market-orientated production where farming households specialise in the production of goods in which they have a comparative advantage (Boughton *et al.*, 2007).

With the advent of time, theorists synthesised agricultural commercialisation as a sequence of a transformation process in three stages which can be observed through Rostow's theoretical model of economic development (Lavers, 2012; Pingali, 2010). The latter authors identified three stages of agricultural transformation, that is, from a low productivity traditional agriculture to a high productivity commercial sector. The first and most primitive is low-productivity, purely subsistence peasant farming, characterised primarily of non-traded; household-generated inputs and food self-sufficiency the main production objective (Boughton *et al.*, 2007). The second stage is what Pender and Alemu (2007) refer to as “*diversified*” or “*mixed*” family agriculture, that is, part of the crop or livestock is grown for self-consumption, while the balance is sold. Authors such as Sibhatu, Krishna and Qaim (2015) refer to the second stage as semi-subsistence production, which employs both traded and non-traded farm inputs and the aim of production includes both household consumption and surplus for the market.

Finally, the third stage was identified as representing the “*modern*” farm, exclusively engaged in high productivity, “*specialised*” agriculture geared to the commercial market – which can qualify as commercial agriculture (Makki, 2012) or a fully commercialised agricultural system where inputs is primarily bought and profit maximisation is the central objective (Pingali, 2010; Pingali *et al.*, 2005). Therefore, these theoretical works suggest that rural economic growth and development policies should focus more on the rapidly moving the agricultural sector from the first stage through the second and ultimately, the third stage. However, it is important to note that Pingali (2010); Pingali *et al.* (2005), and Pingali (2010) cautioned that although agricultural commercialisation is theoretically believed to accentuate specialisation, it is not restricted to production of so-called “*cash crops*” but applicable to livestock farming.

Production of marketable surplus of staple food crops is generally the most common initial form of commercialisation among smallholder peasant farmers (Jaleta, Gebremedhin & Hoekstra, 2009). However, due to pervasive market failures in most developing countries, commercialisation can only offer the possibility of a certain level of diversification into non-staple cash crops or livestock but not total specialisation. Therefore, emerging farmers can commercialise livestock or staple and/or cash crops, depending on their agro-ecological and market circumstances. In the context of this research, the study underscored Merino sheep specialisation and perceived commercialisation as:

An innovative transition from smallholder Merino sheep production to systematic market-orientated Merino sheep production by emerging farmers.

Agricultural commercialisation involves increased market participation thereby raising earnings innovatively from agricultural-related enterprises. Increasing the units of output, raising the value added, producing for domestic and foreign markets results in commercialisation. Such increased market participation can be conceptualised from both input and outputs. Moreover, Swan *et al.* (2008) state that the degree of participation in the output market is a conventional way to measure commercialisation. Therefore, the definition of agricultural commercialisation fringes on the definition of market participation. That is, market participation is often utilised as a proxy for commercialisation or the two terms are basically used interchangeably. For example, Jaleta *et al.* (2009); Olwande *et al.* (2015) assert that commercialisation can be perceived and measured in a number of ways and often understood in terms of market participation.

Scholars such as Cazzuffi and McKay (2012) concur with Jaleta *et al.* (2009); Olwande *et al.* (2015) and assert that the commercialisation of subsistence agriculture implies an improved ability to participate in the output market. Leavy and Poulton (2007a) define agricultural commercialisation as the proportion of agricultural production which is marketed. They emphasise that commercialisation can be measured along a continuum from zero (total subsistence-oriented production) to unity (100 percent of production is sold). Therefore, based on the commercialisation literature, market participation in this research has to do with the pillar of commercialisation that deals strictly with increased output market orientation of farming households.

However, it should be noted that scholarly review reveals this concept of agricultural commercialisation as complex and has contributed towards varying definitions and as accentuated above. Pingali and Rosegrant (1995) and Zhou *et al.* (2013) highlight agricultural commercialisation involves more than marketing agricultural produce. Amongst others, Pingali *et al.* (2005), argued that agricultural commercialisation is achieved when household product choice and input decisions are made based on the principles of increased market participation and profit maximisation. Also, Muricho *et al.* (2017), assert that commercialisation is not merely about producing a significant amount of cash commodities and supplying the surplus to the market.

Moreover, according to Fischer and Qaim (2012b); Von Braun *et al.* (1991), commercialisation involves increased market participation of emerging farmers in both domestic and international exchange economy to capture the benefits derived either through crops or non-crops specialisation. Multiple academics in the commercialisation of agriculture have theorised that increased market transactions can be realised only if: favourable policy environment including institutional arrangements which stimulate viable domestic and international exchange economy; well-developed, effective and accessible infrastructure as well as essential support services which promote access to the domestic and international exchange economy; and establishment of sustainable markets under a functional legal frameworks exist (Ingabire, Mshenga, Langat, Bigler, Musoni, Butare & Birachi, 2017; Mango, Makate, Francesconi, Jager & Lundy, 2018).

With respect to the output market participation, this study truncated emerging Merino sheep farmers' output market participation. As such, the pivotal indicator of this pillar of commercialisation this study adopted emerged that Merino sheep farmers engage in the market to sell their produce. This dimension of commercialisation has been utilised extensively in academics such as Boughton *et al.* (2007); Jaleta *et al.* (2009); Martey *et al.* (2012); Olwande *et al.* (2015); Pender and Alemu (2007); Tipraqsa and Schreinemachers (2009) empirical studies. The drivers of agricultural commercialisation are discussed in the section below.

2.2.1 Drivers of agricultural commercialisation

In recent years, there has been tremendous growth in agriculture in developing countries and due to its significance for the economy, it is considered a possible driver of development, economic growth and poverty alleviation for less developed countries (Barrett *et al.*, 2012; Obi *et al.*, 2012; Pingali, 2010). An extensive literature review suggest that the welfare gains that result from selecting market-oriented production and exchange emerge not just from the once-off, static welfare effects of trade according to comparative advantage, but perhaps even more from the opportunities that emerge from larger-scale production in the presence of nontrivial fixed or sunk costs of production. Hazell and Wood (2008) suggest forces that drive agricultural commercialisation on three scales: global-scale driving forces, country-scale driving forces, and local and household-scale driving forces. These are presented in turn in the following sections.

2.2.1.1 Global-scale driving forces

Globalisation, trade liberalisation, and changes in development policy have brought about a change in the global economy (Fischer & Qaim, 2012b; Zhou *et al.*, 2013). Globalisation has resulted in the rapid growth of world trade, the internationalisation of products, reduced transport and communication costs, and a shift in the textile industry (Rantšo, 2016b; Von Braun & Díaz-Bonilla, 2008a; Von Braun & Díaz-Bonilla, 2008b). International trade and rising per capita income are the driving forces behind the changing nature of demand for food and agricultural products (Von Braun & Díaz-Bonilla, 2008b).

This is stimulating an agricultural transition in many developing countries to meet global demand and respond to changes in the world food system (Jaleta *et al.*, 2009; Von Braun & Díaz-Bonilla, 2008b). A major feature of this transition is the booming demand for quality wool, primarily driven by global demand rather than the domestic market. Textiles drive the commercialisation of smallholder Merino production and increases the demand for improved flocks and large-scale acquisition of land (Lavers, 2012; Ministry of Trade and Industry Co-operatives and Marketing Services, 2015).

These global forces result in farmers becoming increasingly involved in more commercialised production systems (Von Braun & Díaz-Bonilla, 2008a). Two implications have been noted. Firstly, emerging market chains link farmers with export markets. This creates opportunities for farmers who can access and compete in the transformed markets effectively, but for many other small farmers the risk is that they would simply be left behind (Fischer & Qaim, 2012b; Von Braun & Díaz-Bonilla, 2008a). Kocho, Abebe, Tegegne and Gebremedhin (2011), for example, found that crop booms often result in bankruptcy, leaving farmers vulnerable to risks, including loss of land. Secondly, global integration of markets leads farmers to diversify from staple food production, even primarily for domestic consumption (Zhou *et al.*, 2013).

Greater integration in global markets also exposes farmers to the effects of global warming and climate change in patterns of agricultural production and supply. Matarira *et al.* (2013) and Saha (2011) projected that rising temperatures and changing rainfall patterns will have an adverse effect on world agriculture. In this situation, small-scale farmers can no longer remain idle but adapt their production systems to some degree of commercialisation in order to survive (Zhou *et al.*, 2013).

2.2.1.2 Country-scale drivers

Economic development within a country leads to structural transformation, rising per capita income and consumption expenditure, a net flow of labour from the agricultural sector to manufacturing and services, urbanisation, and a reduction in agriculture's share of the overall economy (Gebremedhin, Jaleta & Hoekstra, 2009; IFAD, 2014). These changes are normal for economic transformation. Population growth, demographic change, urbanisation, and increased income drives demand for both food and non-food agricultural products (Gebremedhin *et al.*, 2009; Pingali, 2010). Agricultural growth and commercialisation become vital to meet this soaring demand (Pingali, 2010; Shiferaw, Hellin & Muricho, 2011). Moreover, farm production becomes more commercialised and specialised.

These changes present opportunities for emerging farms and agricultural workers to work on farms on a part-time basis and diversify their sources of income with other non-farm activities (Shiferaw *et al.*, 2011). However, subsistence and commercial farms typically co-exist during this process of transition. Small subsistence farmers are often excluded from the full benefits of this process due to socio-economic factors such as lack of access to land, finance, agricultural inputs, and markets (Zhou *et al.*, 2013). Changes in national policy and institutional reforms can help accelerate the pace of agricultural commercialisation (Von Braun & Díaz-Bonilla, 2008a). They can also have a negative impact on the agricultural sector and farmers' livelihoods, which is discussed in the next section.

2.2.1.3 Local and household-scale drivers

At the local and household levels, commercialisation depends on a number of factors, namely: agro-ecological conditions and risks, access to markets, value chain integration, physical infrastructure, community and household resources and endowments, development of local commodities, access to agricultural inputs, and cultural and social factors that affect consumption preferences, production practices, and market opportunities and constraints (Hazell & Wood, 2008; Mutibvu *et al.*, 2012; Phillip, Nkonya, Pender & Oni, 2009). Demographic and population change, urbanisation, availability of new technologies, market creation, trade and macroeconomic policies (Abafita, Atkinson & Kim, 2016; Fischer & Qaim, 2012b; Mango *et al.*, 2018) further influence the level of

commercialisation. Other push factors include access to credit, extension services and market information, technological progress, productive land, and supporting facilities such as storage and processing (Obi & Seleka, 2011; Phillip *et al.*, 2009).

Furthermore, commodity price, availability of family labour and geographic location of the household (Kocho *et al.*, 2011; Ochieng, Knerr, Owuor & Ouma, 2016); available farming space for the household; access to equipment and a positive attitude of the household head towards risk (Pender & Alemu, 2007); access to land and assets; utilisation of technology and extent of rainfall (Olwande *et al.*, 2015) significantly affects the decision of the household to participate in the market. Mundy and Verger (2015) reported that human capital such as level of education, farming experience, skills and household members competencies is important for successful commercial farming. Similarly, research by Korsgaard, Müller and Tanvig (2015) revealed that the provision of capacity building in entrepreneurship can develop farmers' mindset towards commercialisation. However, these are not necessarily the prime determinants of household commercialisation.

Evidence from many parts of the world demonstrates that many farmers without a high level of education or training have successfully commercialised their crop and non-crop production. According to Mango *et al.* (2018), the above-mentioned factors influence commercialisation by fluctuating conditions of demand and supply for commodity, input output prices, transaction costs and risks that farmers, traders and others in the agricultural production and marketing system have to cope with.

2.3 THE CONCEPT OF EMERGING FARMERS

In search of a scientifically acceptable definition of an emerging farmer, academics such as MacLeod, McDonald and Van Oudtshoorn (2008) argued that various terms are utilised in academia to describe emerging farmers. However, an agreed upon definition or description of an emergent farmer in the Lesotho agricultural sphere, continues to prove elusive. Although there is a large volume of literature related to emerging farming, Scott (2016) concurs that 'there is a great deal of confusion and controversy as far as the characterisation of the emerging farmer is concerned'. The focal criteria often utilised to classify farmers as emerging by various researchers includes the size of the land and purpose of production.

The sole consensus about emerging farmers could be the lack of a sole definition (cited in Chamberlin, 2008; Nagayets, 2005). It is reflected in the rural communities of Lesotho that emerging farmers constitute ‘a significant proportion of the rural economy and the poor in developing countries’ (Daidone, Davis, Dewbre, Miguelez, Niang & Pellerano, 2017). According to Whitbread, Robertson, Carberry and Dimes (2010), emerging farmers are in communal areas with limited access to factors of production, credit, and information. Their markets are often constrained by inadequate property rights and high transaction costs. Despite these challenges, some of them manage to produce food for their own consumption and for the markets. These markets are informal channels such as neighbours, local shops, and monthly pension markets (Gouët and van Paassen (2012).

Burgess (2016) theorised an emerging farmer as one whose farming operation is at the infancy phase but has the potential to attract the provision of services required to increase productivity significantly. This ‘size’ view is also supported by a number of commentators including Chamberlin (2008) and Barrett (2008), who posited that the simplest and conventional meaning of an emerging farmer is one who has access to limited farming resources.

Chamberlin (2008) further suggests that there is no universally agreed definition of an emerging farmer in developing countries, but agrees that the scale of operation, farm size is generally less than five hectares, and the farmers have limited capital and other productive assets. However, size to establish an emerging farmer may not be ‘a good criterion’, as highlighted by Vorley, Fearn and Ray (2016); rather the level of net farm income or turnover determines the farm size category (Pender & Alemu, 2007).

The meaning of an emerging farmer, however, goes beyond the conventional definition and comprises of certain general characteristics. Four themes are identified by Chamberlin (2008); Randela (2005) which includes the size of the landholding, wealth, market orientation and level of vulnerability to risk. It can be inferred from these themes that an emerging farmer is one with limited access to land, poor resource endowments, subsistence-oriented and highly vulnerable to risks.

An accurate and concise definition of the term ‘emerging farmer’ has always been complex. In a number of instances, descriptive references have been utilised and includes the reference to emerging farmers as those excluded from the main input and output value

chains. However, emerging farmers are not simply ‘scaled down models of large farms’ (Fischer & Qaim, 2012b) and the issue of supporting emerging farmers includes their integration into value chains.

Netting (1993) utilised the following characterisation for emerging farmers:

- Rural activities, practicing intense, permanent, diversified agriculture on relatively small farms in densely populated areas;
- Family household is the major corporate social unit for mobilising agricultural labour, managing productive resources and organising consumption; and
- The household produces both for consumption and the market while undertaking cottage industry and alternative off-farm employment.

International studies on emerging farmers consider farm size or productivity relationships and economies of scale as the underlying themes to define emerging farmers (Mutibvu *et al.*, 2012). Devendra (2010) argued that emerging farmers in most parts of the world, especially in developing countries such as Lesotho, are rational allocators of available resources, which have limited technical and economic opportunities.

For the purpose of this research, emerging farmers are:

Local farmers at the base of income pyramid who are in pursuit of participating in commercial markets and have intentions to maximise farm revenue from increased productivity to improve livelihoods, though they are constrained by their farming environment to participate in commercial markets.

These farmers require markets for their farming operations but are limited in terms of access to markets because of the various challenges they face. Farming is their foremost source of income. They produce primarily for the market but have insufficient resources or technical expertise to increase their product’s market share. They find it very difficult to participate in commercial markets.

2.3.1 The role of emerging farmers in the agricultural sub-sector

Agriculture is viewed as a small but significant buffer against poverty for certain households, as well as a strategy for wealth creation by wealthier households (Abafita *et*

al., 2016). In Lesotho, the emerging farming sector is considered significant in terms of providing employment, human welfare and political stability (Daidone *et al.*, 2017). According to the Central Bank of Lesotho (2016), agriculture contributed an average of 7.0 percent towards Lesotho's GDP during the 2010-2015 period. With the current large army of unemployed persons, earlier development models suggest that the rural population could become the engine of growth if harnessed to make meaningful contributions (Lesotho National Wool and Mohair Growers Association, 2017; Tanga & Manyeli, 2017). Researchers such as Muricho *et al.* (2017); Obi *et al.* (2012) posit that from sufficient international evidence, emergent farming agricultural operations has the potential to generate employment and income opportunities, especially in rural areas; and in contrast to other views of the emerging farming sector, these farmers are potentially competitive in certain farming activities. The substance of their conjecture is that with pro-active policy support 'these opportunities could be developed into viable niches for a future emerging farming sector' (Kirsten & Van Zyl, 1998).

According to Chibanda, Ortmann and Lyne (2009); Ngqangweni (2000), emerging farmers in developing countries have a high potential for job creation, increasing returns to the limited assets that those at BoP income possess with a potential to improve their socio-economic status. In the African context, emerging farmers serve as the primary engine of rural growth and enhancement of livelihoods given the limited resources available for rural industrialisation (Gebremedhin *et al.*, 2009; Jaleta *et al.*, 2009; Zhou *et al.*, 2013). The majority of Africans live in rural areas, where small scale agriculture is the mainstay of the rural economy, predominantly serving as a source of food and income (Obi *et al.*, 2012; Radchenko & Corral, 2018).

Interestingly, the World Bank suggests that the decline in the poverty rate of developing countries from 28 percent to 22 percent in 2010, is primarily attributed to a decline in poverty in rural areas; while 80 percent thereof is related exclusively to improved conditions in the rural areas (Ministry of Agriculture and Food Security, 2015). The World Bank (2010) concluded that the potential of agriculture to contribute towards growth and poverty reduction depends, to a large extent, on the emerging farmers level of productivity. In Lesotho, emerging farmers hold the key to ensuring improved livelihoods and agricultural growth for those that have been affected by poverty in spite of the rich agricultural environment farming opportunities that prevail (Wikle, 2015a).

Consequent to increasing poverty, amplified by volatile food prices, Bernard and Spielman (2009); Ogotu, Gödecke and Qaim (2017) advocate the need to increase agricultural productivity, especially in developing countries in collaboration with emerging farmers. A recent report of the World Bank in its annual African Economic Outlook 2013 confirmed that ‘Africa’s agriculture and natural resources could boost the continent’s economic growth and pave the way for a breakthrough in human development’ (World Bank, 2010). However, the contribution of emerging farmers as the engine of rural growth and improved livelihoods depends, to a large extent, on their level of transformation from subsistence oriented to market-oriented production systems. Scholars (Dethier & Effenberger, 2012; Ingabire *et al.*, 2017), posit that unless emerging farmers reach a certain degree of commercialisation, the impact of agricultural growth on poverty alleviation will be insignificant.

Many countries and international development agencies, therefore, underscore the intensification and commercialisation of emerging farmers as a means to achieve poverty reduction (Leavy & Poulton, 2007b; Martey *et al.*, 2012). This concurs with by Bernard and Spielman (2009) who assert that rural development strategies intend to contribute towards the transformation of the productive rural sector, from a primary subsistence-oriented to a market-oriented sector; as well as contribute towards the overall economic growth and poverty reduction. Despite widespread scepticism of emerging farmers capabilities (Abafita *et al.*, 2016; Chibanda *et al.*, 2009), and strong arguments against the potential contribution of emerging farmers towards the alleviation of poverty in Africa (Zhou *et al.* (2013); emerging farmers as a foremost source of livelihoods in Africa has proven to be as, at least, efficient as larger farms when provided with similar support services and inputs (World Bank, 2010). Ochieng *et al.* (2016); and, Zhou *et al.* (2013), hold that upon adoption of improved technologies, access to inputs and investment in infrastructure, rapid growth in agricultural income is achievable in Africa (World Bank, 2010).

2.4 OVERVIEW OF THE VALUE CHAIN FOR WOOL PRODUCTION IN LESOTHO

For over a decade, the export of wool when compared to other commodities in Lesotho has been the largest and contributes significantly to the GDP of the country. The sales of wool

remain a major source of income for Basotho. Wool accounts for 58.3 percent of agricultural exports. Lesotho produces on average 4,380 tons of Merino-type greasy wool annually, respectively 0.2 percent of 2011 world production (Mokhethi, 2015). Production remains largely in the hands of emerging Merino sheep farmers situated in Lesotho's rural areas. The prices of wool have been on the rise in recent years, amid growing demand for natural fibres and the volatile price for synthetics. Wool production remains a viable source of income to most rural households in Lesotho and provides employment, particularly to herd-boys.

For wool, Lesotho is able to access international auction markets (Port Elizabeth and Durban) and distribution networks of South Africa, which is ranked 12th in the world for wool production, respectively. An estimated 90 percent of Lesotho's wool production is sold via the LNWMA relationship with the South African broker Boeremakelaars Koöperatief Beperk Ltd (BKB), which provides the GoL with aggregate statistics of sales by district, grade and more. The GoL and LNWMA lack capacity to develop independent data of total sector production for planning, benchmarking, market development and other purposes. Lesotho lacks its own certificate of origin to facilitate product source traceability, and historically, the country's wool production is blended with that of South Africa's for export purposes. Overall, Lesotho lacks clarity regarding purchasers, end users and end use of its wool. As such the producers are largely price-takers in the market.

An average net return to wool producers for sales auctioned via BKB in 2011/2012 was ZAR 4,203 (US\$437, average revenue per producer), respectively. Annual yield rates for Lesotho average 2.63 kg/head for wool, compared to South Africa estimated rates of 5.7 kg/head for wool (Department of Livestock Services, 2016). According to Fredalette (2017), low yields result principally from poor genetics, animal management and shed practices. The majority of growers focus on herd quantity rather than off-take quality to drive wool income, for a variety of reasons including, but not limited to: social status derived from herd size; limited financial means to invest in animal husbandry; lack of an appropriate breeding strategy for merino sheep; antiquated shearing technology, at least for wool; and the lack of training among shed staff to maximise wool value. This results in a large share of lower quality wool, which in turn decreases the revenue per animal.

The Ministry of Trade and Industry Co-operatives and Marketing Services (2015) indicated that the financial means is further stretched by logistics bottlenecks, particularly

in transporting baled products from the shed to an auction. This delays payment to the emerging Merino sheep farmer; and the delayed cash flow cycle limits grower ability to invest in supplemental feed or shelter to nurture animal health and production. Sheep are basically reared for wool while an occasional one is slaughtered for meat during feasts. The farmers perceive these livestock as a form of investment and do not slaughter on a regular basis. Wool sales and the accumulation of sheep is a key component in a migrant labourer's strategy to supplement their mine wage to provide for their family and later for retirement. The significance of Merino sheep farming within the agricultural sub sector in the Lesotho's economy is undeniable.

Lesotho's Merinos population has nearly doubled (up 94 percent) since the closure of the national abattoir in 2003, compared to a 16 percent decline from 1983/84 to 2003/04. However, on the other hand, there has been an increase of wool prices on the international markets. The rise in sheep population is due to a combination of farmers careering rising wool prices as well as the lack of commercial facilities to sell livestock, as well as the perceived low price for live animals sold for meat or other industrial use. The mountain region has the highest number of sheep followed by Senqu river valley, the lowlands and the foothills, respectively. The value chain analysis data reveals that the largest cost for wool production is feeding, an estimated 82-86 percent of total production cost as illustrated in Figure 2.1 below (IFAD, 2017).

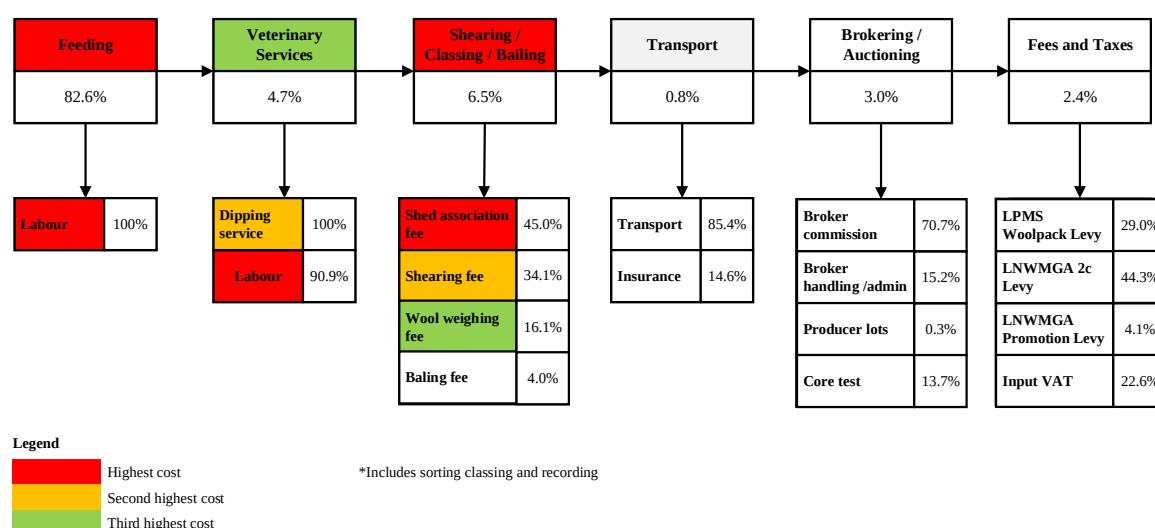


Figure 2.1: Value Chain for Wool Production in Lesotho: Traditional Farm

Source: (IFAD, 2014)

The traditional farms' source of livestock feed is communal rangeland, while the feeding cost is derived from shepherd labour. The latter function covers both feeding and general animal care such as timing breeding and fleece contamination. However, the labour cost does not necessarily add commensurate value, given the observed poor levels of farm management practices (Department of Livestock Services, 2016). For typical wool farms, the next highest cost after feeding is shearing/classing/baling (approximately 6 percent) and veterinary services (4-5 percent) in the form of dipping and vaccines.

Shearing sheds provide herders with the most services: Currently 130 government owned sheds are operated by shearing shed associations. Staffing may be government and/or private, therefore, direct Merino sheep farmer costs and quality control varies widely. Based on the Lesotho National Wool And Mohair Growers Association (2016) findings, the value chain analysis, wool production in a low-nutrition/low-yield environment appears uneconomical without the sale of livestock because all examined farms experienced net losses from only the sale of wool. However, sheep sales may not be a sustainable source of income, because of low lambing rates (less than 50 percent observed, and the national average reportedly approximately 60 percent) as well as due to poor farm management (stocking rates, lack of breeding control or shelter for weather protection).

The Lesotho National Wool and Mohair Growers Association (2016) suggests that rural households tend to sell their sheep if there is an urgent need for cash to purchase food, health expenses or educational needs; and the provision of manure. The utilisation of manure in many African countries is a common element of rural households. Dung can be utilised as fuel for fire or even building material in rural households and a financial instrument. The association further suggests that Merinos is a form of a savings account system for rural households. Commercialisation of emerging Merino sheep farmers can also be determined by the number of quality wool producing sheep that an individual emerging farmer may have (Groenewald & Jooste, 2012). Someone with less than ten Merinos can find it challenging to exploit the commercial element as a wool or meat producer.

Local Merino sheep farmers appear to have an inadequate understanding of drivers of profitability (exacerbated by poor recordkeeping and confusing sales statements) as well as limited access to credit from the formal local commercial banks and slow payment for wool sales (2 to 6 months) because of bottlenecks in the shearing-to-auction cycle, notably

in woolshed recording of individual emerging farmers' production and processing of records by the government. In the research conducted by Department of Livestock Services (2016); IFAD (2014); Lesotho National Wool and Mohair Growers Association (2017), on a start-up wool farm with high-yielding breeds and supplemental feeding, once the target herd size of 50 is reached and loan repayment achieved, the sheep farming operations (wool and livestock sale) generated annual cash flow of M40, 858¹ (US\$2,800.29) per farm and annual profit of M817 (US\$55.99) per head as opposed to M283 (US\$19.39) per head for a traditional farm, revealing the potential for the sector. However, adequate investment must be made for breeding, feeding and animal care. There is a well-developed and effective value-chain for the production and marketing of wool as illustrated in Figure 2.2 below.

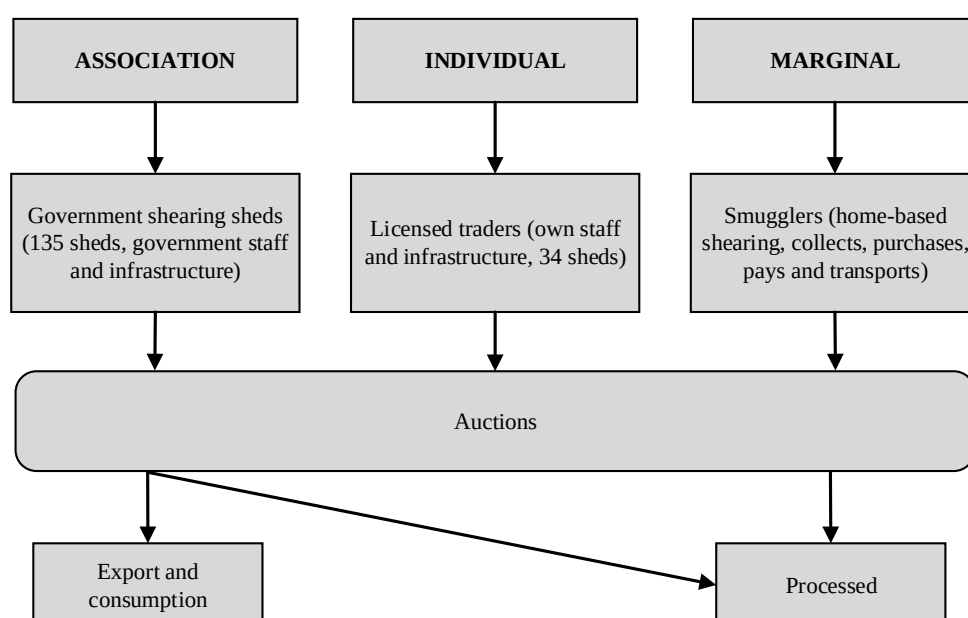


Figure 2.2: Lesotho wool and mohair value chain.

Source: (Mokhethi, 2015)

Marketing Lesotho's wool is unique for emerging Merino sheep farmers. According to Mokhethi (2015), marketing of wool is performed through different platforms by emerging Merino sheep farmers to the final major international auction market in Port Elizabeth and Durban, South Africa managed primarily by marketing agent BKB (IFAD, 2017). The marketing agent BKB alongside a handful of smaller wool brokering competitors' work on

¹ The current (29/03/2019) US Dollar to Maloti is 1 USD = 14.5944 LES

commission to remunerate wool producers for their produce. Emerging Merino sheep farmers are usually paid in about six weeks by the marketing agents (IFAD, 2017). Amongst the marketing agents, BKB provides comprehensive analysis of wool quality, quantities, shearing shed of origin, number of producers and sheep shorn, auction held, and prices acquired by the Lesotho farmers. Figure 2.2 above serves a representation of the local wool market which has been highly competitive (Lesotho National Wool and Mohair Growers Association, 2017; Mokhethi, 2015) with many numerous role players – “*small traders*” and “*itinerant hawkers*” competing for the Merino farmers’ business, and it is discussed in the subsections below. The policy environment forms part of the discussion.

2.4.1 Lesotho’s wool market

Two officially recognised wool marketing outlets exist (Government woolsheds and Private traders) and one unofficial outlet in Lesotho (Jordaan, 2004; Ministry of Trade and Industry Co-operatives and Marketing Services, 2015; Phororo, 1996). According to the Lesotho National Wool and Mohair Growers Association (2016), these outlets manage an average of 4,380 tons of wool annually. Each tends to cater for a different type of Merino sheep farmer and satisfies the different needs and constraints of each farmer. Farmers can either sell their wool at private trading stations authorised to deal in wool or at government shearing sheds strategically placed at 130 locations across the country (Department of Livestock Services, 2016). Generally, farmers who utilise government sheds are members of LNWMGA and their marketing groups, while those who utilise trading stations are individuals not affiliated to any group.

It is not uncommon for members of LNWMGA and their marketing groups to utilise private trading stations for fast payment. As illustrated in Figure 2.2 above, the wool value chain in Lesotho comprises of officially registered associations for instance LNWMGA which is: an intermediary link with the shearing sheds; an intermediary link between individual wool producers and licensed private traders; and, the marginal market that consists of smugglers that utilises the informal market channel. The final destination of the wool collected from wool producers by marketing agents is sold at auctions in South Africa where wool is absorbed and processed. The balance of the wool is re-exported to the international market.

2.4.1.1 Government woolsheds

The majority of the woolsheds in Lesotho are strategically located in various areas throughout the country. They are fall under the auspices of the DoLSL and operation by the shearing associations. There are presently about 130 woolsheds with an additional 22 that are planned for construction in late 2019 to late 2020 Department of Services (2016). The construction of the additional woolsheds is meant to promote market opportunities for wool producers. Although these woolsheds are government owned and fall under the auspices of the DoLSL, staffing may be government and/or private, and therefore direct famer costs and quality control varies widely. Most of these woolsheds are characterised with insufficient woolshed management (limited skills, incentives not aligned with quality; poor recordkeeping) Department of Services (2016).

According to the Department of Services (2016); Ministry of Ariculture and Food Ministry of Agriculture and Food Security (2015), fibre handling, grading as well as record keeping and dispatch of records to the Livestock Products Marketing Services (LPMS) at the woolsheds remains the responsibility of the appointed supervisors at the each woolshed. The shearing schedules are coordinated and managed by the LNWMGA. The number of sheep sheared at these strategically scattered sheds per wool producer averages to 104 annually depending on the market conditions. These government woolsheds maintain a larger percentage of sheep shorn annually when compared to sheep shorn elsewhere (Department of Livestock Services, 2016).

These woolsheds presents wool producers with a wide range of benefits including the point at which extension messages and production inputs can be supplied and where it can be guaranteed that their cost will be fully recovered (Lesotho National Wool And Mohair Growers Association, 2016). Furthermore, they create a point of exchange in terms of sale of produce and receipt of payments. The partnership of the DoLSL, LNWMGA and other stakeholders have positioned the woolsheds to be the logical location at which vaccination and other routine disease control measures can be carried out with great efficiency and at minimum cost to Merino farmers. Once shearing records have been compiled and wool clip is graded, it is dispatched to the bulking stations then transported to the various auction or market platforms in South Africa.

At the auction platforms, wool is marketed to different international consumers for processing. The broker, BKB provides LNWMGA with a comprehensive analysis of wool quality, quantities, shearing shed of origin, numbers of producers, numbers of Merino sheep shorn, auctions held and prices received (Lesotho National Wool And Mohair Growers Association, 2016). Thereafter, individual wool producers are paid directly by the broker; they receive the international price for their product and there is complete transparency in the transaction. Prices paid to growers who sell through this outlet is determined by the South African Wool or Mohair Board in consultation with LPMS. This wool passes through LNWMGA but wool lots retain the original grower's identity to the auction floor and brokerage margins and transport and handling charges are minimal and completely transparent. LPMS acts as the growers' agent with the South African Wool and Mohair Boards.

According to the Lesotho National Wool And Mohair Growers Association (2016), data from Merino sheep holder surveys conducted at their homesteads and at woolsheds revealed that almost two-thirds of the respondents listed the primary advantage of selling through LPMS yields a higher total payment. In second place, listed by approximately 20 percent, was convenience — the government woolshed was either the only outlet or the closest available. The major disadvantage listed by approximately two-thirds of the respondents was delay in payment.

2.4.1.2 Private traders

Although the number varies annually, currently over 40 private traders are licensed to purchase wool from local Merino sheep farmers. This is less than one-third of the number operating before the GoL in marketing. Despite the relatively limited number of private shearing sheds, these shear approximately one-third of the animals owned by about one-third of the stock keepers (Department of Livestock Services, 2016). Flocks shorn by private trader's averages 66 Merinos. In comparison to the government woolsheds, these are number is generally much smaller than the flocks of sheep shorn at the government woolsheds. Private traders also purchase either wool or mohair shorn at the wool producers' premises.

Although home shearing is discouraged because of the potential contamination with dirt and the difficulty to class the fleece, approximately 15 percent of the animals owned by 30

percent of stock keepers is shorn at home. Home-shorn flocks (22 sheep) is approximately more than half as large as those shorn by private traders and tend to be located in more remote areas (Department of Livestock Services, 2016; Mokhethi, 2015). From the wool producers' perspective, selling wool from the wool producers' premises offsets the cost of driving the flock to a shed for shearing in terms of time lost and distance travelled. Though there is limited precise statistical data, it is estimated that approximately two-thirds of the wool shorn at wool producers' premises is sold to private traders. The remainder may be sold to smugglers and this is further explained in the preceding section (Mokhethi, 2015). The drawback to wool producers selling wool at their premises to private traders is low income for a kilogram of fleece. The private traders pay wool producers about 50 percent what BKB traditionally pays though the payment is commonly instant (Lesotho National Wool And Mohair Growers Association, 2016).

Traders' prices, based on first-payment rates announced by the South African Wool or Mohair Boards, is gazetted by government after a committee of traders and latter officials agree on the permissible marketing margin (Department of Livestock Services, 2016; Ministry of Trade and Industry Co-operatives and Marketing Services, 2015). In the event of disagreement, the government has the final say in the matter. This margin makes allowances for all applicable transaction costs (transportation, handling, shed operation and other related costs). Furthermore, since traders pay cash upon sale, their marketing margin also includes an allowance for the cost of financing the purchase in advance of the sale in South Africa.

In sum, the private traders' is net one that includes allowable transaction costs. The sum paid at the government woolsheds is a gross price from which a variety of marketing and transport costs is later deducted when farmers receive their cheques (Lesotho National Wool And Mohair Growers Association, 2016). Since the gross price is higher than the net price, it may appear that government prices are higher than the private ones. However, the Department of Livestock Services (2016) argued that the comparison of net prices paid by both outlets is more ambiguous. As of 2012, there may be limited difference between the two. However, during other occasions, as is the current situation, the difference may be in favour of the government price.

2.4.1.3 Unofficial traders

Before the GoL became involved in marketing and when hawkers still purchased wool from farmers, most smuggling was to avoid paying the wool levy. On the other hand, formal traders and government woolsheds are associated with sheep farmers being exposed to financial institutions and functional marketing systems. In the research conducted by Daidone *et al.* (2017); Jordaan (2004); Phororo (1996); Rantšo (2016c), they posited that the cash acquired from sales of either wool or sheep takes care of immediate financial needs and the rest is deposited into banks or Stokvels for investment and or further growth.

Today, according to the Department of Livestock Services (2016); Lesotho National Wool And Mohair Growers Association (2016); Phororo (1996), emerging Merino sheep farmers have a variety of reasons for selling to smugglers:

- To avoid the cost of driving flocks to shearing sheds or transporting home-shorn fleece to the market. In this regard, the smugglers are fulfilling the function formerly undertaken by hawkers. This motivation seems to apply particularly to small flock owners in remote areas and to those with a large proportion of low-value, off-colour animals (Hunter & Mokitimi, 1990; Mokhethi, 2015).
- Because smugglers approach farmers with cash, it is probably a desirable sales outlet for those in need of money for emergency purposes. Although traders also pay cash (and higher prices), it involves transportation costs (Lesotho National Wool And Mohair Growers Association, 2016).
- According to Hunter and Mokitimi (1990), smugglers in most cases purchase wool and mohair from stolen animals. Proof of ownership must be shown at the market through official channels and not smugglers. Although wool or mohair from stolen animals could be shorn at home and sold through official channels, selling to smugglers possibly inhibits incriminating documentation and lowers the thief's profile. Survey evidence suggests that perhaps as many as 2 to 3 percent of sheep may be stolen in any year (Hunter & Mokitimi, 1990). The principal disadvantages include unreliability and low payments. These are not surprising given the nature of the trade.

Since smuggling is illegal, reliable data thereon is difficult if not impossible to acquire. Nonetheless, data on the amount of wool characteristic of Basotho producers sold in

magisterial districts just outside Lesotho provides upper limit estimates of the smuggled clip. By these estimates, less than 5 percent of wool (which ordinarily has a relatively low value per unit weight) may be smuggled (Lesotho National Wool And Mohair Growers Association, 2016). However, this could change with market conditions. The present high wool price, by providing scope for a greater margin, appears to be encouraging wool smuggling to a greater extent than previously. Historical data, as well as anecdotal evidence suggests that smugglers are residual buyers whose business expands or contracts according to the health and efficiency of the two official channels.

2.4.2 Policy environment

The sub-sections below discussed the policy environment in Lesotho.

2.4.2.1 Government policy

Lesotho is a signatory to the Comprehensive Africa Agriculture Development Programme (CAADP) Compact, which commits the country with the objective to raise agricultural productivity by 6 percent per annum and allocate 10 percent of the national budget to agriculture. The government has undertaken to subsidise agriculture until such time that local farmers have developed adequately, and local food reserves are stocked with sufficient grain crops.

According the Ministry of Ariculture and Food Ministry of Agriculture and Food Security (2015), current efforts to strengthen agriculture rests on sustainable commercialism and diversification, as well as the development of integrated value chains and marketing infrastructure. This includes building effective agricultural support institutions, improving risk management in the sector and reducing stock theft. Furthermore, the subsidy programme is being broadened across all subsectors, while conservation agriculture is promoted to enhance household food security and limit vulnerability.

According to the Ministry of Ariculture and Food Ministry of Agriculture and Food Security (2015), the ministry and its departments will continue to subsidise all agricultural inputs and mechanical operations, roll out greenhouse and shade nets, rehabilitate irrigation schemes, manage and control the spread of animal diseases, undertake feasibility studies for commercial beef production, and construct wool sheds to boost wool and

mohair production. The biggest challenges confronting farmers remains the impact of climate change and affordable modalities for adaptation. A sum of M 483.4 million was proposed for the Ministry to execute these initiatives in the 2017/18 financial year (Ministry of Ariculture and Food Ministry of Agriculture and Food Security, 2015).

It is government policy to encourage emerging farmers to keep only Merino and Angora breeds that is, sheep and goats, respectively. This has been the policy since 1927 (Lesotho National Wool And Mohair Growers Association, 2016; Phororo, 1996) when the importation of crossbred rams and bucks was legally prohibited. By 1935, livestock officers were legally authorised to castrate crossbreds on sight. The demand for quality mutton, especially in lowland urban centres has called for an investigation into the possibility of allowing those farmers to raise mutton sheep under an intensive production system. The problem would be if these “sheep” were to mix with Merino flocks in the extensive grazing system in the other three regions. As such mutton Merino is promoted.

The Kingdom of Lesotho (2014) recommended that concerted efforts towards improving natural pasture management is crucial. In this vein, the DoLSL and the GoL acknowledge that the range is a scarce natural resource belonging to all Basotho people irrespective of whether they keep livestock or not. Because of the communal nature of the utilisation of this range, farmers apparently neither perceive this as their individual and collective responsibility nor utilise it in a sustainable manner. To ensure that a farmer understands and appreciates the value of range, it became imperative to promulgate Range Management and Grazing Control (Amendment) Regulations of 1992.

The act is defined as “*a special grazing area declared by a chief for improvement of rangeland and livestock production through application of advanced management practices*” (Ministry of Agriculture and Food Security, 2019). The goals are to:

- Increase productivity and income of rural livestock producers;
- Facilitate commercialisation of extensive livestock industry while simultaneously satisfy the rural households subsistence needs; and
- Initiate management of sustainable renewable natural resources and socially acceptable to rural Basotho.

2.4.2.2 Trade policies

Trade policies remain a strategic tool for a country to compete in the global economy. As such, for Lesotho reduction of poverty remains a key strategic focus. The economic growth strategy embraces challenges such as mitigating constraints to the country's trade and industry including alignment and applicability of various trade agreements in Lesotho. The prevalent trade agreements are: the European Union (EU) Agreement, the Republic of South Africa Free Trade Agreement, the Southern African Customs Union (SACU), the SADC Free Trade Agreement, the Multifibre Agreement, the Africa Growth and Opportunity Act (AGOA) among others.

The SACU "*revenue share*" is adopted as the trade policy. However, there is restricted discretion for the GoL due to its affiliations and membership in the Common Monetary Area and SACU whereby the South African currency (Rand) is a legal tender across all nations (Ministry of Trade and Industry Co-operatives and Marketing Services, 2015). As such, the GoL applies common external tariff as guided by SACU. It is due to the SACU Agreement with member states (Botswana, Namibia, Swaziland and South Africa) that Lesotho is exempted from applying any customs and import duties on goods originating from SACU member states (Kingdom of Lesotho, 2010).

For the fact that tariffs are the most frequently used trade policy instrument in Lesotho, other Lesotho trade policy instruments have brought about radical transformation in the country. External factors together with the Multifibre Arrangement, as well as duty-free access to the United States granted under the AGOA, have acted as major policy instruments in influencing further growth and development particularly in Lesotho's textiles and clothing sub-sectors (Central Bank of Lesotho, 2016). One of the outcomes of Lesotho's trade policy environment is the liberalisation of the agricultural sector, Protection of agriculture remains the most contentious issue in the global trade negotiations (Ministry of Agriculture and Food Security, 2015; Central Bank of Lesotho, 2016). Local farmers in Lesotho are protected and supported by GoL from foreign competition through agricultural policy, import controls, other regulations on market participants (Kingdom of Lesotho, 2011). Inputs such as fertilizers, seeds and some vaccinations such as sheep scab vaccine are subsidized to local farmers. It is transforming agricultural production and marketing policies away from a highly regulated and controlled inward-structure approach

towards an outward-structured modernised market environment (Kingdom of Lesotho, 2011).

Though the GoL continues to protect the agricultural trade, according to Phakela (2018) and Sishuba (2018), the Ministry of Small Businesses, Cooperatives and Marketing promulgated the controversial Agricultural Marketing (Wool and Mohair) Regulations of 2018. The regulations stipulate that no one is permitted to trade in wool and mohair without a licence obtained from the Ministry of Small Business, Cooperatives and Marketing. The minister of agriculture also has the power to amend or cancel a licence according to certain terms and conditions. In addition, the holder of an export licence would not be permitted to export wool and mohair unless it is prepared, brokered, traded and auctioned in Lesotho, the regulations state (Phakela, 2019).

The Agricultural Marketing (Wool and Mohair) Regulations of 2018 has highly been criticised and bitterly opposed by the local wool and mohair producers, South African broker companies BKB including local wool and mohair associations. It is perceived that the new regulations will deprive key stakeholders in wool and mohair value chain of higher earnings in South Africa and additionally fear the local wool and mohair trade future as wool and mohair farmers are endangered.

The contestation of the promulgation of the new regulations has since resulted in a crushing blow to the Ministry of Small Businesses, Cooperatives and Marketing that the Agricultural Marketing (Wool and Mohair Licensing) (Amendment) Regulations No. 65 of 2018 are null and void and of no force and effect to the extent that they are ultra vires (in contravention of or outside the powers stated in the) Agricultural Marketing Act of 1967. The nullification of the regulations means the emancipation of the farmers as they will now have the freedom to sell to whoever they believe will give them more money. It is not just BKB who broker wool and mohair so the wool and mohair producers will have the liberty to choose the one they prefer.

2.4.2.3 International Trade Agreement for Lesotho

Lesotho has affiliations and is a signatory to various trade agreements that permits it access to regional as well as international markets. Stimulation of regional and international trade fosters diversification and integration of manufacturing base and expanding market access

for goods and services (Ministry of Trade and Industry Co-operatives and Marketing Services, 2015). As an active and dedicated member of the World Trade Organisation (WTO), Lesotho's focus is also on fostering continuous and growing trade liberation as well as implementation and of WTO agreements. Lesotho is also affiliated and committed to the Least Developed Countries (LDC) bloc. WTO and the United Nations' system recognises the Least Developed LDC bloc that works to incorporate the exchange of members into a system that is multi-lateral trading. Preferential treatment had to prevail due to the restrictions and uncertainties on the supply-side (Ministry of Trade and Industry Co-operatives and Marketing Services, 2015). Lesotho has also partnered with Land Locked LDC group that seek to motivate and instigate for those export-driven countries that do not have sea-freight facilities (Central Bank of Lesotho, 2016).

Lesotho participates in Cotonou Agreement as a member and the focus of the Agreement is promoting comprehensive collaborations agreements between the EU and developing countries. This membership has impacted Lesotho's involvement with the regional relationships, African Union, SACU and SADC (Mokhethi, 2015). The United States of America (USA), WTO, India, European Free Trade Area (EFTA), Doha Development Round and Mercado Comun Del Sur (MERCOSUR) held negotiations on trade agreements in Lesotho. This reflected commitment and determination to connect with the rest of the world, promoting economic development. This resulted in Lesotho acquiring a European duty and quota free markets for its products (Ministry of Trade and Industry Co-operatives and Marketing Services, 2015). Under the Lome Convention, its exports is given access to the EU markets (Ministry of Trade and Industry Co-operatives and Marketing Services, 2015; World Bank, 2010).

Mokhethi (2015) outlines that third party agreements regarding new Free Trade Area (FTA) are easily negotiated as a bloc with SACU members by those in the common customs area. Lesotho has entered into the European Free Trade Association (EFTA) Agreements. The member states include Switzerland, Norway, Iceland and Lichtenstein. Considering Lesotho's current position, the GoL has additionally concluded the Preferential Trade Agreements with common market of the Southern Cone (MERCOSUR). The member states of MERCOSUR include Argentina, Brazil, Uruguay and Paraguay. To remain competitive in the global economic exchange, Lesotho has also entered into the Southern African Customs Union-United States Trade and Investment Development

Cooperation Agreement (Ministry of Trade and Industry Co-operatives and Marketing Services, 2015; World Bank, 2010). The provision of this agreement is to facilitate expansion and diversification of trade between SACU and the United States as well as promotion of attractive investment climate.

There have also been other developments concerning the trade agreements concluded between Lesotho and other major economies such as the lucrative Canadian markets of all eligible goods manufactured in the country, as well as the highly concessionary Generalised System of Preferences to Japanese, Nordic, and other developed markets (Mokhethi, 2015). These agreements have enhanced access for Lesotho's exports into major markets through access to quota and duty-free trading (Kingdom of Lesotho, 2010).

2.5 RATIONALE FOR COMMERCIALISING EMERGING MERINO SHEEP FARMERS

Agriculture continues to be a strategic sector in the development of most LDC such as Lesotho where Merino sheep farming is the dominant livelihood (IFAD, 2014; Kingdom of Lesotho, 2014). Maama (2012); Phororo (1996) suggest that households in Lesotho with Merinos have higher levels of income than those who did not. Although Merino sheep farming has contributed towards improved household livelihoods over the last 30 years, the participation in the commercialisation process has been a difficult task for the emerging farmers because of inappropriate policies, insufficient access to technology, institutional obstacles, weak infrastructure and unfortunate links to markets (Rantšo, 2016d).

The stagnation of Merino productivity in Lesotho occurs due to the lack of commercialisation of Merino sheep farming. In the World Development Report published in 2008, it was argued that improving Merino sheep farming productivity, profitability and sustainability in Lesotho is the central pathway to alleviate poverty in the poverty-stricken country (World Bank, 2010). Similarly, Jaleta *et al.* (2009), concur with the foregoing comment that although the process of commercialisation impacts emerging farmers in various ways, the positive impact of agricultural commercialisation most likely outweighs any adverse consequences associated with the latter process. It is, however, not an easy process to implement. The body of knowledge categorises the positive effects of commercialisation of emerging farmers into: household effects, socio-economic effects, and environmental effects. These effects are discussed in the following subsections.

2.5.1 Household effects

Commercialised Merino sheep production is expected to enhance yields, increase emerging farm household income, improve food security, and build farmers' resilience to shocks. According to Mango *et al.* (2018), commercialisation of emerging Merino sheep farmers has a direct and positive impact on value chain and supply chain development. The positive impact is owed to the economies of scale created from increased demand and supply, which tend to decrease average cost per unit of operation. Increased income and savings generated by commercialisation is likely to result in improved household wellbeing; for example, increased household income has been linked to improved nutritional status of children, better healthcare, and improved housing conditions (Jaleta *et al.*, 2009).

A recent study by Carletto, Kilic and Kirk (2011) revealed general improvement in welfare levels, consumption, and livelihoods among Guatemalan smallholders who adopted non-traditional export crops, including high-value vegetables and counter-seasonal fruit. Increased income from cash crops may allow farm households to invest more in farm and non-farm activities, which result in increased income generation over time. The combination of increased income and wellbeing makes farmers more resilient to risks and shocks, especially idiosyncratic shocks, which are those that affect only some individuals or households in a locality but not others (Jaleta *et al.*, 2009; Zhou *et al.*, 2013).

On the downside, commercial Merino sheep farming systems often exposes farmers to price fluctuations and exploitative contractual arrangements that can intensify the prospect of increased debt, loss of land, and further deterioration of farmers' livelihoods (Jaleta *et al.*, 2009). From a gender perspective, commercialisation may adversely affect intra-household income distribution. A review to evaluate the impact of cash-related production on smallholders in Africa conducted by (Jaleta *et al.*, 2009) revealed that women had been disadvantaged in cash-related production and limited influence on managing cash income. Njuki, Kaaria, Chamunorwa and Chiuri (2011) reported that different commercial farming activities can either increase or reduce the amount of women's labour allocated to farming.

In summary, the literature suggests that the effect of agricultural commercialisation on intra-household income distribution, labour allocation, and family welfare is complex and varies with the specific commodity, socio-economic factors (Jaleta *et al.*, 2009; Poole *et*

al., 2013; Zhou *et al.*, 2013), complexity of the production system, household asset endowment, and the degree of access to input and output markets (Barrett, 2008; Schneider & Gugerty, 2010).

2.5.2 Socio-economic effects

Commercialisation of Merino sheep production can help expand employment opportunities in rural areas, stimulate growth in non-agricultural sectors of the rural economy, and reduce the rural-urban income gap (IFAD, 2017). At the community level, labour-intensive operations required by cash-related production can absorb surplus labour and reduce rural-urban migration. Commodities that require processing such as Merino shearing within the village before selling offer more jobs to community members (IFAD, 2014; IFAD, 2017).

The literature revealed that commercial Merino production can strengthen rural non-farm economies such that non-agricultural households can also benefit through increased employment opportunities. Increased production and more market participation has a direct and positive impact on actors along the value chain, for example, input suppliers, output traders, transporters, processors, and financiers. This is due to the economies of scale that emerge from increased demand and supply, which tend to decrease average cost per unit of operation (Jaleta *et al.*, 2009).

At the national level, commercialised agricultural production contributes towards the economy via three channels. Firstly, commercialisation of agriculture creates rural markets for agro-inputs and rural supply bases for urban industries and consumers and boosts investment in agricultural modernisation and the distribution of farm products through trade (Pingali, 2010). Secondly, when more farms commercialise, it generates additional income, employment opportunities, and economic growth, resulting in the alleviation of rural poverty and overall such levels. Thirdly, increased revenue from the agricultural sector can be associated with increased demand for goods and services from the manufacturing and service sectors, and thereby stimulate its growth (Njuki *et al.*, 2011). Fourthly, the link to smallholder commercialisation to export markets may enhance foreign currency earnings and improve balance payments (Njuki *et al.*, 2011).

However, according to Obi *et al.* (2012), commercial farming has also been criticised for widening regional income inequalities and productivity gaps. Commercialisation attracts

investors and new migrants to booming areas, which results in competition for resources, land expropriation, displacement, social conflict, and loss of cultural identities (Lavers, 2012). According to Zhou *et al.* (2013), the different pace of transformation between commercialising regions and slower-growing subsistence-orientated regions can trigger income differences and lead to an increase in absolute poverty in lagging regions. In general, agricultural commercialisation can also generate socio-economic differences by modifying access to inputs, finance, and technologies among farmers, thus creating new forms of class disadvantage and poverty (Obi *et al.*, 2012; Zhou *et al.*, 2013).

2.5.3 Environmental effects

Commercialised Merino production can have significant environmental consequences, particularly if appropriate policies and legal frameworks to protect the natural resource base is neither adopted nor enforced (Pingali, 2010). Expanding the grazing land can result in widespread erosion of land. Zhou *et al.* (2013), posited that agricultural intensification generally leads to greater reliance on agrochemical inputs, specifically fertilisers, pesticides, and herbicides, which can result in serious environmental consequences such as land and water degradation, biodiversity loss, and increased health costs associated with the use of crop chemicals. However, the net effect of agricultural commercialisation on the environment will vary depending on the specific circumstances in which commercialisation takes place (Pingali, 2010).

2.5.4 Implications of agricultural commercialisation for inclusive growth

The significance of making economic growth broadly inclusive has been widely recognised. Inclusive growth means a pattern of growth that creates both economic opportunities and simultaneously ensures equal access to such opportunities for all groups in society (George, McGahan & Prabhu, 2012; Shiferaw *et al.*, 2011). Many authors have confirmed the vital role of agricultural growth in the economic development of low-income countries (Zhou *et al.*, 2013).

From the preceding discussion, it is clear that commercialised Merino sheep farming is a prime determinant of agricultural sector growth and can thereby improve farmer welfare, help create rural employment opportunities, and alleviate rural poverty. Thus, given the

right conditions, agricultural commercialisation can contribute significantly towards inclusive agricultural growth. However, Merino sheep farming is a complex process, which can benefit some while adversely affecting others. Therefore, ensuring commercialisation of agriculture, which contributes towards inclusive growth, is thus not a straightforward matter.

A number of challenges must be addressed to increase the contribution of Merino sheep farming commercialisation to inclusive growth. These include managing volatile prices and market demand, adapting and disseminating new Merino sheep farming technology, minimising the risk of mortality rate and indebtedness, reducing bureaucratic impediments to accessing inputs and credit, and ensuring clear and fair contractual agreements between agribusiness firms and farmers (Mutibvu *et al.*, 2012; Smalley, 2013; Zhou *et al.*, 2013). An enabling environment must be created to facilitate profitable Merino sheep farming transition by emerging farmers that minimises social and environmental costs and ensures that poor farmers are not left behind.

Von Braun and Díaz-Bonilla (2008a) accentuated the need for sound government policy and a well-developed institutional framework to facilitate the transition to commercialised agriculture to minimise the impact of production and market risks. The Ministry of Trade and Industry Co-operatives and Marketing Services (2015) advocated sectoral strategies to ensure the inclusion of emerging Merino sheep farmers in commercialised farming, namely: liberalisation of trade and macro-economic reform; agricultural research and extension to enhance productivity and incomes; support for agricultural financing; assistance in agricultural risk management; tenure security and improved access for farmers to land and water resources; safety net programmes for health and nutrition; investment in rural infrastructure; and market access. It is clear from the scholarly review of existing research that the cost of neglecting emergent farmers has far-reaching consequences which deepens rural poverty and accelerates urban migration and associated risks. As such, the significance of commercialising emerging Merino sheep farmers is discussed in the section below.

2.6 IMPORTANCE OF COMMERCIALISING EMERGING MERINO SHEEP FARMERS

The transition from low productivity, semi-subsistence agriculture to high productivity, market-orientated agriculture has been a core theme of development and agricultural economics for over half a century. IFAD (2014); IFAD (2017) referred to this as the “*agricultural transformation*”, noting that processes of agricultural and rural transformation not only usher in increased productivity and commercialisation in agriculture, these also involve economic diversification and accelerated economic growth so that agriculture’s share of employment and output shrinks, even in rural areas. According to Fredalette (2017); Jordaan (2004); Kingdom of Lesotho (2014), a key paradox is that increased Merino sheep farming market participation and total factor productivity growth must, therefore, go hand-in-hand with increased migration of emerging Merino sheep farmers from agriculture. This implies that the common place socio-political objectives of: keeping everyone on the land; and stimulating agricultural transformation, may be mutually incompatible in the presence of fixed costs which creates minimum efficient scales of operation in modern, market-oriented agriculture.

Against this brief background, market-orientated agricultural production is evidently a key premise for improved emerging farmers livelihoods, especially those at the BoP given its benefits. Merino sheep commercialisation in Lesotho is envisaged as the most viable way to address the pervasive high levels of rural poverty and food insecurity. Academics who have researched this concept of agricultural commercialisation such as Pender and Alemu (2007); Von Braun *et al.* (1991), have affirmed that this market-orientated mode of farming plays a major role in increasing the income of those at the base of this pyramid and stimulates rural economy through enhanced employment opportunities, increased agricultural rural productivity, direct income benefit for employees and employers, expand food supply and potentially improve nutritional status. In most instances, these increased incomes through improved agricultural productivity have led to enhanced rural livelihoods (Obi *et al.*, 2012).

However, it must be highlighted that several researchers hold that the outcomes of agricultural commercialisation depend on whether efficient markets exist. If these do, then commercialisation leads to the separation of production from consumption, supporting food diversity and overall stability at household level (Kingdom of Lesotho, 2014; Young,

Thompson, Curnow & Oldham, 2011) and increased food security and improved allocative efficiency at macro level (Obi *et al.*, 2012). However, if markets remain inefficient and transaction costs are high, emerging Merino sheep farmers may likely fail to exploit the blessings of commercialisation.

In promoting improved living standards of emerging Merino sheep farmers, Jordaan (2004); Mokheithi (2015) highlighted that commercialisation of emerging Merino sheep farmers in Lesotho is a bridge for these farmers to achieve improved livelihoods. IFAD (2014); Lesotho National Wool And Mohair Growers Association (2016); Mokheithi (2015) argued that transition to increased participation in the domestic and international exchange economy, results in higher average household incomes and hence lower household income inequality; collaborating the view held by the Lesotho National Wool And Mohair Growers Association (2016); Phororo (1996) that the final intent of market-orientated Merino sheep farming is not merely a shift from subsistence to market-oriented farming, but by doing so, to achieve improved welfare outcomes for the household (Obi *et al.*, 2012; Obi & Seleka, 2011; Tilburg *et al.*, 2011). Rantšo (2016b) also revealed that greater engagement in output markets would result in higher wool and Merino sheep related productivity, which is, in itself, an intermediate outcome rather than a welfare goal.

Nonetheless, agricultural productivity can facilitate achieving the welfare goals of emerging Merino sheep farmers. Commercialisation of emerging Merino sheep farmers is a crucial feature of the structural transformation process, considered by most development economists to be the major route from semi-subsistence farming to a more beneficial rural economy with higher better living standards (Muricho *et al.*, 2017; Zhou *et al.*, 2013). The process of commercialising emerging Merino sheep farmers will allow these emerging farmers to participate in the exchange market, both for input and output. In their research, Ebata and Hernandez (2017); Ferris, Robbins, Best, Seville, Buxton, Shriver and Wei (2014) deduced a common observation by other scholars that agricultural commercialisation leads to greater market orientation of farm production, progressive substitution out of non-traded inputs in favour of purchased inputs, and the gradual decline of integrated farming systems and replacement by specialised enterprises.

Capturing the benefits of specialisation through market transactions is also highlighted by Gani and Hossain (2015); Ingabire *et al.* (2017), as an implication of commercialisation. Numerous scholars agree with this idea. Moreover, market-orientated production leads to

increased diversity of marketed commodities at a national level, and increased specialisation at regional and farm levels (Barrett, 2008; Pingali & Rosegrant, 1995). Barrett (2008) and Ebata and Hernandez (2017) confirmed the ‘net gains’ from market-oriented production, arising from specialisation that builds on, and creates comparative advantages, potential for large scale production, and from dynamic technological, organisational and institutional change effects, which arise through the ‘flow of ideas from exchange-based interactions’.

According to Hunter and Mokitimi (1990), Merino sheep commercialisation is significantly related with “higher productivity, greater specialisation and higher incomes” (cited in Food and Agriculture Organisation, 2015; and, Kingdom of Lesotho, 2014). The authors further describe that the higher income will have a direct impact on the emerging Merino sheep farmer household welfare to cater for basic food, high value farm needs, expenditure on clothes and shoes, durable goods, education and health care. The body of knowledge also acknowledges the linking power between the input and output aspect of the value chain. Ferris *et al.* (2014), asserted that the demand for modern technologies by the commercialising sector promotes the input side of production and facilitates the development and advancement of technological innovation. The utilisation of modern technology, in turn, results in higher productivity and production entering markets.

Commercialisation of emerging Merino sheep farmers has the potential to facilitate the emergence of new services, intermediation and added value. Such services include improved extension services providing artificial insemination, energised financial services sector providing financial support to emerging Merino sheep farmers, insurance, improved infrastructure, farming advisory, accessible marketing channels, and related services. This aligns with various scholars including Barrett (2008); Ebata and Hernandez (2017); Ferris *et al.* (2014); Fischer and Qaim (2012b), that market-orientated farming is a key route to the overall structural transformation of the rural economy, in which larger proportions of economic output and employment is generated by the non-agricultural sectors. The effects of livelihood of market driven farming have been identified to improve rewards in farm household income, employment, health and nutrition (Jaleta *et al.*, 2009; Obi *et al.*, 2012).

2.7 CRITICS VIEW OF COMMERCIALISING EMERGING MERINO SHEEP FARMERS

Jaleta *et al.* (2009), conceded that there is a growing consensus that emerging agricultural commercialisation has a different impact on various socio-economic groups under different socioeconomic, institutional and policy environments. Carletto, Corral and Guelfi (2017); Jaleta *et al.* (2009); Mango *et al.* (2018); Pender and Alemu (2007); Pingali *et al.* (2005) combined with a host of other scholars, have admitted that the net impact of commercialisation is not necessarily or universally positive.

Leavy and Poulton (2007a); Poole *et al.* (2013), hold that many experts continue to perceive agricultural development erroneously as best realised in commercial farming. Non-commercial agriculture in this instance is often equated with subsistence farming and perceived as having limited association to markets and thus holding no future prospects. Commercialisation is also hyped as a universal solution for the reversal of de-agrarianisation (Pender & Alemu, 2007), but often associated with failure. From observations in Ethiopia of the massive food crops production schemes supported by government, Pender and Alemu (2007) revealed evidence of the quest to ‘modernise’ agriculture in the former homelands area, with rather unfavourable outcomes.

Despite the economic benefits of a pro-market approach, often intertwined with commercialisation, Ebata and Hernandez (2017); Ferris *et al.* (2014); Gani and Hossain (2015); Olwande *et al.* (2015) consider that the link to formal markets is not ‘an absolute panacea’. In their view, it is important to appreciate that the issue goes beyond creating lucrative market links, but adequately assesses the conditions of emerging farmers, their options and methods to optimise market performance; while simultaneously ensuring that the options are manageable. The position of these emerging farmers critics encompasses, *inter alia*, the link between emerging farmers commercialisation and household risk and food insecurity, nutritional effect especially among children, health and employment, environmental and human risks.

2.7.1 Household income risk and food insecurity

Commercialising emerging farmers, especially those producing non-traditional farm produce, for example, wool for the market are faced by a number of risks. The risk

portfolio includes poor lambing and wool quality, weather related shocks, and exposure of the household to volatile wool market prices that may lead to food insecurity. When compared to the smaller but more continuous flow of income in the form of cash and food under semi-subsistence production system, the supposedly higher income from cash crops/non-cash crops farm produced in lump-sum payments is generally spent within a short space of time and more on non-food commodities (Von Braun & Díaz-Bonilla, 2008a). This problem according to Fischer and Qaim (2012b); Jaleta *et al.* (2009); Pender and Alemu (2007), is exacerbated in the lack of well-integrated financial systems, which promotes savings.

To mitigate risks or unforeseen income disappointments and keep emerging farmers on the path to full commercialisation, Leavy and Poulton (2007b); and, Muricho *et al.* (2017), stressed that governments need to play a crucial role in designing and implementing policy measures which could assist emerging farmers in crafting their own risk-management and risk-sharing strategies. Also, Jaleta *et al.* (2009); Ogundeji, Donkor, Motsoari and Onakuse (2018) suggested that either credit markets have to be easily accessible, or semi-commercial emerging farmers set aside income for their farming operations smoothing.

2.7.2 Employment and health effects

With increasing commercialisation and higher opportunity costs for labour, commercialisation of emerging farmers that favours labour-saving technologies such as mechanisation may have an adverse effect on the employment of the agricultural labour force. Also, while the process of commercialisation for merging farmers strengthens the links and interaction between rural and urban populations; these dynamics may increase the rate of disease transmission to rural communities (Jaleta *et al.*, 2009; Muricho *et al.*, 2017; Obi *et al.*, 2012). In the same vein, disease prevalence has a direct and adverse effect on the population in the active labour force. The literature on commercialisation is, however, is limited on the connection between emerging agricultural commercialisation and the transmission and prevalence of diseases (Jaleta *et al.*, 2009).

2.7.3 Environmental and human risks

Commercialisation in intensive production systems permits the increasing utilisation of external inputs such as pesticides and herbicides. Increased utilisation of inorganic fertilisers for crops/non-crop production is a common feature of agricultural commercialisation, especially with high-value farm products; and has an adverse effect on the environment and natural resource base (Jaleta *et al.*, 2009). Higher economic growth results in higher cost of labour, followed by excessive utilisation of herbicides and pesticides, increased use of agricultural chemicals, which in turn could lead to higher environmental and human risks (Pingali, 2010).

When linked to irrigation schemes, improper use of water resources could have serious consequences on both surface and under-ground water sources. Water logging and salinity are considered some of the major problems; and the problem of downstream degradation of water quality as a result of toxic agrochemicals is a serious environmental challenge. Nonetheless, Ingabire *et al.* (2017); Pingali *et al.* (2005), were cautious in passing judgment on the net effect of agricultural commercialisation on the environment. This circumspection could be due to the fact that the effect could vary, depending on the specific circumstances under which the commercialisation process takes place (Jaleta *et al.*, 2009).

By and large, critics of emerging farmers' commercialisation demands a rather deep re-assessment of strategies to achieve commercial modernised agriculture for growth and wealth creation, rather than being simply a rural safety net for poverty alleviation. Carletto *et al.* (2017), rebuked supporters of emerging farmers' commercialisation to 'stop romanticising emerging farming and articulate with a commercial acumen and surplus profit in mind'; resonating with the insistence for a diverse win-win situation where large-scale farming co-exists with emerging agriculture.

2.8 CHAPTER SUMMARY

The literature explored the theoretical foundation of agricultural commercialisation in terms of its drivers that are categorised into global-scale, country-scale, and local and household-drivers. The reviewed literature relating to the concept of emerging farmers, their role in the overall socio-economic environment and the rationale for their

commercialisation was expounded upon. The body of knowledge revealed that the commercialisation of emerging farmers may impact positively on the livelihoods of those at the base of the income pyramid.

It is evident from the foregoing that the policy environment plays a crucial role to facilitate commercialisation including access to both domestic and international trade markets. In order for Lesotho to be a competitive player in the trade arena, it has to take advantage of trade arrangements through improved agricultural productivity. This chapter concluded with a presentation of the significance of commercialising emerging Merino sheep farmer in Lesotho and the critics' view of thereof. In Chapter 3, the determinants and constraints of successful commercialisation of emerging farmers is discussed.

CHAPTER 3

LITERATURE REVIEW: DETERMINANTS AND CONSTRAINTS ASSOCIATED WITH SUCCESSFUL COMMERCIALISATION OF EMERGING FARMERS

3.1 INTRODUCTION

In the Mountain Kingdom of Lesotho, Merino sheep production is considered a vital sector for its contribution towards the improvement of the livelihoods of the rural population. This agricultural sector continues to play a dominant and strategic role in the development and growth of the country within the SADC region. Most importantly, its role as a source of employment cannot be overemphasised. Recently, there has been tremendous growth in agriculture in developing countries and due to its significance for the economy, it is considered to be a possible driver of development, economic growth and reduction in poverty in less developed countries (Ogutu & Qaim, 2019). To increase the income of emerging farmers and alleviate poverty, commercialisation has remained central to policy makers in many developing countries, for example, Ethiopia (Tufa, Bekele & Zemedu, 2014) and Kenya (Muriithi & Matz, 2015) by utilising household panel data. Muriithi and Matz (2015) revealed an association between vegetable commercialisation and household welfare, because market-oriented output leads to an increase in income compared to subsistence output levels and hence an upturn in household consumption.

Mariyono (2017) highlights the significant differences were revealed in the welfare outcome in other developing countries. Furthermore, a higher degree of commercialisation was coupled with a higher level of welfare and *vice versa*. As defined in the previous chapter, commercialisation may occur in both the input and output phases. It is characterised by increased marketed surplus, purchase of modern inputs and product choice based on profit maximisation, substitution of non-traded inputs for purchased ones, specialisation of production and creation of input and output markets. However, scholarly evidence from several authors (Agwu, Anyanwu and Mendie, 2012; Fischer and Qaim, 2012b; Jaleta *et al.*, 2009; Mango *et al.*, 2018; Pender and Alemu, 2007), suggest that there are several factors, which vary from one region to another that influences the transition towards commercialisation of emerging farmers by changing the conditions of demand and supply for commodity, input-output pricing, transaction costs and risk that emerging

farmers, traders and others in the agricultural production and marketing system are expected to manage.

There is a general agreement that improving market access, marketing Merino sheep and related products will engender the accrual of greater investment, which enhances productivity and income, and consequently, improve the livelihoods of local emerging farmers, especially in rural areas. Both the upturn of market access and participation is associated with several constraints, which have resulted in the lack of progress. One of the set objectives of this research was, ‘to investigate determinant factors associated with successful transition to commercial-based Merino sheep farming that can be applied in a developing country’, the theoretical context surrounding determinant factors associated with the successful commercialisation of emerging farmers will be explored from the body of knowledge. This will be followed by the review of literature on inhibiting factors associated with the successful commercialisation of emerging farmers. These above-mentioned elements form the focal point of this chapter.

3.2 DETERMINANTS ASSOCIATED WITH COMMERCIALISATION OF EMERGING MERINO FARMERS

An extensive body of literature on commercialisation of emerging farmers reveals that there are a number of determinants in commercialising emerging farmers (cite herein to support your claims). The household’s decision to participate in the market can be affected by different factors in the context of various developing countries such as Lesotho. In their review of the agricultural commercialisation literature, Zhou *et al.* (2013), classified factors which trigger commercialisation of emerging farmers, based on their characterisation and nature of impact as:

- Factors promoting demand growth: population growth and rapid urbanisation including income growth;
- Environmental changes pushing for renewed approaches to farming, for example, global warming, climate change, changing rainfall patterns and water availability;
- Productivity enhancing operating environment: natural resource endowment and suitable agro-ecological conditions;

- Factors making operations more efficient: appropriate technology, reduced transaction costs and an integrated value-chain; and
- Increased commitment of individuals to commercial activities, solely based on an entrepreneurial culture (adapted from Zhou *et al.* (2013).

Carletto *et al.* (2017); Pingali (2007) and Zhou *et al.* (2013), also observed during their research that strategies for commercialisation of emerging farmers or approaches can be grouped according to the primary driving force or leading change agent. These researchers theorised that, efforts geared towards commercialisation of emerging farmers could be dominated by ‘one agent or more entities undertaking facilitation or operating roles. The state, private sector, donor or a collaborative or partnership strategy could champion these agricultural strategies. The partnership combines the joint effort by the state, the private sector and donor agencies. In their review, they further argued that partnerships, among all other strategies, have proven the most successful, ‘as single agent strategies proved costly or unsustainable’. A leading driving force for the commercialisation of emerging farmers’ process could be policy, demand, technology, entrepreneurship, or value-chain driven; it could also be driven by a combination of these forces.

The literature supports the notion that numerous factors affect the commercialisation of emerging farmers’ activities. These factors are categorised broadly as external and internal factors. Most external factors are factors beyond the emerging farmers’ control, for example, population growth and demographic change; technological change and introduction of new commodities; development of infrastructure and market institutions; development of the non-farm sector and the broader economy; rising labour opportunity costs; macro-economic, trade, and sectoral policies affecting prices; and other driving forces (Barrett, 2008; Pingali, 2010; Pingali *et al.*, 2005; Von Braun, 1995). Furthermore, development of input and output markets, institutions such as property rights and land tenure, market regulations, cultural and social factors that affect consumption preferences, production and market opportunities and constraints, agro-climatic conditions, production and market-related risks are other external factors that could affect the commercialisation process (Pender & Alemu, 2007). Factors such as emerging farmers’ resource endowments, including land and other natural capital, labour, physical capital, human capital, and other household specifics, are considered internal determinants.

Other external factors highlighted by Ingabire *et al.* (2017); Pender and Alemu (2007) include the development of input and output markets, institutions such as property rights and land tenure, market regulations, cultural and social factors affecting consumption preferences, production-market opportunities and constraints, agro-climatic conditions, including market and production risks (Jaleta *et al.*, 2009). Thus, the important determinants of commercialisation include land size, gender of household head, livestock assets, ethnicity, education and location (Abdullah, Rabbi, Ahamad, Ali, Chandio, Ahmad, Ilyas & Din, 2017; Jayne *et al.*, 2010). These factors are discussed in the subsections below.

3.2.1 Population growth and demographic change

Theory of induced innovation (Hayami & Ruttan, 1971) suggests that changes in person-land ratios, result in farmers to adapt their farming systems in predictable ways; other factors remaining constant, rising labour-land ratios cause land values to rise compared to agricultural labour, indirectly inducing farmers to adopt new land-saving technologies. Ogutu and Qaim (2019) concurs with the view Fischer and Qaim (2012b), that land-abundant agricultural systems evolve in response to growing population density, as rural communities become heavily populated, farmers transit to intensive land and factors utilise to raise the returns from the land.

Muyanga and Jayne (2014), however, hypothesised that emerging farmers in relatively densely populated areas will exhibit evidence of declining farm size, constraints on farm intensification, and lower surplus production leading to lower commercialisation of emerging farmers, income and asset wealth, especially per labour unit than households in less land-constrained areas. Their study on the implication of increasing population density in Kenya's rural areas on emerging farmers production and commercialisation concluded that farm productivity and income tend to rise with population density up to a certain threshold, beyond which the increased population density is associated with sharp declines in farm productivity.

In research conducted by Agwu *et al.* (2012); Njuki *et al.* (2011); and, Onoja, Usoroh, Adieme and Deedam (2013), in addition to the population density, the major determining factors influencing farmer's participation in the market include gender and age, marital status, source of labour, farming experience, farm size. Other additional demographic

characteristics that could influence reviewed transformation to market-orientated farming include the level of education, and training received by emerging farmers. These characteristics are discussed in the following subsections.

3.2.1.1 Gender and age of farmers

A research concluded by Liverpool-Tasie, Kuku and Ajibola (2011) highlighted that gender inequality in agricultural practices is a characteristic of many developing countries. Males have been specifically found to be more successful farmers compared to their female counterparts. There was an assumption that male farmers focused more on profit maximisation while female farmers focused foremost on the family welfare. This resulted in a low proportion of female farmers achieving success in the agribusiness market. In South Africa, Moyo (2013) supports and maintains that the likelihood of being a female farmer decreases the opportunities of becoming a commercial farmer due to the findings above.

According to Njuki *et al.* (2011); Njuki, Waithanji, Nhambeto, Rogers and Kruger (2015), men were more successful in market participation than women due to their competitiveness. Their study also noted that women faced many constraints when they engaged in the marketing system. In an investigation conducted by Mitiku (2014) in South Western Ethiopia, it was revealed that male farmers generally have higher potential of crop production efficiency advantage; and access to market information and income than the female-headed households. The research by Fischer and Qaim (2012a) in Kenya supported the findings by the latter. This could explain the success of male farmers on transformation from subsistence to market-orientated production. Furthermore, Demeke and Haji (2014) theorised that farmers' characteristics such as being male decreases the probability of becoming an emerging farmer and have a positive effect on transformation to market driven farming.

Scholarly publications by Fischer and Qaim (2012a); Laven and Pyburn (2015); Schneider and Gugerty (2010) accentuated developing countries governments to promote gender equality within most sectors which contributes towards inclusive economic growth including agricultural sectors. Empowerment of female farmers implies that they are now well or equally empowered compared to male farmers. Such government initiatives are

perceived to stimulate welfare gains to both genders in the agribusiness sectors through competition for improved livelihoods.

The research concluded by Martey *et al.* (2012), suggested that age is a socio-economic characteristic that may or may not influence the commercialisation of emerging farmers. It makes business sense to commercialise young emerging Merino sheep farmers compared to the elderly because it may be a challenge to impart innovative farming skills that is viewed as critical to transform farmers. This foregoing statement is supported by research conducted by Abdullah *et al.* (2017); and, Moyo (2013). Their study concluded that farmers between the ages of 16 to 35 were more likely to transition towards market-orientated farming activities in contrast to the above 35 years or older age group. The sampled youth farmers were, however, part-time farmers whereas the farmers from the other group (36-55 years) full-time farmers.

In Abdullah *et al.* (2017) and, Moyo (2013) publications, the output performance of the elderly group and their revenue potential was exceeded by the youths' (16-35 years) one. It is understood that the pace at which the youth was able to acquire and action the business techniques could have been due to their higher level of education. Demeke and Haji (2014), for example, suggest that the farmer's one-year age increment is directly proportional to the probability of becoming a market-orientated farmer. However, in Ethiopia this revealed a positive effect of being a transition farmer.

3.2.1.2 Level of education achieved by farmers

Given the above statement that the pace at which the youth was able to acquire and implement the business techniques could be due to their higher level of education. It is thus important to note the suggestion by Ogutu and Qaim (2019) that the level of education achieved by the famers is crucial for the farmers' performance in several areas in the agribusiness sectors. It can be inferred that the level of education farmers acquire makes it easier for them to acquire various skills and knowledge required for the successful aspirations of commercialisation. This could be achieved through attending seminars, workshops and conferences where farmers would have adequate access to and acquire creative skills to enhance their farming progression (Kilelu, Klerkx & Leeuwis, 2014). Research conducted in Bangladesh revealed that highly educated farmers were likely to transition to market-orientated farming than less educated farmers (Pant & Singh, 2016).

The role of education and training is also a key determinant of commercialisation of emerging farmers and is on occasion perceived as more significant than any other (Komarek, 2010). In the research conducted by Ingabire *et al.* (2017), it was theorised that education and training in Rwanda are some of the critical factors for commercialisation of emerging farmers. These farmers are trained at local universities, colleges and the extension officers provided by the Ministry of agriculture. Business management aspects including the field work designed for transformation towards market-orientated farming is some of the training provided by the abovementioned institutions. The training provided the farmers skills and knowledge to transform towards market-orientated production for improved benefits.

It is highlighted by Abdullah *et al.* (2017); Fredriksson, Bailey, Davidova, Gorton and Traikova (2017); Mango *et al.* (2018); Martey *et al.* (2012); and Musaba (2010) that educational background is a crucial determinant associated with the commercialisation of emerging farmers. In the Mahikeng Local Municipality, North West Province, South Africa, research conducted by Matsane and Oyekale (2014) revealed that more than half of the farmers sampled, those that had a negative impact to their transition towards commercial farming had acquired either primary education or were uneducated. Nepal and Thapa (2009) noted that the probability of adopting new technology was higher among literate farmers than the illiterate, hence, their productivity increased resulting in greater revenue in their farming operations.

The level of education was further evidenced by Kilelu *et al.* (2014), in their study. It was revealed that most farmers in rural Africa could not interpret market related information essential for production planning and marketing because of their low level of education. These scholars findings was further supported by the research findings revealed by Khapayi and Celliers (2016) in the Eastern Cape Province, South Africa. Education remained the fundamental determinant of transformation towards commercialisation. These authors' findings corroborates Pant and Singh (2016) study that farmers who had attained higher grades in schooling were in a better position to enhance their farming activities compared to those without an educated background.

3.2.1.3 Training received by farmers

An additional determinant associated with commercialisation of emerging farmers is training, an intervention which is primarily required in rural areas where commercialisation is necessary to positively impact upon agricultural productivity as a source of livelihood for those in these areas. The study conducted by Olwande *et al.* (2015), in the Kenyan milieu advanced the need to train emerging farmers, with specific a focus on those in the rural areas in contemporary innovation to facilitate transformation towards a market-orientated production. Within commercialised farming, emerging farmers should be equipped with innovative farm management skills which includes, *inter alia*, utilisation of computers, smart phones, radio, and television.

According to Katengeza, Okello and Jambo (2011), such skills provides these farmers access to farming and market related information essential to enhance their farming activities. Such trainings are often offered by universities, colleges including extension officers who, as previously highlighted, are employed by the government. Studies concluded by Kilelu *et al.* (2014); Mango *et al.* (2018); Pant and Singh (2016) revealed that the sampled farmers who received some form of farm management training enhanced productivity. The role of non-government organisations was also noted as a fundamental instrument for agricultural transformation in Kenya in a research concluded by Kilelu *et al.* (2014).

Training emerging farmers as an intervention for transformation towards commercialisation is confirmed by Magoro and Hlungwani (2014); Yaseen, Bryceson and Mungai (2018) who identified the provision of training to emerging farmers in Sub-Saharan Africa – including Kenya as a critical determinant associated with transition towards commercialised farming. A number of strategies were adopted by extension officers to provide training, *inter alia*, personalised farmer training or in a group setting, demonstrations including farmers field days.

3.2.1.4 Membership to agricultural organisations

Agricultural organisations are critical elements for farmers to achieve commercialisation success amongst them and achieve high output (Gani & Hossain, 2015; Ingabire *et al.*, 2017; Komarek, 2010; Mango *et al.*, 2018). The findings of the research conducted by Chagwiza, Muradian and Ruben (2016) revealed that cooperatives are essential farmer

organisation components and the effect must not be weakened. Their study further established that agricultural organisations strongly support the farmers' value chain that includes the supply of inputs, processing, and credit access and extension services. Through agricultural organisations memberships, the majority of emerging farmers were able to transition towards market driven production. These agricultural cooperatives are also perceived as catalysts for farmer socio-economic stability with specific reference to the income generated from farming activities.

In a study led by Tefera, Bijman and Slingerland (2017), it was revealed that agricultural organisations are pivotal actors for commercial initiatives and orientation of emerging farmers towards promoting farming as a business and enabling market access. These are the motivating influencers of commercialisation among emerging farmers. Studies conducted by Abate (2018); Bernard, Taffesse and Gabre-Madhin (2008), revealed that agricultural organisations facilitate increased revenue and as such, provide an enabling platform for the provision of farm production input and marketing of output, which can enhance farm productivity immensely, increase farm revenue, and thereby contribute towards poverty alleviation.

3.2.2 Household income

Income generated by farmers is one of the key economic aspects that impact on the commercialisation of farmers (Davis, Winters, Reardon & Stamoulis, 2009; Kassie, Shiferaw & Muricho, 2011). However, research findings by Ogutu and Qaim (2019) accentuates the significance of both farm generated and off-farm generated income on the commercialisation of farmers in Kenya and presumably other African states. The research conducted by Woldeyohanes, Heckeleei and Surry (2017) in rural households in Ethiopia, revealed a regular flow of income generated from commercialisation initiatives by local farmers. The primary motivation was participation in commercial farming. The increased revenue from market-orientated production was the major driving force to derive value from opportunities created in the Ethiopian agricultural sectors.

The scholarly publication by to Ogutu *et al.* (2017), hypnotised two ways in which emerging farmers can generate income, namely: farm and off-farm income which is the primary predictor for the scale of production for emerging farmers and the determinant for which the types of enterprise they undertake. The findings of the research concluded by

Agwu *et al.* (2012); Gani and Hossain (2015), revealed that the farmer's income is directly proportional to their land size, for instance, farmers with high income potential from either farm or off-farm activities, the likelihood to expand their landholding for commercial farming purposes and simultaneously maintain high standards of income were better off than those without.

In a research conducted by Ingabire *et al.* (2017), they noted that Rwandan farmers with surplus production were able to generate increased income. Consequently, this could assist augment capital for the farm. The findings revealed by Onoja *et al.* (2013), support the foregoing findings. Approximately more than fifty percent of the farmers generated income from both farm and off-farm activities. However, Scoones and Tsikata (2017) revealed that only farmers with off-farm income were most likely to realise success in the market-orientated production sectors. Amongst these farmers who are limited to off-farm income, a positive expectation existed to receive higher income from commercialisation of their agricultural production.

In a study conducted in Central Africa, where emerging farmers generated high levels of income through commercialisation (Ochieng *et al.*, 2016; Radchenko & Corral, 2018). Similarly, in Lesotho, according to the Central Bank of Lesotho (2016); Fredalette (2017); Kingdom of Lesotho (2014), certain Merino sheep farmers households were able to generate annual income that ranged between R15 000 and R280 000. The regular inflow of income from their farming activities enabled them to expand their farming operations which resulted in progressive transformation processes towards market production orientation (Lesotho National Wool And Mohair Growers Association, 2016). Ogutu *et al.* (2017) concur with these findings. It was concluded that such income levels were much higher than in, for example, Russia where the majority of the farmers (87 percent) did not exploit opportunities presented by market-orientated farming activities.

3.2.3 New agricultural technologies

The development and utilisation of modern agricultural technology also plays a significant role in the alleviation of poverty. Technology can be a dominant force in alleviating poverty because the agriculture sector has a multiple effect on the whole economy. Moreover, it provides more favourable outcomes to alleviate poverty (Mariyono, 2018b). Boosting agricultural productivity has been an issue of paramount significance to

developing institutions across the globe and in order to achieve this objective, technological advancements has played a key role (Maertens & Barrett, 2013). Agricultural innovations also plays a significant role in fighting poverty, lowering per unit costs of production (Fredriksson *et al.*, 2017; Kassie *et al.*, 2011; Mitiku, 2014), boosting rural incomes and alleviating hunger (Maertens & Barrett, 2013). Several studies have been conducted to assess the determinants and intensity of adopting agricultural technology (Kassie *et al.*, 2011; Katengeza *et al.*, 2011; Mango *et al.*, 2018). These studies underline the positive impact hereof on farming household livelihoods.

The role of new technologies as a determinant of commercialisation of emerging farmers is on occasion perceived as more important than any other, and in certain instances, it is assumed that the adoption of technology is directly proportional to commercialisation (Mehar, 2016). Commercialisation of emerging farmers is enhanced by productivity-increasing inputs and technologies. Li, Varua, Komarek, Shankar and Bellotti (2017); Von Braun (1995) agree that improved technology helps emerging farmers to approach commercialise with low-risk. In this regard, Li *et al.* (2017), confirmed that the significance of resource-saving and yield-enhancing technological innovation including the adoption is unquestionable in the commercialisation of emerging farmers. They further argued that in the short term, increased commercialisation could take place without changes in agricultural technologies. However, the reverse would be less likely due to the very important demand-side pull for technological innovation. Mariyono (2019) concluded that commercialisation of agricultural operations and technology is complementary.

Although the prevailing optimistic view is that emerging farmers benefit from technological innovation in agriculture, this perception is not held universally because certain enthusiasts hold a pessimistic view that the forces for change can interact with, or even induce institutional and market failure with adverse consequences (Raidimi, Pfumayaramba & Chauke, 2016). In conclusion, Kassie *et al.* (2011); and Raidimi *et al.* (2016) suggested that the results generally underscore that the emerging farmer's selection of production technology fundamentally affects its level of market integration, primarily through its impact on productivity.

3.2.4 Institutions

Goldsmith, Nunow, Roba and Biashara (2017); and Shiferaw *et al.* (2011), institutions affect economic performance, growth and development through its influence on human behaviour. Institutions are described as ‘rules of the game’ and comprise of both formal rules, such as legislation, constitutions, and property rights; and informal constraints such as norms, conventions and codes of conduct, that provide the structure for human interaction (Fischer, Van den Berg & Mutengwa, 2015; Jaleta *et al.*, 2009). Institutions also include both institutional environments and arrangements. The environment refers to the fundamental political, social and legal ground rules that establish the basis for production, exchange and distribution. Goldsmith *et al.* (2017), hold that institutional arrangements refer to relations between economic units, define how the units can cooperate or compete, and include contracts, auctions, exchanges and cooperatives.

The distributional benefits of market-orientated farming, access to commercialisation opportunities and sharing these risks are functions of institutional arrangements (Jaleta *et al.*, 2009). The views held by Fischer *et al.* (2015), on institutional arrangements refers to relations between economic units which define how these can cooperate or compete. A good example is market arrangements, contracts, auctions, exchanges, and co-operatives (Schut *et al.*, 2016). According to Schut *et al.* (2016), the benefits of commercialisation of emerging farmers, access to commercialisation opportunities, and sharing these risks are functions of institutional arrangements. The following subsections discuss the roles of both formal and informal institutions in the overall emerging farmers’ commercialisation process.

3.2.4.1 Formal institutions

Formal institutions such as legislation, constitutions, rules, regulations, contracts, property rights, and legal frameworks facilitate the playing ground for economic actors (Schut *et al.*, 2016). In one way or another, these institutions contribute towards the overall process of commercialisation of emerging farmers. For example, experiences from grain markets in Bangladesh, Gani and Hossain (2015) revealed that the scope of spatial and temporal arbitrages in grain marketing is limited due to a weak legal system to enforce contracts and the demand for personal inspections for grades and quality standards of each grain delivery. Such poor institutional arrangements result in higher trade transaction costs

which must be paid by the producers and consumers, which, in turn, results in a gap between the farm gate and retailer prices. Clearly defined land property rights and other resources also plays a key role in the overall economic performance and agricultural modernisation. For example, a comparison of two institutional arrangements (communal and less communal field systems) in Meru county, during late medieval and early modern Kenya, Goldsmith *et al.* (2017), argued that agricultural modernisation came later in a communal field system due to the lack of clear property rights and less developed markets with communal fields.

The development of agricultural support services such as agricultural extension linking emerging Merino sheep farmers with new farm practices, and institutional arrangements, such as agricultural marketing and service cooperatives, is designed to help link emerging farmers with input and output markets (IFAD, 2017; Kingdom of Lesotho, 2014). These institutions can facilitate the dissemination of technology and access to market information. Rural financial institutions are also relevant to facilitate access to long-term credits for fixed assets and short-term credits for working capital. Agricultural credit plays a vital role in the commercialisation process by allowing emerging farmers to assume risks associated with market-orientated Merino sheep production for high value wool (IFAD, 2014; Ministry of Trade and Industry Co-operatives and Marketing Services, 2015; Mokhethi, 2015; Phororo, 1996; Rantšo, 2017).

3.2.4.2 Informal institutions

Although it is relatively more difficult to study the extent of constraints imposed by informal institutions on economic performance (Machethe, 2015), these institutions are as important as the formal ones, if not more, in facilitating or hindering a commercialisation process of emerging farmers. Values, norms, sanctions, taboos, cultures, traditions and other have strong influences on production and marketing decisions of emerging Merino sheep farmers, including those related to input. Socio-cultural and religious factors determine household consumption preferences of which it can either be a motivating or a demotivating factor for household commercialisation (Chagwiza *et al.*, 2016). The authors noted the case of dairy performance in Ethiopia as examples to demonstrate the impact of culture-influenced consumption preferences on an emerging agricultural production system. Furthermore, Chagwiza *et al.* (2016), argued that the prevalence of religious fasting periods in Ethiopia, during which individuals do not consume either meat or dairy

products, greatly limits the prospects for commercial livestock production for the domestic market.

The role of informal institutions in the governing market exchange is paramount, particularly when formal institutions are lacking. A case in point is the set of informal institutions utilised in setting grades and standards for commodities in Lesotho's wool markets through brokers and other market intermediaries (Lesotho National Wool And Mohair Growers Association, 2016).

3.2.5 Risks

Risk and uncertainty are inherent to market-orientated production. In the context of lower income countries, risk and uncertainty are closely linked to the vulnerability of emerging farm households to remaining in or collapsing into poverty (Ingabire *et al.*, 2017). Yet sources of risk and uncertainty are not uniformly spread over all emerging farmers, and neither are they constant over time. As farming systems in lower income countries transform from subsistence-to market-oriented production, the sources of risk to which farm households are exposed changes (Barrett, 2008). Understanding the change brought about by commercialisation is important for policy-makers to better manage the sustainable intensification of agriculture.

The risk that emerging farmers face in the commercialisation and market integration process is limited. Machethe (2015) holds that one of the sources of risk of greatest concern to emerging farmers is livestock disease. The unpredictability of disease incidence and resulting livestock damage creates much anxiety among livestock farmers. Furthermore, the lack of functioning extension services, absence of disease monitoring systems, and poor levels of education, intensifies such anxieties. Therefore, in the process of commercialisation, farmers must resort to using approved disease control measures to lower the livestock risk from being infected with deadly diseases and increase the odds of good returns on their wool or meat production. However, according to the Department of Livestock Services (2016), these disease control measures may be a financial burden for emerging livestock farmers.

Risks impact on the emerging farmer's decision-making behaviour (Yaseen *et al.*, 2018). Under imperfect or non-existent markets, risk-averse emerging farmers tend to produce more of the market-risky subsistence produce for the market. The degree of change in the

emerging Merino sheep farmer wool output due to shocks depends on the share of risky livestock in total output sale of wool; income elasticity of demand for the risky livestock produce; risk preference of the emerging farmer; covariance between consumption prices of risky livestock produce; and the income they generate (Gebremedhin *et al.*, 2009; citing Von Braun, 1995).

3.2.6 Markets, their integration and access to credit by emerging farmers

Much of the literature reviewed on market access and its integration by emerging farmers highlights the widely imperfections of markets in the developing world. Ebata and Hernandez (2017) hold that low-cost, well-integrated and efficient rural markets are a key determinant in agricultural commercialisation. Fredriksson *et al.* (2017); Gani and Hossain (2015), commercialisation of emerging farmers requires high uptake of improved farm input, link to markets, quality control and market and price-related information. The latter was also highlighted in that it needs both government and non-government intervention to enhance transformation of emerging farmers. The research conducted by Ingabire *et al.* (2017); Onoja *et al.* (2013); Pender and Alemu (2007) in Sub-Saharan Africa region revealed the need for the development of infrastructures and institutions which must work with inputs provided by farms, market support services, credit funds and extension services that could stimulate agricultural transformation towards market-orientated production.

A study conducted in Central Africa revealed that the lack of access to market information, higher prices for fertilisers, limited possession of draught power, shortage of farming household labour and distance to local markets were constraining factors towards the transformation of emerging farmers to intensify commercialisation (Knerr, Owuor & Ouma, 2016). In another study conducted by Khapayi and Celliers (2016) in the Eastern Cape of South Africa, it was revealed that most emerging farmers in that region had limited if any access to market information. Such farmers were unlikely to participate in marketing because they were not well informed of what was taking place in the markets.

Furthermore, the IFAD (2017) observed that despite the seemingly developed and perfectly competitive Merino sheep farming value chain, emerging farmers continue to complain of limited market access in terms of low prices, outlets, and low net returns. The problem of limited market access has been associated with inefficiencies along the market chain that starts with the farmer to the final consumer (World Bank, 2010). The chain actors

generally lack adequate knowledge, information and resources to help them meet quality standards and formal market specifications (Jayne *et al.*, 2010). Consequently, this limits their access to lucrative markets. It is reiterated that low-cost, well-integrated and efficient rural markets is a key determinant in the commercialisation of agriculture. The allocation of resources to marketed wool diminishes substantially in the absence of integrated and efficient wool markets, because wool self-sufficiency takes prominence at the farm level (Ministry of Trade and Industry Co-operatives and Marketing Services, 2015). In explaining the significance of well-integrated markets, Barrett (2008); Barrett *et al.* (2012), agreed that these markets transmit excess supply to distant locations. Therefore, the returns to increased output due to the adoption of technology diminish gradually in well-integrated markets than poorly integrated ones.

Credit funding is one of the determinants of commercialisation that increases the prospects of emerging farmers to access resources and inputs that enable them to expand farming activities and enter markets (Abdullah *et al.*, 2017; Mariyono, 2019). Financing agricultural production, especially through the provision of credit to emerging farmers remains the key to macroeconomic development prompted by agriculture (Anetor, Ogbechie, Kelikume & Ikpesu, 2016). Previous literature attempted to explain that agricultural credit has a positive and significant impact on agricultural productivity. For example, credit has increased access to high quality farm inputs. Various researchers such as Akudugu (2016); Rahman, Hussain and Taqi (2014), argue that credit enables farmers to purchase seeds of improved varieties, high efficiency pesticides and fertilisers. Therefore, agricultural production increases in a timely and appropriate manner.

A study conducted in Nigeria confirmed that sustainable agricultural development in many developing countries requires access to marketing facilities, agro-processing technologies, and credit institutions. This could stimulate growth in agribusiness sectors (Agwu *et al.*, 2012). Ahmed (2014); Ogundeji *et al.* (2018), support access to credit by emerging farmers as a critical element for transition towards commercialisation. Credit helps to improve the farmers' ability to buy equipment and encourage farmers to adopt new technologies. It also improves farmers' productivity and farm income. No doubt, agriculture is the primary means to improve the farmers' socio-economic circumstances. In the context of developing countries, credit is an important tool to increase farm production (Mariyono, 2018b).

Another research study conducted in Central Africa revealed that the lack of credit is one of the major barriers for the commercialisation of emerging farmers. The adoption of both labour- and capital-intensive requirements depends on available funds for farmers. The latter requires special attention to enhance agricultural transformation (Schut *et al.*, 2016). In a study concluded by Khapayi and Celliers (2016); Obi *et al.* (2012), it was revealed that access to credit by emerging South African farmers remains a constraining factor towards agricultural transformation. These authors further highlighted that fewer emerging farmers demand credit from commercial banks than informal lenders because of high interest, lengthy and difficult application procedures.

However, there are many factors, which affect farmers' access to credit. Ghosh and Ray (2016) posit that information and loan enforcement plays a significant role in informal credit markets. In Vietnam, Tu, Viet and Loi (2015) publicised that total land area per capita, residential area owned, total assets, average level of education are positive factors to access formal credit. However, the average level of education affects the probability of receiving and size of the loan. In developing countries such as Lesotho, the total owned land is still the key factor that affects the ability to acquire loans by poorer households. Generally, formal lenders require land use certificates as collateral for loans. Educated households tend to manage business plans efficiently or gain the flow of information from formal credit (Mariyono, 2018a). Increased interest rates reduces the amount of the loan (Fecke, Feil & Musshoff, 2016). Households with more assets are more likely to adopt improved quality farm inputs, but less likely to participate in the local credit market because they have savings that could be utilised to purchase improved farm requirements. This implies that poorer farmers are heavily dependent on credit than the wealthier (Tadesse, 2014).

3.2.7 Transaction costs

Participation in market exchange is a core element in the commercialisation process of emerging Merino sheep farmers. However, transactions in markets are not frictionless and without cost. There are physical marketing costs such as transport and storage, also transaction costs related to searching and processing information, negotiating contracts, monitoring agents, and enforcing contracts (Abate, 2018). Transaction costs impedes or limits the level of emerging farmers market participation. Several authors have examined this aspect, *inter alia*, (Abafita *et al.*, 2016; Barrett, 2008; Cazzuffi & McKay, 2012; Gani

& Hossain, 2015; Mariyono, 2019; Musah, Bonsu & Seini, 2014; Omiti *et al.*, 2009; Onoja *et al.*, 2013; Yaseen *et al.*, 2018).

Apart from its direct impact in inhibiting or limiting emerging farmers participation in crops or non-crops cash markets, the prevalence of higher market transaction costs also limits the farmers involvement in crops- or non-crops cash production by discouraging participation in domestic or international markets and prompting them to prioritise subsistence agricultural production (Abate, 2018; Fredriksson *et al.*, 2017; Pingali *et al.*, 2005). As a result, agricultural resources are diverted from its potential use in crops- or non-crops cash production that has the potential to generate higher income. A good example is the study conducted by IFAD (2014); Maama (2012) in the wool producing regions of Lesotho where wool marketing costs are high due to weaker institutions.

Since the specific types and levels of transaction costs vary per household, location, and commodities transacted (Pingali *et al.*, 2005), there is no single public or private innovation or intervention that can reduce these. Therefore, it is essential to focus on a variety of integrated arrangements that fit into the existing realities on the ground. These arrangements could include, *inter alia*, the development of emerging Merino sheep farmers' organisations aimed at reducing marketing costs (Rantšo, 2016d); costs of inter-market commerce (Barrett, 2008) to achieve constant and reliable supply of marketed commodities produced by emerging farmers (Mariyono, 2019); and facilitate market information provision via improved telecommunications (Pingali *et al.*, 2005).

3.2.8 Asset holdings

Asset holdings are relevant in the commercialisation of emerging farmers' process, because these mitigate unexpected shocks prevalent in the agricultural commercialisation process. Makki (2012) demonstrated that private asset accumulation is a prerequisite for emerging farmers' transition to commercial agricultural production. Makki (2012) also asserted that one avenue for emerging farmers to accumulate private assets is to enter into farming activities with the potential to enhance their livelihood and income, such as dual-purpose livestock farming and cash crops. Makki (2012) also noted that quality seeds and livestock with good genetic composition are worth investing in. However, investment in public infrastructure such as roads and information communication facilities are major determinants to participate in the output market. Similarly, Boughton *et al.* (2007);

Markelova, Meinzen-Dick, Hellin and Dohrn (2009) argued that the primary challenge and constraint factor for emerging farmers' commercialisation is the low productivity of livestock, cash crop production, and market failure. According to these authors, if the farmers have access to secure their food and income demands, they are more likely to participate in market-orientated farm operations.

Corsi, Marchisio and Orsi (2017) conducted a study in eastern Chad, which revealed that land size and the number of labour employed were vital in determining the extent of agricultural output and market participation. Furthermore, the study also revealed that factors such as education, technology (irrigation, artificial insemination and other innovations that may enhance productivity) and shifting production to high-value crops and quality livestock could help to improve the commercialisation of emerging farmers. On both the consumption and production sides, the significance of assets has been highlighted in the agricultural commercialisation literature (Thamaga-Chitja & Morojele, 2014). Reduction in yield or unfavourable market prices may adversely affect emerging farmers' income. When such circumstances arise and in the absence of credit markets for consumption, asset liquidation may be the only option available to emerging farm households to even consumption. On the contrary, Rantšo (2017) corroborates that the significance of asset holding by emerging farmers should be perceived from the input side of Merino sheep farming. Such assets comprise of fertility facilities and equipment, dipping tanks for disease control, electric clippers for wool shearing, land including other applicable assets essential for the production of marketable surpluses.

3.2.9 Government Policies

Several authors (Pingali & Rosegrant, 1995; Riwthong, Schreinemachers, Grovermann & Berger, 2017; Schut *et al.*, 2016) have accentuated the significance of appropriate government policies in facilitating the smooth transition from subsistence to commercialised agriculture. This is necessary, as the process of commercialisation of emerging farmers cannot be left to the market alone (Komarek, 2010; Von Braun (1995). The governments should act in the following prioritised areas namely: invest in developing rural markets, transportation and communication infrastructure, research and extension, livestock management, development of a liberalised capital markets, agricultural credit services, support services in market information, secured property rights to land and water,

credit, health, sanitation and nutrition for rural households (Fredriksson *et al.*, 2017; Tufa *et al.*, 2014).

Mango *et al.* (2018); Omiti *et al.* (2009); and Schut *et al.* (2016) recently examined commercialisation of emerging farmers. The authors generalised that governments ought to help in creating enabling policy environments for the commercialisation of emerging farmers through investing in rural infrastructure and undertaking institutional reforms that could encourage the private sector to participate in the inclusive development of the rural economy for inclusive agricultural growth. Moreover, the role of government is crucial in specifying property rights and enforcing contracts to promote the specialisation and reduction of the costs of market exchange (Musah *et al.*, 2014; Onoja *et al.*, 2013).

3.3 CONSTRAINTS ASSOCIATED WITH COMMERCIALISATION OF EMERGING FARMERS

Although the traditional agricultural sector has helped to ensure food security in most developing countries and is perceived as one of the key elements to achieve economic growth and alleviate poverty, there are different factors that impede the successful participation of emerging farmers in commercialised agricultural markets and transform from traditional farming systems into commercialised agriculture. An overview of these impeding factors is discussed in the following subsections.

3.3.1 Socio-economic characteristics of emerging farmers

Perception matters, as they say, and in certain instances it is everything. Commercialisation is more often than not, though in large scale, ignores the fact that even small scale emerging Merino sheep farmers, with specific reference to those at the base of the income pyramid participate in the wool market either because they produce surplus or sell to informal wool traders to earn an income to meet other family needs. In most developing countries, such as the one which this research draws its sample from, emerging farmers have ‘been subject to years of official neglect, despite numerous policies and programmes that proclaim the opposite’ (Aliber & Hall, 2010), and the resultant effect of this neglect is the high incidence of indigence among these emerging Merino sheep farmers. In Lesotho, the IFAD (2017) review also acknowledged the shortcomings of existing support programmes for emerging Merino sheep farmers.

In a study conducted by Carletto *et al.* (2017); and Jayne *et al.* (2010), revealed that emerging farmers in most developing countries generally lack land, capital and education needed to respond quickly to technological changes and the available high value agricultural market opportunities. As highlighted earlier, land holding is a key determinant of commercialisation (Ferris *et al.*, 2014), because land allows farmers to cultivate more than is required for household consumption and to feed livestock; and at any given yield level, a household with lower land per capita has to devote a higher proportion of its land to food production if it is to achieve self-sufficiency (Yaseen *et al.*, 2018). To a large extent, the choice of household production is determined by the land potential available to emerging farmers. As theorised by Fredriksson *et al.* (2017); and Mango *et al.* (2018), land holding can either be a 'valuable resource' or 'resource constraint'. When land holding is limited it inhibits emerging Merino sheep farmers from high-value market driven production options. Although it promises higher rewards, it is not open to most local emerging Merino sheep farmers in Lesotho.

One of the critical factors in the pursuit of commercialisation is asset accumulation, which includes land and animal traction. Land is obviously a critical factor that determines the opportunities of participation of a farm household in commercialisation. Lavers (2012); Makki (2012) revealed that total land size has a positive influence on the market participation of households. They argued that this could be due to the role of land size in boosting total production levels and thus the sales of surplus produce. Moreover, farm households with a large land size could allocate their land to some extent for livestock farming activities and partially for cash crop production, which provides them to be in a better position to participate in the output market.

Land also serves as collateral, which is key in terms of acquiring finance for capital investment and expansion. Leavy and Poulton (2007a) revealed that poor households are less responsive to market opportunities because of the lack of land. Moreover, they also revealed that the household per capita income generally increased with an increment in landholding size. They argued that farmers with small landholdings were forced to devote the largest portion of their land to food crop production, given the poor food crop markets they are dependent on. Leavy and Poulton (2007a) suggested that a strong system must be implemented to provide technical advice, supply improved seeds and high-value crops, supply fertiliser at an affordable rate for the poor, and create better linkage to the market

for high-value crops if the effort to intensify and commercialise small-sized farms is to be successful.

Omiti *et al.* (2009) study revealed that the presence of high transaction costs, lack of sufficient market coordination between buyers and sellers, inadequate market information, and lack of trust among market actors narrowed market channels in Kenya. Pingali (2010); Pingali *et al.* (2005) hold that a critical issue, which emerging farmers specialising in high-value outputs, such as wool, need to respond to is whether their size can profitably support such activities in the long-term. Also, in targeting specialised high-value output markets which may be export-oriented, the issue of product quality, standard and volumes of supply may be a barrier to commercialise emerging farmers (Jaleta *et al.*, 2009). These and other regulatory issues put emerging Merino sheep farmers in Lesotho at a higher income risk, which might have an adverse consequence on the overall commercialisation process.

An analysis of agriculture in general and poverty in Lesotho revealed high poverty rates and low income amongst emerging farmer households (Daidone *et al.*, 2017). Notwithstanding the significant role played by emerging farmers as wool producers, the commercial prospects for most remains challenging (Ferris *et al.*, 2014). Schut *et al.* (2016), proclaimed that despite the emerging farmers achievements elsewhere in the world, the fact remains that the economic conditions for emerging farming in sub-Saharan Africa are particularly harsh. These conditions have shaped emerging farmers' behaviour in a way that is not always best from the standpoint of increasing income.

Agwu *et al.*'s (2012), in Nigeria revealed that factors that affected commercialisation significantly at various levels included age, gender, education, household income, off-farm income, quantity and quality of output, access to credit, and market information. The point of sale of output affected the level of participation in the market positively and significantly, whereas household size was found to affect the level of participation negatively and significantly. Within the Lesotho milieu, evidence demonstrates that the socio-economic characteristics of emerging farmers are significant impediments that must not to be ignored for the success of commercialisation. In many instances, the household and farming systems characteristic of the majority of rural households in Lesotho are constraints to successful market participation. Ogutu *et al.* (2017); Ogutu and Qaim (2019) developed a lengthy list of factors that affect commercialisation at local level based on the various researchers' findings.

Daidone *et al.* (2017) denotes that due to the low levels of education and literacy, emerging farmers are often disadvantaged due to poor access to Merino sheep farming related information which may be difficult to comprehend by local farmers and market-precipitating services such as visits by extension agents. These impediments often give rise to low rates of adoption of improved technologies that could potentially increase productivity. Phororo (1996), in discussing the viability of emerging Merino sheep farmers, criticised that 'one is not certain who to focus on' due to limited access to wool market information. Moreover, if accessible, it is in English which is foreign to certain local emerging Merino sheep farmers in Lesotho. The low level of household heads education, coupled with their inability to communicate in the nation's business language (English), contributed towards the high transaction costs faced by the farmers (Matarira *et al.*, 2013). Educated rural people prefer seeking jobs in other sectors than staying home to farm (Rantšo, 2017). It implies that individuals who have limited formal education dominate full-time farming in rural areas. Poor education and low literacy in poor networking, poor negotiation and bargaining as well as poor management of farming enterprises is crippling to emergent farmers (Pant & Singh, 2016).

According to Jari and Fraser (2009), the educational level among the sampled farmers was generally low. A total of 18 percent of the household heads never attended school and 39 percent completed the primary level. Being uneducated may result in high transaction costs and ultimately produce a negative influence on the marketing decisions. As a result of high transaction costs, the emerging Merino sheep farmers may fail to access high value commercial markets. It is without doubt that these emerging farmers need government support or alternatively private sector intervention and who should be empowered to form part of a new and vibrant wool and Merino sheep related products production sub-sector.

Furthermore, as wool production becomes commercialised, its production and marketing is also controlled by the male in the household (Du Preez & Brown, 2011). Labour and resource constraints inhibit female-headed households from taking advantage of market incentives. Other household characteristics and endowments also determine the specific markets within which it participates as well as the extent to which they commercialise their farming operations. These include the remoteness of a household from shearing/clipping sheds, the quality of the road networks and the ownership of transport means to transport wool shorn. Although households in isolated mountainous areas of Lesotho have some of the required assets to produce sufficient wool and Merino sheep related products for the

market, these are often impeded from participating effectively in a market due to high transport costs.

Apart from household characteristics, evidence also revealed that the farming characteristics of an emerging producer to a large extent determines the level of participation and success in the wool markets (Hunter & Mokitimi, 1990). For example, the household asset base is an important factor because poorer households are less likely to participate in high value wool markets or less likely to succeed in their attempts to become commercialised. The Department of Livestock Services (2016), published a documents that unpacked other farming characteristics such as the lack of access to adequate land and water as well as lack of ownership of production equipment such as low-cost fertility equipment are also key factors that impede emerging wool farmers' ability to enter a market successfully.

This is the scenario as producers' lack of access to sufficient natural and physical capital makes it difficult to expand or increase production to meet market demand. Furthermore, the small size of the rural commercial endeavours makes it difficult for producers to continue when faced with obstacles such as low prices and/or delays in payment. Contrary to these findings, many other studies demonstrated that increased access to land was not necessarily a pre-condition for a household to succeed commercially. Entrepreneurial skills and the ability to adapt to changing market dynamics were found to be a greater precursor to success in market participation (Rantšo, 2016b).

The implications of these findings in Lesotho include that there are pre-existing socio-economic bottlenecks that prevent potential emerging farmers from effectively and efficiently commercialising their farming operation. This requires providing market incentives (higher prices through government pricing policies) is not in itself adequate to ensure the inclusion of emerging Merino sheep farmers in commercialised wool markets. Government as well as private sector initiatives to increase market incentives for agricultural commercialisation in Lesotho can only be inclusive if emerging Merino sheep farmers in the rural Lesotho are provided with additional support services that go beyond the market.

3.3.2 Lack of access to sufficient agricultural support services

Apart from socio-economic characteristics of emerging farmers, evidence also reveals that the lack of access to sufficient agricultural support services to a large extent determines the level of participation and success in agricultural markets (Kilelu *et al.*, 2014). The majority of farmers in Lesotho live below the poverty line and are characterised by low physical and natural resources; poor technical skills and low managerial capacity as well as inadequate access to markets and infrastructure. As a result of these characteristics, public agricultural support services are essential so that emerging farmers can endeavour to enter lucrative commercial markets. Daidone *et al.* (2017) signifies that apart from the pre-existing socio-economic characteristics of rural producers in Lesotho, such as deeply entrenched poverty, the lack of access to agricultural support services is a key obstacle to successful and inclusive commercialisation of emerging Merino sheep farmers.

Zhou *et al.*'s (2013), in Southern Africa revealed several challenges to the commercialisation of emerging farmers. Amongst other challenges, the latter included the lack of supportive structures, poor access to market and information, public services such as extension services and technology. These were some of the constraining factors in the transformation of emerging farmers towards commercial farming by many farmers. These findings revealed in many instances that emerging farmers that have potential, ability and willingness to commercialise their farming operations, are inhibited by the lack of access to adequate agricultural support services such as market information, agricultural credit, suitable and timely agricultural advisory services (production information). Ogutu and Qaim (2019) corroborates with Zhou *et al.* (2013), that the provision of agricultural support services goes far to create linkages between emerging farmers with markets, input and output dealers and agribusinesses.

According to Musah *et al.* (2014), market participation of emerging maize farmers in the upper-western region of Ghana revealed that the age of the household head, education status of household head, household size, farm size, off-farm income, output produced, and access to credit and market information are adequate factors to affect market participation. Chagwiza *et al.* (2016), suggested that emerging farmers with sufficient finances (either larger farmers or groups of farmers organised as cooperatives) are able in many instances to access inputs as well as pay for Merino sheep farming advisory services and market information. Therefore, the lack of suitable agricultural support services is an impediment

for transformation towards inclusive agricultural commercialisation for improved livelihoods.

Research related to Lesotho emerging farmers conducted by Kingdom of Lesotho (2014); Lesotho National Wool And Mohair Growers Association (2016); Matarira *et al.* (2013), revealed that farmers in the rural Lesotho are unable to access these basic agricultural support services, which may be available on the market for a fee and other types of farmers (who are better off) are able to access. Furthermore, access to agricultural credit and financial services is limited for the majority of emerging wool producers in Lesotho due to the lack of secure land tenure. The majority of producers operate on customary freehold/untitled land, which cannot be utilised as collateral to secure credit facilities. This often results in emerging Merino sheep farmers being unable to procure medicinal products for their flocks and supplementary feeds during winter when the latter is limited.

Therefore, there are calls for reforms in public Merino sheep farming support services so that emerging Merino sheep farmers can become fully commercialised. This includes recommendations to make Merino sheep farming advisory support services more inclusive and responsive so that emerging wool producers are involved intellectually (Matarira *et al.*, 2013); implement innovative financing that considers the resource needs of poor emerging farmers who in many instances have no titled land or other forms of collateral; reorganise land reform initiatives to ensure efficient re-allocation of land and effective identification of beneficiaries; implement structures to build Merino sheep farmers capacity to add value to their products as well as take advantage of economies of scale and thereby reduce transaction costs and enable them to enter high value wool markets (Musah *et al.*, 2014; Riwithong *et al.*, 2017).

IFAD (2017) and Lesotho National Wool And Mohair Growers Association (2016) emphasised that in most rural settings where these emerging Merino sheep farmers operate, they had not organised themselves effectively to achieve economies of scale in bulking, storage and marketing produce; or in accessing agricultural inputs and capital markets. Consequently, they have been unable to drive down their transaction costs, termed ‘structural constraint’, and actually ‘face much higher transaction costs than larger producers across the borders of Lesotho, South Africa’ (Ortmann & King, 2010). Overcoming these transaction costs, according to Sebatta, Mugisha, Katungi, Kashaaru and Kyomugisha (2014) can be considered to be at the heart of a strategy to increase the access

of emerging farmers in developing countries to assets, information, services and markets necessary to enhance their income.

Furthermore, emerging Merino sheep farmers producing for the market also face the same external drivers as their larger commercial counterparts. However, in most instances, emerging farmers do not have the economies of scale benefits. Hence, these are more sensitive to external market policy or weather-related shocks (Riwthong *et al.*, 2017). These external drivers include international oil prices, exchange rate fluctuations, improvement in yields of other key crops grown by the commercial sector and have a devastating effect on the profitability of emerging Merino sheep farmers. Therefore, it is important to acknowledge that emerging farmers tend to be embodied within national, regional and global trade systems and markets. According to Food and Agriculture Organisation (2015); Jordaan (2004), emerging Merino sheep farmers who form the bedrock for global wool supply are faced with markets in an unprecedented state of flux. The domestic markets in this state are undergoing rapid but uneven modernisation, while higher-value and export markets are increasingly the preserve of commercial producers and large-scale suppliers.

The paucity of targeted innovations in the wool production sector in Lesotho, lack of public-private partnerships, and declining investments in research and extension systems that promote wool production is a cause for concern. Scholars such as Lesotho National Wool and Mohair Growers Association (2017); Rantšo (2016d) highlights that the need to develop emerging Merino farmer and scientific organisations, including business associations explicitly to support the needs of wool and Merino sheep related products, producers and entrepreneurs to capture and add value to on-farm, post-shearing and off-farm enterprises. These support structures, in-tandem with development oriented local governance and institutions, are required to assist the emerging Merino sheep farmers overcome high marketing costs, thus enabling them to harness their market potential (IFAD, 2017; Rantšo, 2016d).

The present GoL through its various ministries, acknowledged the need for emerging Merino sheep sector development, and adopted wide-ranging resolutions on rural and Merino sheep development intensification. These resolutions focus on addressing rural poverty through improved emerging Merino sheep farmers aimed to 'implement large scale programmes to support emerging Merino sheep farmers, improve the productivity of

existing farming operations and marketing of produce thereof, and to integrate emerging wool producers into formal value-chains linking them to markets' since wool is one of the pillars of the overall Lesotho's economy (Ministry of Trade and Industry Co-operatives and Marketing Services, 2015). Despite the growth of GoL and private sector interventions to support emerging Merino sheep farmers in the last decade, it evidenced that most local emerging Merino sheep farmers received limited or no support (Aliber & Hall, 2010). Identifying ways to increase market participation by local wool producers requires detection of variables that influence market access.

Poor households in the Lesotho rural areas have limited access to basic local government services such as roads, water, sanitation and electricity, as well as a lack of good quality social services, education, health, and transport services (Lesotho National Wool and Mohair Growers Association, 2017). Lack of access to basic local government services hinders the delivery of essential agricultural support services of emerging Merino sheep farmers farming in the remote mountainous rural Lesotho, as such the intervention of provision of agricultural support services by the private sector is likely not to happen due to economies of scale and general profitability, it is most likely that Merino sheep support services will initially still be provided by the state. In the Lesotho context, the reality is that state failure is rampant and deep-rooted (Ministry of Agriculture and Food Security, 2015). State failure implies that the government is unable to provide public goods and services to certain sections of the population. This has many consequences, including security threats and domestic unrest, which results in poverty, disruption of economic activities and inability of government to provide support services and public goods and services. The net result of all this is that farmers do not receive any support services or hardly have access to finance, advice and input. There is an important need to address the failure by the GoL to deliver goods and services.

3.3.3 Transaction costs and other institutional factors

Institutional factors are also critical inhibiting elements to enable the full and sustainable participation of emerging Merino sheep farmers in commercialised markets. Transaction costs are important aspects, which serve as deterrents in the information searching process, contract negotiation, monitoring and enforcement, including cost associated with transporting goods to markets (Smalley, 2013). In many instances, the wool purchasers, for example, private traders, are generally large and commercialised, and are able to take

advantage of economies of scale and exert marketing and negotiating power over emerging Merino sheep farmers in Lesotho's remote areas with poor infrastructure. This, coupled with the poor socio-economic status of emerging Merino sheep farmers as well as insufficiencies in transport; processing and storage infrastructure (Kingdom of Lesotho, 2011) bring about high transaction costs for these wool producers. In addition, most of these emerging Merino sheep farmers have a low production capacity, which implies that they are unable to change their production volumes swiftly to meet market trends. Furthermore, they are unable to maintain cost reducing technological advances thus less competitive.

Although local emerging Merino sheep farmers may have knowledge of lucrative markets, their decisions to participate in that commercial market is determined by the level of transaction costs. Furthermore, other institutional factors that have the potential to result in high transaction costs also worked to exclude emerging wool farmers from entering high value wool markets (Katengeza *et al.*, 2011). This includes quality requirements, regulations governing the sourcing and procurement of produce for urban consumers as well as speed of payment (Smalley, 2013). Likewise, transaction costs do not only impede emerging wool farmers from participation in commercialised markets, but also prevents potential wool traders from seeking to engage directly with emerging Merino sheep farmers because the wool produce led to incremental transaction costs. The reason is that contracting with local emerging Merino sheep farmers requires greater contractor investment in terms of start-up finance, training, administration activities as well as monitoring and controlling to ensure quality.

Despite the aforementioned, contract farming arrangements have the potential to go far in providing a guaranteed market outlet, thus assist in reducing the transaction costs for farmers to access markets. There are many examples of contract farming arrangements leading to significant reductions in transaction costs for groups of farmers (Katengeza *et al.*, 2011; Okello, Al-Hassan & Okello, 2010a; Smalley, 2013). Furthermore, the current and emerging institutional arrangements for contract negotiation has the potential to also positively impact on farmers by maintaining their participation in the high value commodity chains. The reason is that modern supply chains or the supermarket model, which are on the rise in Lesotho in the aquaculture sector and which are of high value, are inherently hostile towards emerging Merino sheep farmers operating individually. The strategies employed in supply chain management and procurement is designed to extract as

much as possible from supply chain players (Lesotho National Wool And Mohair Growers Association, 2016).

The supermarket model typically favours large-scale agribusiness corporations and large farmers because large volumes of consistent quality are important for supermarkets. As a result, emerging Merino sheep farmers are, as per definition, at a disadvantage to larger farmers in engaging with supermarket chains. However, empirical evidence indicates that emerging wool farmers can overcome this problem by grouping, and thereby achieve the economies of scale that supermarket value chains seek (Okello & Swinton, 2007). Furthermore, studies reveal that collective action enables emerging farmers to meet stringent value chain requirements, including wool cleanliness requirements and improve access to lucrative high-end markets under closely monitored contracts with buyers (Okello, Ofwona-Adera, Mbatia & Okello, 2010b; Okello & Swinton, 2007).

Despite lucrative contracts presented by the supply chain model for agricultural produce, arrangements between traders and emerging farmers have not always proved sustainable because the latter farmers tend not to conform to the contractual agreements (Katengeza *et al.*, 2011; Smalley, 2013). For this reason, high default rates have been recorded on agricultural loans, which were granted to emerging farmers as part of the contractual arrangements resulting in a reduction in the level of support and loss of trust between players. In light hereof, the GoL and developmental agencies have been working with emerging farmers to build their capacity to engage in sustainable contractual arrangements which would enable them to participate in high value modern supply chains through capacity building and production support (Gani & Hossain, 2015). This is done in order to create an environment in which emerging farmers are able to enter modern supply chains sustainably as a means of increasing income and livelihoods. Therefore, poverty alleviation through inclusive agricultural growth.

3.3.4 Insufficient and/or missing infrastructure

Research conducted by Martey *et al.* (2012), on the commercialisation of emerging farmers in Ghana, revealed that insufficient or lack of infrastructure were identified as constraints for participation in high value market-orientated domestic and international wool markets. Fredriksson *et al.* (2017); Gani and Hossain (2015); Ingabire *et al.* (2017); Mango *et al.* (2018) suggested that emerging farmers' attempts to either increase their production

capacity or efforts to participate in lucrative markets was rendered unsuccessful because of the lack of infrastructure such as limited extension support services, research centres, water resources, electricity/power sources, animal dip tanks and road networks. Instances in which groups of farmers are successful in becoming market-oriented in terms of production, the physical isolation/remoteness as well as the lack of telecommunication infrastructure inhibits them from responding to higher market prices.

Although the GoL is making considerable efforts towards developing and investing in rural infrastructure, often the poor do not benefit directly. This reason for the alter is infrastructure is a public non-rival, non-excludable good and as such, difficult to target the poor (Gani & Hossain, 2015). Moreover, there is historical evidence which suggests that the rural poor tend to retreat into the inaccessible interiors when infrastructure is improved (Jayne *et al.*, 2010). Policy-makers find it difficult to strategically place rural infrastructure such that it benefits the poorest since they are usually located sparsely in many rural areas which requires greater targeted investments (Mariyono, 2019). However, research has revealed that investment in infrastructure has large net returns. Moreover, improved infrastructure reduces transaction costs thus facilitating emerging Merino sheep farmers' access to high value wool markets.

One area where the poor has been specifically targeted is access to information and communication technologies (ICT) because the latter is recognised as a development enabler (Kassie *et al.*, 2011). Efforts to resolve the problem of poor access to agricultural information (hence the high transaction costs) by emerging farmers resulted in focusing on promoting information transfer through ICT-based innovations. Mehar (2016) documents the utilisation of several ICT-based interventions in agriculture in Africa. In Kenya alone, for instance, there were approximately 35 projects that used ICT as a platform to disseminate agricultural information in 2007 (Munyua, 2007). South Africa, Kenya, Tanzania, Uganda, Malawi, Madagascar and the West African belt have ICT applications which target the transfer of information to emerging farmers.

The most commonly applied ICTs in emerging farmers' market linkage interventions are mobile phones, web/internet-based resources, market information boards, and tele-centres (Okello *et al.*, 2010b). Radio and television are also often utilised interactively with mobile phones. The increased focus on modern ICT-based methods of information provision stems from the belief that these can:

- Provide a medium to communicate knowledge and real-time information to rural farmers;
- Deliver modules to farmers at low cost;
- Improve farmers' access to markets and agricultural credit;
- Empower farmers to negotiate prices better; and
- Facilitate and strengthen networking among emerging farmers.

As discussed earlier, the absence of market information exacerbates the problem of high transaction costs. Transaction costs, on the other hand, creates a wedge relating to the prices reigning between any two markets, thus raising the transfer costs and reducing the possibility of trade between such markets (Barrett, 2008; Mango *et al.*, 2018). By facilitating easier access to market information, ICT could reduce transaction costs and possibly improve the efficiency of trade between regional markets.

Several studies have investigated the above expectations and the effects of ICT-based interventions on emerging farmers and market performance in Africa (Mango *et al.*, 2018; Okello *et al.*, 2010a; Okello *et al.*, 2010b). These studies suggest that ICT has positive benefits for emerging farmers and market actors with users of such services receiving higher margins than their counterparts due to reduced marketing costs. Furthermore, ICT services bring about a lower price spread between markets, suggesting that marketing is more efficient; provides greater success of links to emerging wool farmers with export markets and enable the latter farmers to acquire better prices compared to their counterparts who do not utilise ICT services.

Despite the above benefits, the use of ICT tools for agricultural transactions is still constrained by a number of factors. These factors and the consequences for emerging wool farmers are summarised in Table 3.1 below.

Table 3.1: Factors and the consequences of use of ICT

Factors hindering ICT use	Consequences
Low literacy levels	Affect the ability to use the short texting message system (SMS) or SMS application such as WhatsApp as emerging farmers are unable to navigate the mobile phone menu to seek to receive pricing information.
High cost of ICT tools, data and phone calls	This inhibits emerging farmers from owning useful friendly, smart phones which are less complicated. Data and calls inhibit emerging farmers who own mobile phones from utilising these to access agricultural produce transaction costs and market related information.
Lack of supporting infrastructure, more importantly electricity	Lack of access to electricity promotes difficulties in charging mobile phones and poor telecommunications signal (network). Emerging farmers have to walk long distances to shops which sell electricity to charge their mobile phones. Moreover, they have to pay a premium price to charge their mobiles. For this reason, emerging farmers, switch on their mobile phones when they expect important calls from their loved ones who are migrant workers in neighbouring countries. Agricultural information sent to emerging farmers in areas with poor network and/or no electricity takes many days to reach and in the case market performance, may no longer be useful.
Age	Older emerging farmers are less likely to utilise mobile phones for agricultural transactions than their counterparts. Younger, more educated emerging farmers are more likely to use ICT as sources of information than older ones.
Asset endowments	Financial asset endowments determine the ability to purchase mobile phones and afford sufficient airtime to call and purchase data.

Sources: Okello *et al.* (2010b), Katengeza *et al.* (2011), Maertens and Barrett (2013)

Many of the factors listed in Table 3.1 above are interlinked to those, which generally contribute towards impeding the commercialisation of emerging farmers in the SADC region. Hence the challenges to improve the commercialisation of emerging farmers in the region are interlinked and extremely complex.

In sum, extensive ICT networks allow for a rapid and free flow of information, which ensures that business decisions are made considering all available, relevant information (Katengeza *et al.*, 2011; Okello *et al.*, 2010a). The availability of sound ICT networks plays a vital role in overcoming the farmers' challenge of a lack of information. As highlighted earlier, ICT reduces transaction costs, expands productivity, and directly

increases economic well-being (Katengeza *et al.*, 2011). ICT has a great potential to pass valuable information such as agricultural innovations, markets and technical information to farmers. When telecommunication systems are not available, business people are not informed or updated about such opportunities. The use of a telephone or cell phone permits the farmer to be in touch with family members, extension officers and other farmers.

3.3.5 Effect of climate change-induced risks and uncertainty

Accordingly, commercialisation is affected by agro-climatic conditions and risks; access to market and infrastructure; community and household resources and endowments; development of local commodity, input, and factor markets; laws and institutions; and cultural and social factors that affect consumption preference, production, and market opportunities and constraints (Saha, 2011). Climate change adversely affects emerging Merino sheep farmers in the form of weather-induced shocks namely: drought and feeds which directly affects wool production and marketable surpluses. Recent studies reveal that other climate change induced effects on emerging Merino sheep farmers include rapid outbreak and spread of livestock diseases, reduced lambing, increased incidence of livestock pests, and changes in seasons as the onset and quantity of rainfall becomes a variable (Katengeza *et al.*, 2011).

Shocks emanating from changes in seasons, livestock pest and diseases, sheep feeds and droughts adversely affect wool and Merino sheep related products, production and hence participation in the market. Changes in seasons (early and/or delayed rains) subjects emerging farmers to variable incomes, which in turn makes it difficult to plan future investments in farming operations (Katengeza *et al.*, 2011). Climate change-related human diseases reduce labour productivity through impaired health resulting in low effective farm labour.

There are varying estimates of how climate change is likely to affect agricultural production in developing countries. Conservative estimates indicate that climate change is likely to affect livestock yields in developing countries by 30-40 percent (World Bank, 2010). At the same time persistent droughts are estimated to result in heavy livestock losses. These predictions have raised concerns that emerging farmers are likely to be adversely affected. Emerging Merino sheep farmers might bear the greatest burden of such climate change-induced risks due to their reduced capacity to cope with such shocks.

Empirical evidence of the actual impact of climate change on emerging farmers is limited. However, Saha (2011) argues that climate change affects the emerging farmers by compromising household livelihoods. Insecure emerging farmers adopt coping strategies that can seriously undermine their future productivity hence participation in the market-orientated wool production market. Evidence suggests that such emerging farmers typically cope with shocks through reduced investment in productive assets and activities including the lower utilisation of yield augmenting technologies such as improved livestock breeds. Such households, therefore, need support (in a form of safety net) to rebuild their productive capacity to return to market-oriented production.

3.3.6 Absence of extension officers in commercialisation of emerging farmers

In the study ‘The role of agriculture extension in the 21 century: Reflections from Africa’ by Magoro and Hlungwani (2014) provision of extension officers by governments in developing countries is crucial for the commercialisation of emerging farmers. However, this is not the case. Extension officers’ services are the most desirable tools for transformation towards commercialising emerging farmers (Knerr *et al.*, 2016) (remain a critical component of the agricultural sector (Abdu-Raheem, 2014; Pant & Singh, 2016). Pant and Singh (2016) assert that an effective extension officer needs to have several skills and qualities for the successful implementation of the commercial process. These include exceptional listening skills, timeliness, honesty, ability to get on with people, enthusiasm, common sense, initiative, ability to work unsupervised and a good work ethic (Abdu-Raheem, 2014).

Extension officers are crucial for supporting farmers with technical and logistical support, and access relevant technologies (Ferris *et al.*, 2014). It is clear that agricultural extension services equip emerging farmers with technical skills and practical knowledge. Such services enhance human capital and are an essential factor in the adoption of agricultural technical skills in general. For example, a specific programme on Merino sheep production management can be a significant factor in commercialising emerging Merino sheep farmers. In another study conducted in KwaZulu-Natal Province, South Africa, exploring the role of agricultural extension, it was revealed that agricultural extension officers engage with farmers in the transfer of technology and the distribution of farming inputs, which poses challenges for biodiversity conservation. Extension officers were considered

key tools which hold the capacity to promote ecological agriculture and sustainable farming (Abdu-Raheem, 2014).

A Vietnamese study asserted that the role of agricultural extension services is the most critical element because they are agents who disseminate advanced technology for enhanced cultivation, animal husbandry, forestry, fisheries, processing industries, storage and post-harvesting of crops (Gouët & van Paassen, 2012). Their role also included development of economic management skills and assistance with market information (Gouët & van Paassen, 2012). In another study conducted by Magoro and Hlungwani (2014), it was highlighted that the role of agricultural extension on commercialisation of emerging farmers in South Africa is to empower rural livelihoods, empower farmers by building social capital or improving resources management. In a study by Mariyono (2019) conducted in Indonesia, it was revealed that extension officers were critical in encouraging farmers to grow high-input cash crops such as vegetables for the markets.

3.4 CHAPTER SUMMARY

The studies revealed that the commercialisation of emerging farms has the potential to enhance income and welfare outcomes, lift emerging farmers from poverty if constraining factors such as the lack of the following: capital, basic skills (farming and commercial), high transaction costs, infrastructure, information, and education could be eliminated. It is evident from this literature review that this study could be primary research, not only in Lesotho but also in the SADC in terms of the commercialisation of Merino sheep farming.

Due to the diversity of the SADC region, successful models of agricultural commercialisation cannot be simply replicated from one country or location to another. However, evidence from the body of knowledge that success or failure of commercialising emerging farmers depends to a large extent on two interlinked factors as discussed earlier. Firstly, the ability of governments and private promoters to adapt commercialisation strategies to suit specific socio-economic, environmental and geographical conditions. This requires greater understanding of the complexities of the specific location or country in which agricultural commercialisation strategies are being promoted.

Secondly, the extent to which support is provided to emerging farmers to overcome pre-existing country and/or area specific bottlenecks along the agricultural value chain. The level to which governments and private promoters are able to manage these determines the

success and/or failure of endeavours to commercialise local emerging farmers in their agricultural endeavours. The role of agricultural extension officers has been strongly accentuated in the body of knowledge as governmental tools to facilitate emerging farmers' transformation in rural areas, including Lesotho and other developing countries.

Emerging farmers find it difficult to commercialise because of certain constraints of which market access is the major one. However, because of the prevailing opportunities such as modernised technology, introduced market opportunities and increase in the demand of high value product, emerging farmers are keen to transform into commercial production. Challenges such as poor access to markets because of inferior infrastructure, high transaction costs, low bargaining power, lack of information, inadequate market infrastructure, poor entrepreneurial and management skills and the lack of financial support is an obstacle to commercialise these farmers.

These challenges that prohibit the development of emerging farmers' production are well known. Furthermore, emerging farmers are the key players in the alleviation of poverty in developing countries. Commercialisation of emerging farmers is possible provided that such farmers have access to credit, market information, extension services, innovation and other required aspects when commercialising subsistence farming. In Chapter 4, the literature review of the conceptual framework is discussed.

CHAPTER 4

LITERATURE REVIEW: CONCEPTUAL FRAMEWORK DEVELOPMENT

4.1 INTRODUCTION

Chapters 2 and 3 provided a general background on commercialisation, an overview of the determinants and constraints associated therewith of emerging farmers as these relate to the specific objectives of this study. In this chapter, the literature and theoretical considerations relating to the conceptual framework is reviewed and expounded upon. Such an approach appears to conform with the advice provided by Rewhorn (2018) who recommends that the literature review in the social sciences should ideally begin with a thorough discussion of the parent discipline, which in this case is the commercialisation of emerging Merino sheep farmers, and progressively narrow its focus to the study's problem to the research question:

How can successful transition towards commercial Merino sheep farming be facilitated in Lesotho?

In this thesis, the study is interpreted as Merino sheep farmer transition to commercialisation with an emphasis on the multidimensionality of the phenomenon. The study adopts a multidimensional research and concepts approach. Swan *et al.* (2008), highlighted that a conceptual framework is the end result of bringing together a number of related concepts to explain or predict a given event, or to provide a broader understanding of the phenomenon of interest or simply of the research problem. Swan *et al.* (2008), posit that the process of arriving at a conceptual framework is akin to an inductive process whereby small individual pieces (in this instance, concepts) are integrated together to illustrate a bigger map of possible relationships.

Rewhorn (2018); and Swan *et al.* (2008), further posit that the research is embedded within the social sciences sphere. It incorporates of a limited scope to explain, predict, and understand the phenomenon researched. In order to investigate and explain the multidimensionality of the phenomenon researched, resource-based, inclusive innovation, diffusion of innovation, and inclusive growth are the focal theories selected to fulfil the specific objectives of this study. The literature related to these selected theories and other relevant literature that explains various facets that may influence the transition to

commercial-orientated Merino sheep farming in an inclusive innovation context will also be reviewed.

4.2 THE RESOURCE-BASED THEORY

Resource based theory (RBT) has become one of the most influential and cited theories in the history of management. This theory provides a theoretical understanding of how resources can be applied for high enterprise performance outcomes which has been widely employed in different fields. RBT addresses the accumulation of valuable, rare, inimitable and non-substitutable resources which is the basis of enterprise competitiveness and economic rent (Barney, 1991; Barney & Arikan, 2008). In addition, RBT is one of the most compelling theories in the social sciences discipline to explain the relationship between available resources and enterprise performance (Kozlenkova, Samaha & Palmatier, 2014), where resources are considered assets which enable an enterprise to conceive and execute strategies to improve efficiency and effectiveness (Wernerfelt, 1984; 1995).

In the context of this study, an enterprise is perceived as an emerging Merino sheep farm. As a consequence, every emerging Merino sheep farm in the agricultural market can be perceived as a collection of resources whose form of productive use depends on the farmers' vision and perceptions. Existing resources may have value for the emerging farmers to encourage transition to commercialisation. If these resources are somewhat rare, specialised, complementary, and value-adding, these can be utilised as sources of competitive advantage, leading to emerging farms' superior performance. Barney and Arikan (2008) scholarly publication asserts that the primary purpose of the RBT in this study is to explain how emerging Merino sheep farmers can achieve competitive advantage from available distinct resources from which the research draws its sample.

The foundation of the primary research question outlined earlier is framed on the "how" element and to a large extent justifies the use of RBT because it implies that in certain instances, the complex process of towards commercial Merino sheep farming can neither be analysed nor explained by traditional economic theories of commercialisation. A bottom-up approach analysis must be conducted on existing resources. By analysing emerging farmers from the resources aspect, rather than from the product side (Wernerfelt, 1984; 1995), that the RBT takes a rather introspective stance on why emerging Merino

sheep farmers, from the inclusive strategic management field perspective either succeed or fail in their aspirations to transition from subsistence to commercial orientated Merino sheep farming.

As highlighted and evidenced in the social sciences literature, at the heart of the RBT is the concept of available resources. This is illustrated in Table 4.1 which demonstrates the life cycle of RBT and the resources concepts. Through the bottom-up approach, as applied to commercialisation of emerging Merino sheep farmers in a developing country, the application of RBT aids critical review, analysis, and an understanding of competitive advantage generation with the existing resources in the research area. This application further supported the establishment of why local emerging Merino sheep farmers in the research area have not as yet transitioned to commercial-orientated Merino sheep farming, although it presents viable benefits as highlighted on the preceding chapters.

Table 4.1: The lifecycle of RBT: Selected key papers

Author(s) and Date	Key Contribution
Penrose (1959)	Theorised about how a firm's resources influences its growth; in particular, growth is constrained when resources are inadequate.
Lippman and Rumelt (1982)	Explained the concepts of inimitability and causal ambiguity; these concepts became core elements of the resource-based view (RBV).
Wernerfelt (1984)	Underscored the value of focusing on firms' resources rather than on their products; coined the term resource-based view.
Barney (1986)	Theorised about how organisational culture could be a source of sustained competitive advantage.
Dierickx and Cool (1989)	Developed the notion that resources are especially useful when no effective substitutes are available.
Barney (1991)	Presented and developed the core tenets of RBV; presented a detailed definition of resources; and articulated the full set of characteristics that make a resource a potential source of competitive advantage (i.e., valuable, rare, inimitable, and non-substitutable).
Harrison, Hitt, Hoskisson, and Ireland (1991)	Highlighted the value of resources and synergy between resources in the context of diversification.
Castanias and Helfat (1991)	Characterised CEOs as firm resources that possess varying (idiosyncratic) qualities and quantities of general, industry specific, and firm-specific skills.
Fiol (1991)	Organisational identity proposed as a core competency leading to competitive advantage.

Author(s) and Date	Key Contribution
Conner (1991)	Juxtaposed the RBV with industrial-organisation economics in order to demonstrate that RBV was developing as a new theory of the firm.
Mahoney and Pandian (1992)	Further delineated the RBV by relating it to distinctive competencies, organisational economics, and theory on industrial organisation.
Kogut and Zander (1992)	Introduced the concept of combinative capabilities; accentuated the significance of knowledge as a resource.
Amit and Schoemaker (1993)	Split the overall construct of resources into resources and capabilities.
Peteraf (1993)	Outlined the conditions under which competitive advantage exists.
Hart (1995)	Introduced and developed a conceptual spin-off from the RBV called the natural-resource-based view of the firm.
Grant (1996)	Articulated the knowledge-based view of the firm as a spinoff of RBV.
Miller and Shamsie (1996)	Tested the resources–performance link while measuring resources directly; winner of Academy of Management Journal’s annual best paper award.
Conner and Prahalad (1996)	Identified situations where the application of opportunism-based and knowledge-based arguments may lead to opposite predictions regarding the organisation of economic activity.
Oliver (1997)	Theorised how RBV and institutional theory together can better explain sustained competitive advantage.
Teece, Pisano and Shuen (1997)	Built on RBV ideas to introduce the concept of dynamic capabilities; in particular, explained competitive advantage as arising from the confluence of assets, processes, and evolutionary paths.
Coff (1999)	Initiated discussion of how the excess profits derived from resources might be appropriated by various stakeholders.
Combs and Ketchen (1999)	Examined how to reconcile competing predictions from RBV and organisational economics about the choice of organisational form.
Alvarez and Busenitz (2001)	Explained the contributions of RBV to entrepreneurship research and articulated further contributions that could be made.
Priem and Butler (2001a, 2001b); Barney (2001)	Debated the usefulness of RBV as a theory of strategy and organisation.
Wright, Dunford and Snell (2001)	Explained the contributions of resource-based theory (RBT) to human resource management research and articulated further contributions that could be made.
Barney, Wright and Ketchen (2001)	Identified the impact of RBV on related subject areas.

Author(s) and Date	Key Contribution
Makadok and Barney (2001)	Built theory of what the information firms should underscore as they attempt to purchase scarce resources.
Makadok (2001)	Synthesised ideas on excess profits offered by RBV and theory on dynamic capabilities.
Lippman and Rumelt (2003)	Initiated discussion of the micro-foundations of RBV by introducing a payments perspective.
Ireland, Hitt and Sirmon (2003)	Introduced strategic entrepreneurship as recognising the resources required to exploit growth opportunities in order to create and sustain competitive advantage.
Winter (2003)	Introduced and explained the concept of higher order capabilities.
Gavetti (2005)	Built theory about the micro-foundations of dynamic capabilities by emphasising the roles of cognition and hierarchy.
Foss and Foss (2005)	Built conceptual bridges between RBT and property rights theory.
Teece (2007)	Specified the nature and micro-foundations of the capabilities necessary to sustain superior enterprise performance in an open economy with rapid innovation and globally dispersed sources of invention, innovation, and manufacturing capability.
Sirmon, Hitt and Ireland (2007)	Built theory of underexplored processes (i.e., the “black box”) which lie between resources on the one hand and superior profitability on the other.
Armstrong and Shimizu (2007)	Reviewed and critiqued the research methods used in resource-based inquiry.
Crook, Ketchen, Combs and Todd (2008)	Used meta-analysis to establish that strategic resources explain a significant portion of variance in performance across extant evidence.
Kraaijenbrink, Spender and Groen (2010)	Considered the merits of prominent critiques of RBT.
Barney, Ketchen and Wright (2011)	The future of resource-based theory: Revitalization or decline?

Source: Adapted from Barney, Ketchen and Wright (2011)

In seeking to explain the degree to which emerging farmers may be able to sustain a competitive advantage, the RBT considers the resources held by their farms as the unit of analysis (Lockett, Thompson & Morgenstern, 2009). The RBT bottom-up approach, therefore, forms a basis for transition to commercial-based Merino sheep farming by starting with a foundation of unique resources which confronts emerging Merino sheep farmers in the selected districts. Hughes, Powell, Chung and Mellahi (2017); Zhao and Fan

(2018) suggest that the RBT theory also accepts that information of the future value of a resource is distributed asymmetrically.

The resources audit of applying RBT is essential for this research in order to establish available resources in the research area. It is tempting to think of resources as simple items such as land, access to credit, Merino sheep stock, fertility equipment, shearing sheds, supplementary feeds, and grazing land. However, they may in fact be anything that constitutes a strength or weakness for a merging Merino sheep farm (Wernerfelt, 1984; 1995). In this context, the term resource is all-encompassing (Hughes *et al.*, 2017) and may include tangible, intangible and most importantly human resources.

Evidently, the RBT suggests that resources that underpin sustainable competitive advantage are often “*durable*” so that they are long lasting; “*non-appropriable*” so that they are difficult to acquire; “*non-substitutable*” so that alternative resources cannot be deployed in their place; “*superior*” so that competitors may only deploy inferior resources; and “*inimitable*” which means that they are difficult to copy (Barney, 2014; Peteraf & Barney, 2003). Resources that possess most of these characteristics are considered to be “*strategic resources*” while those that do not generally possess these characteristics are referred to as “*basic resources*”. Barney (2014) opines that as the general guide the more an emerging Merino sheep farm does to accentuate heterogeneity in its resource base, the stronger and more sustainable its competitive advantage is likely to be.

In practice, resources are themselves rarely productive and have to be marshalled in order to perform certain tasks or activities. This process creates “*capabilities*” such as the ability to produce a high value/quality Merino sheep stock for higher returns or practice superior Merino sheep farming management practices. The capabilities that generate a competitive advantage for emerging Merino sheep farms is often referred to as “*core competencies*” (Barney *et al.*, 2011). The RBT argues that failure in the market-place or under-utilisation of resources leads to redeployment in another industry which makes commercialisation an efficiency decision (Barney, 2014; Peteraf & Barney, 2003; Wernerfelt, 1984; 1995). As a consequence, Wernerfelt (1995) believed that RBT was the primary theory of strategic management able to explain the concept of commercialisation and is thus a very useful underpinning towards a study of commercialising emerging Merino sheep farmers.

4.2.1 Competitive Advantage

Despite the debate in strategic management represented by the RBT and Porter's of the sources of emerging Merino sheep farms' competitiveness, both views agree that it generates a 'competitive advantage' in that an emerging Merino sheep farm outperforms another (Barney, 1991; Barney & Arikan, 2008; Porter, 2008). Hence, it is essential at this stage to clarify what is meant by a competitive advantage as a key concept in this area. Barney (1991) defined a competitive advantage and usefully distinguished it from a sustained competitive advantage. Newbert (2008a) also suggests that value and rare resources are related to competitive advantage and that the latter is related to performance. An emerging farm is said to have a *sustained competitive advantage* when it implements a value creating strategy to achieve commercialised operations for improved revenue and benefits therefrom. Hence, a competitive advantage emerges from exploiting the unique characteristics or resources available to the emerging Merino sheep farmers to create high value farming operations in the latter farming industry. If this value can be protected over a lengthy period of time, it is then viewed as sustainable.

4.2.1.1 Emerging Merino sheep farm's Resources

IFAD (2017); Ogundeji *et al.* (2018), refers farms resources to the size, quality of Merino sheep flocks, farming land that is owned, that is, controlled by the Merino sheep farmer or other essential resources that the farmer needs access to. Kingdom of Lesotho (2014); Lesotho National Wool and Mohair Growers Association (2017) viewed emerging Merino sheep farmers' resources in terms of asset specificity highlighted earlier. Barney (1991) defined farm resources as all assets, capabilities, farm management practices, farm attributes, information, knowledge and other applicable resources for Merino sheep farming, controlled by the farmer that enable the emerging farm to conceive and implement strategies that improve its efficiency and effectiveness. Barney (1991) classified farm resources into three categories:

- **Physical capital resources:** what the farm possesses and utilisation of physical technologies, production facilities, equipment as well as its geographical location and accessibility to raw materials.

- **Human capital resources:** includes intangible resources such as training, peoples' experiences, judgment, intelligence, relationships, and insight of the farmer and farm workers.
- **Farm capital resources:** nature of the formal structure in the farm, the latter formal and informal planning, controlling, and coordinating systems and informal relations amongst groups of workers within and between a farm including those in its environment.

The discussion above describes that emerging Merino sheep farmers' resources, classified by Wernerfelt (1984; 1995), can either be tangible or intangible. These resources are embedded in emerging Merino sheep farmers' assets, including the human element of the farm. The uniqueness of an emerging farm's internal resources is the attribute that may influence the transition towards commercial Merino sheep farming by emerging farmers. The uniqueness of emerging Merino sheep farms' resources is envisaged as a key premise to aid commercial market participation. This is referred to in strategic management literature as competitive advantage. The next section introduced the concept competitive advantage and discuss its most popular models in literature.

4.2.1.2 Competitive Advantage and the RBT

A number of resource-based models have been introduced by RBT scholars to clarify the characteristics that a resource must have in order to achieve competitive advantage (for example, Barney, 1991; Barney, 2001a; Barney, 2001b; Grant, 1999; Newbert, 2008b; Peteraf, 1993). Grant (1999) suggested four attributes of resources and capabilities which are considered key determinants of the sustainability of competitive advantage. These characteristics include: "*durability*", "*transparency*", "*transferability*" and "*replicability*". Durability represents the rate at which the competitive advantage generated from the emerging Merino sheep farm's resources depreciates. Transparency refers to the extent to which an emerging Merino sheep farm can protect its competitive advantage from being exploited. Transferability refers to the degree of mobility of resources to other farmers who may implement the same strategies. Replicability refers to the extent to which the emerging Merino sheep farm's resources underlying competitive advantage can be replicated by other emerging farms.

Peteraf (1993) proposed a resource-based model of four conditions which must be met in order for a resource to hold the potential of achieving a competitive advantage as illustrated in Figure 4.1. These conditions, which she referred to as ‘cornerstones of competitive advantage’ include resource heterogeneity, *ex-post* limit to competition, imperfect mobility and *ex-ante* limit to competition. If the emerging Merino sheep farmers are able to assess the future value of resources better or under more exceptional circumstances are simply fortunate. This provides their farming operations with *ex-ante* sources of sustainable competitive advantage (Kraaijenbrink, Spender & Groen, 2010). Resources’ heterogeneity and imperfect mobility is discussed later in Barney’s model in this section.

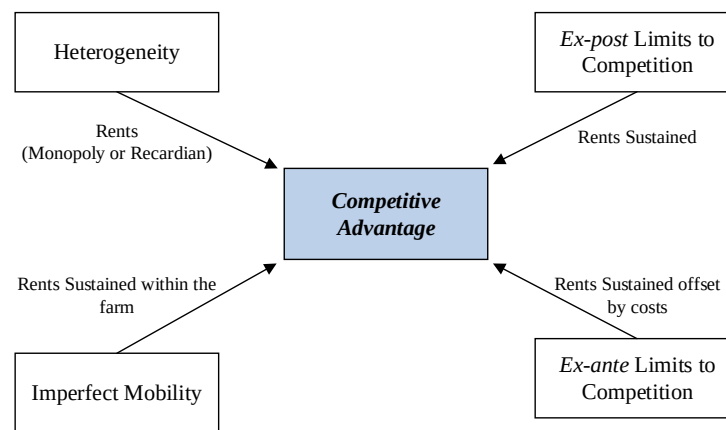


Figure 4.1: The cornerstones of competitive advantage

Source: (Peteraf, 1993:186)

An *ex-post* limit to competition is explained by Peteraf (1993): subsequent to an emerging Merino sheep farm’s gaining a superior position and earning economic rents, there must be forces which limit competition for those rents. The term rents refers to earnings in excess of breakeven if its existence does not result in new competition (Peteraf, 1993). However, *ex-post* limit to competition is equivalent to imperfect imitability and non-substitutability of resources (Peteraf, 1993) as discussed below. The meaning of *ex-ante* limits to competition is that before a firm establishes a superior position or achieves above normal returns, there must be restricted competition for that position. *Ex-ante* limits to competition “keep costs from offsetting the rents” (Peteraf, 1993:185).

The most popular competitive advantage model in literature is that by Barney (1991) who examined the relationship between an emerging Merino sheep farm resources and sustained competitive advantage. Since the resources are internal to emerging Merino sheep farms, Barney argued that these (resources) are different in its significance and cannot be exploited to achieve a sustained competitive advantage unless the following four characteristics are met namely: valuable, rare, imperfectly imitable and non-substitutable. These key characteristics are discussed in detail.

- ***Valuable Resources***

In order for an emerging Merino sheep farm to have a competitive advantage, it must have valuable resources which are not possessed by a large number of emerging Merino sheep farms (Barney, 1991). Emerging Merino sheep farm resources are considered valuable when these enable an emerging Merino sheep farm to develop strategies to improve farm productivity (Barney, 1991). This can be achieved by improving the efficiency and effectiveness of an emerging Merino sheep farm (Department of Livestock Services, 2016; Schut *et al.*, 2016).

- ***Rare Resources***

If valuable resources are available to a large number of emerging Merino sheep farmers, then these farmers will be able to exploit these resources which generates no competitive advantage to a single emerging Merino sheep farm. Schut *et al.* (2016), argued that it is not the dearth of resources that produces a competitive advantage, rather; it is the relative difference in the amount of value generated by emerging Merino sheep farms that is elemental to competitive advantage...if an emerging Merino sheep farm consistently generates value greater than that generated by other emerging Merino sheep farms in its industry, it must have at least one rare-resource. If an emerging Merino sheep farm has rare resources, however, it does not follow that it will generate value greater than that of other emerging Merino sheep farms in the industry. This implies that when a resource generates great value, it is rare and valuable.

- ***Imperfectly Imitable***

An emerging Merino sheep farm's valuable and rare resources can only generate a sustained competitive advantage if other emerging Merino sheep farms cannot acquire these. Therefore, these resources must not be transferable to competing emerging Merino sheep farms (Barney, 1991; Barney, 2014). An emerging Merino sheep farm resource is imperfectly imitable when one or a combination of three characteristics exists, namely: history dependence, causal ambiguity and social complexity. History dependence refers to the valuable and rare resources obtained by an emerging Merino sheep farm because of its unique history. Such emerging Merino sheep farms will be able to create and implement strategies that are not completely imitable by other sheep farms. Unique physical capital resources, farm management practices and farming skills are all examples of imperfectly imitable resources that generate a competitive advantage because of their unique path through history.

Causal ambiguity exists when the link between an emerging Merino sheep farm's resources and its sustained competitive advantage is poorly understood. Hence, there will be difficulty to imitate a successful emerging Merino sheep farm's strategy by others. Social complexity develops when the resources that create a competitive advantage is based in a complex social phenomenon which makes it difficult for other emerging Merino sheep farms to duplicate. It is the way a resource fits and interacts with other emerging Merino sheep farm resources that increases social complexity and, as a result, reduces imitability and prevents mobility (Barney, 2014; Peteraf & Barney, 2003). Examples of social complexity can be observed in farm management skills, demographics, socio-economic status and land holding (Barney, 1991).

- ***Non-substitutable Resources***

The last characteristic that a firm resource must have in order to generate a sustained competitive advantage is that there must be no strategically equivalent valuable resources that are themselves either not rare or imitable (Barney, 1991). Resources are strategically equivalent when other current or potential competitors are able to utilise alternative resources to implement the same strategies and produce a competitive advantage (Barney, 1991).

4.2.1.3 Resource Attributes: Resource Heterogeneity and Immobility

The RBT adopts two assumptions to analyse a competitive advantage. First, emerging Merino sheep farms are heterogeneous in terms of resources they control. Second, resources are not perfectly mobile (Barney, 1991) across emerging Merino sheep farms. These two assumptions are explained in detail.

- ***Resource Heterogeneity***

There has been an intensive discussion in strategic management literature about the homogeneity and heterogeneity of an emerging Merino sheep farm resources (e.g. Barney, 1991; Barney *et al.*, 2011; Peteraf, 1993; Porter, 2008). The first stream of literature, led by Porter (2008), claims the homogeneity of an emerging Merino sheep farm resources. The other stream of literature led by the RBT theorists argues that emerging Merino sheep farms' resources are heterogeneous. The heterogeneity of an emerging Merino sheep farms' resources generates competitive advantage of an emerging Merino sheep farm over another.

Peteraf (1993) in her proposed model of the cornerstones of competitive advantage argued that heterogeneity implies that emerging Merino sheep farms of varying capabilities are able to compete in the marketplace and at least, breakeven. Otherwise, if all resources were homogeneous, then no single emerging Merino sheep farm would be able to generate a competitive advantage because all competing sheep farms would be able to conceive and implement the same strategies and improve their efficiency and effectiveness in the same way and by the same degree (Barney, 1991). Hence, RBT views emerging Merino sheep farms as a collection of heterogeneous resources which contributes towards differentiating from each other.

- ***Resource Immobility***

Emerging Merino sheep farms' resources are said to be perfectly immobile if they cannot be traded or are less valuable to other emerging Merino sheep farmers (Dierickx & Cool, 1989; Peteraf, 1993). These resources are immobile because they are either tailored to emerging Merino sheep farm-specific needs, customised to a specific-transaction or relationship, or of their high transaction costs associated with the transfer (Andersén,

Jansson & Ljungkvist, 2016; Peteraf, 1993). Imperfect mobility or imperfect transferability (Grant, 1999) is equivalent to what Schmidt and Keil (2013) referred to as ‘idiosyncratic’ resources that have no alternative use outside the emerging Merino sheep farm (Peteraf, 1993). However, if resources are perfectly mobile, this will allow competing emerging Merino sheep farms to conceive and implement the same strategies as each other. Thus, these strategies cannot be a source of sustained competitive advantage (Barney, 1991).

Barney (1991) developed a framework illustrated in Figure 4.2, which describes the relationship between the two underlying assumptions of the RBT, for example, resource heterogeneity and immobility, and the competitive advantage determinants of a resource together with a sustained competitive advantage. This framework has inspired many subsequent scholars based on either using the same framework or introducing an extension (Barney *et al.*, 2011; Priem & Butler, 2001; Schmidt & Keil, 2013).

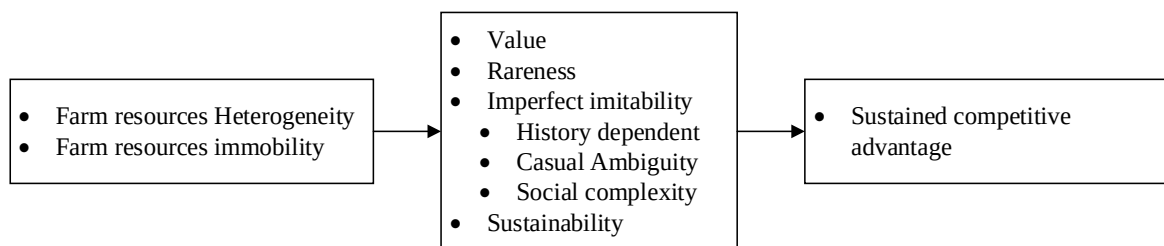


Figure 4.2: The relationship between resource heterogeneity and immobility, value, rareness, imperfect imitability, and substitutability and sustained competitive advantage

Source: (Barney, 1991:112)

Emerging Merino sheep farms can also generate a competitive advantage through developing capabilities (Zhao & Fan, 2018) by collecting, integrating and deploying valuable resources that work together (Barney *et al.*, 2011). These are viewed in terms of core competence discussed below.

• **Core Competence**

An important concept that has evolved from the RBT is ‘core competence’. A frequently quoted definition hereof is provided by Vanhaverbeke and Cloudt (2014) as the collective learning at the emerging Merino sheep farm, especially how to coordinate diverse production skills and integrate multiple streams of applicable technologies. Hitt, Xu and

Carnes (2016) considered core competence as an integrated set of skills and applicable technologies that deliver value for the emerging Merino sheep farmer. The relationship between the core competence and asset specificity is that they revolve around the core skills that an emerging Merino sheep farmer possesses and through which it can compete and sustain its position in the marketplace. The core competencies of the emerging Merino sheep farmer id always characterised by high asset specificity (Toro-Mujica *et al.*, 2016).

In summary, according to the RBT, an emerging Merino sheep farm that possesses and succeeds in exploiting its resources with the characteristics discussed earlier can maintain a sustainable competitive advantage and perform at a higher level than the industry average (Barney & Arikan, 2008). An emerging farm can create a competitive advantage when it is implementing a value-creating strategy which is not implemented simultaneously by a large number of emerging Merino sheep farms. Various factors, such as an emerging Merino sheep farm's history, casual ambiguity, and interconnectedness, may increase the inimitability of resources. An emerging Merino sheep farm's resources which are not strategically equivalent are non-substitutable. An emerging Merino sheep farm may gain sustained competitive advantages when others may not acquire the same competitive advantage using different resources (Barney, 2014).

The RBT approach evidently also offers the possibility of creating inimitability by preserving and leveraging local values and culture as a means of identifying determinant factors associated with the successful transition to commercial-based Merino sheep farming in the context whereby resources are created and developed from within and the control of the socio-economic community's path continuing to rest locally with emerging farmers. This is supported by authors such as Volpe and Biferali (2008:121), who revealed that control and advancement of resources emanated from foundational ideas.

4.2.2 Critics review of RBT

Given its elegant simplicity and its immediate face validity, the RBT's core message is appealing, both easily grasped and taught. However, the RBT has also been extensively criticised for many weaknesses. Critiques are valuable to advance the RBT, for by exploring its limitations they imply where improvements might be considered. Kraaijenbrink *et al.* (2010), assesses several RBT critiques. The following critiques have been discussed: (1) RBT has no managerial implications; (2) RBT view implies infinite

regress; (3) RBT's applicability is too limited; (4) Sustained competitive advantage is not achievable; (5) the value of a resource is too indeterminate to provide a useful theory; (6) RBT is not a theory that is about the emerging Merino sheep farm; and (7) the definition of a resource is not clear to work with.

Critique 1: No managerial implications. According to Kraaijenbrink *et al.* (2010), citing Priem and Butler (2001), RBT misses managerial implications or operational validity. RBT explains that emerging Merino sheep farmers have to develop and acquire strategic resources which meets the criteria value, rareness, non-imitable and non-substitutional and how an appropriate emerging Merino sheep farm can be developed. However, RBT does not explain how emerging Merino sheep farmers can do this (Kraaijenbrink *et al.*, 2010).

Critique 2: Infinite regress. According to Kraaijenbrink *et al.* (2010), citing Priem and Butler (2001), RBT entails an infinite regress. Firms who have the capability to implement best practice, can be overtaken by an emerging Merino sheep farm which can develop the ability better than the firm which is best in practice (Kraaijenbrink *et al.*, 2010) referred to as second-order capabilities.

Critique 3: Applicability is too limited. The article by Kraaijenbrink *et al.* (2010), highlights three points of criticism of the applicability of the RBT. First, Connor (2002); Lockett *et al.* (2009) argue that RBT may not apply to emerging Merino sheep farms because sustained competitive advantage cannot be based on the farms static resources, and therefore, falls beyond the bounds of the RBT (Kraaijenbrink *et al.*, 2010). Secondly, Kraaijenbrink *et al.* posits: Miller (2003) argues that the resources an emerging Merino sheep farm needs to generate a sustained competitive advantage are precisely those resources that are hard to acquire in the first place.

In one sense, Miller argues that only emerging Merino sheep farms which already possess valuable, rare, inimitable, and non-substitutable resources can acquire and apply additional resources to gain a sustained competitive advantage with ease. Miller draws our attention to the implicit path dependency within the RBT in that every emerging Merino sheep farm's past shapes its present and future performance. If the RBT's scope includes the individual resources and capabilities of emerging Merino sheep farmers which constituted the farm – and there is no reason why it should not – it applies even to newly founded emerging Merino sheep farms.

Critique 4: Sustained competitive advantage is not achievable. Currently, emerging Merino sheep farms are in a dynamic environment where innovation and transformation is needed to transition to commercialised Merino sheep farming in order to remain relevant in the sheep market. According to the RBT, a sustained competitive advantage can be reached if resources meet the valuable, rare, inimitable, and non-substitutable criteria. However, according to Barney (1991), in this ever-changing environment, the competitive advantages will be temporary and not long lasting.

Critique 5: What are the limits of the RBT? The RBT offers a useful framework to gain sustained competitive advantage. However, there are limitations thereto. Firstly, the RBT is based on the incapacity to conduct an empirical study on measuring performance. The heterogeneity of emerging Merino sheep farms, composing a homogeneous sample is difficult if not impossible Kraaijenbrink *et al.* (2010), citing Gibbert (2006). Secondly, the RBT focuses on the internal organisation of an emerging Merino sheep farm and it does not consider external factors such as the demand side of the market. Although an emerging Merino sheep farm has the resources and the capabilities to gain a competitive advantage, there is possibly no demand because the model does not consider emerging Merino sheep farmers. Thirdly, the RBT has a limited ability to make reliable predictions (Kraaijenbrink *et al.*, 2010, citing Priem & Butler, 2001). However, Tywoniak (2007) states that the usefulness of RBT appears to be greater in terms of generating understanding and providing a structure for strategising. Barney (2001b) states that RBT logic can help emerging Merino sheep farmers more completely understand the kinds of resources that help generate sustained strategic advantages, help them use this understanding to evaluate the full range of resources their firm may possess, and then exploit those resources that have the potential to generate sustained strategic advantage.

4.3 ROGERS'S INNOVATION DIFFUSION THEORY

The foundation of diffusion of innovation theory (DIT) or Rogers's diffusion theory (Rogers, 2010) was presented by combining a large number of theories taken from a variety of disciplines, with a distinct focus on different elements of the innovation process. The DIT was originally developed due to concerns of how innovations spread throughout the communities. Diffusion can be perceived as the process which an innovation is communicated through certain channels over a specific period of time among the members

of a social network (Rogers, 2010). These could include individuals, emerging Merino sheep farmers, companies or governments.

DIT is based on the notion that emerging Merino sheep farmers' perceptions and beliefs relating to an innovation determines its rate of adoption. In other words, the perceived characteristics of an innovation determines its potential to be accepted by emerging Merino sheep farmers and how it diffuses in society (Rogers, 2010). If these attributes are perceived favourable, then adoption is likely to take place. On the other hand, if the consumer, in the context of this research, is an emerging Merino sheep farmer fails to see any benefits or positive characteristics pertaining to the product, then adoption will be less likely to take place.

Innovations may include technologies, processes or ideas perceived as new in the community. For example, a new innovation could be a new type of breeding programme for adoption, which can increase the yield of the Merino production in the future. The theory was also applied to describe observed past occurrences of the diffusion of specific innovations to serve as a foundation for decision-making on policies by the government, organisations and communities for planning future technological transitions (Stoneman and Diederer, 1994 cited in Kasmire, Dijkema & Nikolic, 2012). An Innovation is said to have a successful diffusion when the spread is like a virus which begins with a persuasion to a group of emerging Merino sheep farmers on the advantages thereof. This is followed by the adoption of the innovation by emerging Merino sheep farmers, implementation thereof and finally confirmation.

Communication is imperative in innovation diffusion to determine its success, which may involve the utilisation of mass media or interpersonal communication channels. With the rapid development in the information technologies, for example the internet, smart mobile phones, and social networking tool, for example, Facebook, diffusion can be both at the interpersonal and mass media levels. Communication allows innovation-related information to be disseminated (Kasmire *et al.*, 2012; Nordin, Noor & Saad, 2014) as well as diffusion to take place throughout the target communities. Hence, identification and strengthening of communication networks is essential to drive the dissemination of information.

Diffusion is, therefore, perceived to occur progressively within one market (a system of users) when information and opinions of a new technology is shared among potential users through communication channels. However, technologies and industries can be more complex and requires more than just diffusion because it requires evolution in its adaptive system (Kasmire *et al.*, 2012). Rogers (2010), whose adoption models are one of the most referred to in the literature of innovation diffusion, outlines four main elements which include: innovation, communication channels, time and the social system. Rogers (2010) describes innovation as an idea, practice, or project that is perceived as new by an individual or other unit of adoption. One of the obstacles to adoption of innovations is uncertainty. To reduce the risk of rejection due to uncertainty, stakeholders should be well-informed through appropriate channels. Communication is a process in which participants create and share information with one another in order to reach a mutual understanding (Rogers, 2010).

The communication channels are the means for the messages to reach targeted recipients. Since diffusion is a highly social process, interpersonal communication relationships and communication channels can be most influential for acceptance (Foster & Heeks, 2013). Rogers (2010) asserts that time, however, is very important in innovation, although its significance has been downplayed in many behavioural studies. As innovations are diffused within a community, the social system is one of the elements in innovation diffusion. During communication knowledge is acquired. From Rogers' five-stage process of adoption, knowledge is the first step. The other four steps include: persuasion, decision (to adopt or to reject new technology), implementation and confirmation. Table 4.2 below outlines Rogers' five-stages of adoption.

Table 4.2: Rogers' five-stages of adoption

Stage	Implications
<i>Knowledge</i>	At this stage an adopter is exposed to an innovation or its existence and gains some understanding of how it functions. Knowledge can take place intentionally, whereby the adopter actively seeks for solutions to a problem. <i>Example:</i> an emerging Merino Sheep farmer from one of the villages in Lesotho could be looking for pricing of wool for the specific shearing season and could go to a local internet cafe to establish whether they could assist with access to market information through the Lesotho National Wool and Mohair Growers Association Facebook account or WhatsApp group. Similarly, the individual may come across the innovation by chance – an individual accidentally learns of innovation through others. <i>Example:</i> an emerging Merino sheep farmer comes across a colleague in the Merino sheep farming business using a smart device to access wool and meat market-related information and immediately feels he/she should also acquire the technology.
<i>Persuasion</i>	After being familiarised with the innovation, the adopter may gather some information pertaining to the innovative product. The individual uses this information, including past experience, hunches and feelings to develop a favourable or unfavourable attitude towards the innovation.
<i>Decision</i>	After consultation with oneself and others, the adopter makes a conscious decision to either adopt or reject the innovation.
<i>Implementation</i>	At this stage, the potential adopter implements the innovation. At this stage, the individual will consult information for effective implementation from operation manuals or booklets.
<i>Confirmation</i>	Thereafter, the adopter seeks to reinforce the decision to either adopt or reject the innovation. At this stage, the emerging Merino sheep farmer is either satisfied or not with the performance of the innovation.

Source: Adapted from Rogers (2010)

From Table 4.1 it can be concluded that adoption should not be perceived as a single event but a continuous series of cognitive processes, as elaborated below:

Innovations that are perceived by emerging Merino sheep farmers as having a greater relative advantage, compatibility, trialability, and less complexity will be adopted more rapidly than other innovations. Past research indicates that these five qualities are the most important characteristics of innovations in explaining the rate of adoption (Rogers, 2010: 23).

The DOT model has been widely applied and tested across multiple disciplines including education, agriculture, psychology and various business disciplines (De Vries, Bekkers & Tummers, 2016; Robertson, 1967; Rogers, 2010). In the agricultural sector, in particular, Rogers's model has been useful in conceptualising the diffusion patterns of agricultural-related innovations such as an investigation of factors affecting the farmers' decision on the utilisation of fertiliser in Northern China (Zhou *et al.*, 2013); role of knowledge, attitudes and perceptions in the uptake of agricultural and agroforestry innovations among smallholder farmers in sub-Saharan Africa (Meijer, Catacutan, Ajayi, Sileshi & Nieuwenhuis, 2015); and explore the role of incentives in agricultural extension programs (Läpple & Hennessy, 2014).

Effectively, when making the adoption-rejection decision, potential adopters evaluate five key attributes: relative advantage, complexity, compatibility, trialability and observability. The characteristics determine whether or not the new product will be useful to the consumer. The innovation characteristics, as postulated, is defined next.

4.3.1 Relative advantage

This is the degree to which an innovation is perceived as better than the idea it superseded by a particular group of users (Rogers, 2010). If adopted, emerging Merino sheep farmers will derive more advantages from the product; hence an innovation relative advantage is positively related to its rate of adoption (Njuki *et al.*, 2015). However, the measurement would be how it matters to that group of users, for example, economic advantage, convenience of satisfaction. There is no absolute rule what relative advantage would constitute. It totally depends on the domain in question and perceptions of the user groups. In the Merino Sheep farming context, adoption is in part determined by their relative advantage over traditional Merino sheep farming channels. In studying the characteristics of Merino Sheep farming, the following relative advantage factors become apparent:

- **Limited access to Merino Sheep farming support services:** The majority of emerging Merino Sheep farmers in Lesotho live below the poverty line and are characterised by low physical and natural resources; poor technical skills and low managerial capacity as well as inadequate access to markets and infrastructure. This can be mitigated through access to forums and associations such as public agricultural services that

offer stakeholder awareness of the complexity, value and sophistication of the sheep industry value chain.

- **Landholding:** Problem of acquisition of large hectares of farmland because land is held communally than by one individual who can decide to dispose of it at any time. This isolation mechanism can also be viewed as a relative advantage since the communal emerging Merino Sheep farmers will be granted first preference when land is distributed which could foster economies of scale and generational wealth.
- **High Transaction cost:** High transaction costs, that is, the observable and non-observable costs associated with the exchange, serve as the key barriers to market participation of resources among poor emerging Merino Sheep farmers and poor infrastructure often increases such market transaction costs. The introduction of effective policies decreases transaction costs through improved transportation, while the promotion of marketing organisations increases output thereby increases market participation and production levels among emerging Merino sheep farmers. Improved infrastructure has the potential to reduce transaction costs thus facilitating emerging Merino sheep farmers' access to high value wool markets.
- **Limited access to technology:** Limited access to technology and practice of traditional methods are some of the challenges which impedes progress among emerging Merino Sheep farmers in Lesotho. This could be mitigated through access to advanced farming technologies, telecommunications, and improved ICT, which has the potential to support emerging Merino Sheep farmers in multiple areas such as the implementation of electronic identification and Trace-back system for identification of Merino flocks; GPS would assist farmers to track their livestock anywhere; access to modern statistical methods; and DNA technologies to estimate breeding values for traits such as disease resistance, meat quality and reproduction which is difficult and expensive to measure.

4.3.2 Perceived compatibility

According to Mannan, Nordin, Rafik-Galea and Ahmad Rizal (2017), the extent to which consumers distinguish themselves and define their lives in relation to their environment and personal ambitions defines their self-concept. Likewise, lifestyle is shaped by the

manner in which they live that identified self-concept. The compatibility of a new innovation, therefore, is defined by how well-suited an innovation is to the emerging Merino sheep farmer's farming operations, values and needs. The compatibility constructs, since it facilitates emerging Merino sheep farmer in identifying and projecting their 'perceived self-image', is directly related to its rate of adoption (Zeweld, Van Huylenbroeck, Tesfay & Speelman, 2017).

Consequently, an emerging Merino sheep farmer who perceives innovations to their farming operations as closely aligned to their farming operations to enhance productivity, will most likely adopt these. This thinking is consistent with Abraham Maslow's hierarchy of needs, which postulates that emerging Merino sheep farmers are inherently faced with a multitude of needs. As a result, emerging Merino sheep farmers utilise innovation which they think will satisfy their operation's needs efficiently (Zeweld *et al.*, 2017).

4.3.3 Perceived complexity

The level of difficulty of using an innovation, also known as complexity, is inversely related to its adoption (Eder, Mutsaerts & Sriwannawit, 2015). Because emerging Merino sheep farmers are generally resistant to change and to learning new behaviour patterns, the more difficult an innovation is to apply, the less likely that it will be utilised (Eder *et al.*, 2015; Rogers, 2010). Complexity is, therefore, related to the nature of the innovation (Robertson, 1967). Basically, there are three types of innovation: continuous, dynamically continuous, and discontinuous innovations as expounded upon in Table 4.3.

Table 4.3: Types and classification of innovations

Type of innovation	Description	Level of complexity
<i>Continuous</i>	These are improvements to existing innovation. They have a disruptive influence on established behaviours or traditions. <i>Examples:</i> Herbal toothpaste, Hybrid seeds.	Low complexity
<i>Dynamically continuous</i>	Creation of new innovations or alterations of existing innovations. <i>Examples:</i> Hydropinics, Email, social media platforms (Facebook, WhatsApp, Twitter).	Low to moderate complexity

Type of innovation	Description	Level of complexity
<i>Discontinuous</i>	Establishment of new innovations and new behaviour patterns. <i>Examples:</i> livestock electronic identification, computers (when they were initially introduced).	High complexity

Source: Adapted from Robertson (1967)

Commercialisation of Merino sheep farming is considered dynamically continuous because it is convergent to elements such as transaction costs, operating capital, infrastructure, asset holdings, extension services and access to market information. In today's information age, the use of ICT, access to credit, household income, land, market access and their integration is widespread. Emerging Merino sheep farmers, therefore, only require a slight modification in their current culture and knowledge to transition from subsistence to commercialised Merino sheep farming practices.

If placed on a continuum of level of ease/difficulty to learn, it is clear that dynamically continuous innovations, transition from subsistence to commercialised Merino sheep farming practices included, fall somewhat in the middle of the continuum, possessing low to moderate complexity. Consequently, the lesser the perceived complexity of the transition from subsistence to commercialised Merino sheep farming practices, the more likely it will be adopted.

4.3.4 Perceived Trialability

Trialability is the extent to which emerging Merino sheep farmers are afforded the opportunity to try out new innovations prior to implementation. An example is whereby an emerging Merino sheep farmer will be allowed to trial an animal identification device to improve data accuracy and flock productivity programmes prior to implementation. In their research, Aubert, Schroeder and Grimaudo (2012) found that farmers afforded the opportunity to experiment with the innovation prior to implementation are more likely to adopt it than those who do not. However, it is conceded that getting emerging Merino sheep farmers to try new technology for the first time is a key barrier to adoption; if overcome, then it is almost guaranteed (Yigezu, Mugera, El-Shater, Aw-Hassan, Piggan, Haddad, Khalil & Loss, 2018).

It is for this reason that certain innovation providers go to the extent of allowing potential adopters a no-obligation trial period for certain innovations. Other innovation providers arranged pro-environmental innovation demonstrations within agriculture in developed country settings, for example, the wine and sheep industries (Long, Blok & Coninx, 2016; Sneddon, Soutar & Mazzarol, 2011; Tey & Brindal, 2012) to illustrate how their innovations are utilised. It is through these demonstrations that emerging Merino sheep farmers can attempt new innovations by themselves, and sometimes even be guided by the agents. Thus, the adoption of transition from subsistence to commercialised Merino sheep farming practices is more likely if demonstrated to emerging Merino sheep farmers.

4.3.5 Observability

The last characteristic of innovations as defined by Rogers (2010) is observability: the degree to which the results of an innovation are visible to others. Similar to relative advantage, compatibility and trialability, observability also positively correlates with the rate of adoption of an innovation. As illustrated in compatibility, the notion of “*keeping up with the Joneses*” can also be regarded as an important aspect of role modelling or peer observation, which is a key motivational factor in the adoption and diffusion of technology-based products (Long *et al.*, 2016).

With the exception of complexity, the other four characteristics demonstrate a positive correlation with the rate of adoption of innovations. Although Rogers (2010) identifies five key predictors of adoption, recent studies confirm that only three of these: relative advantage, compatibility and complexity, consistently proves to be stable predictors of adoption, across multiple disciplines (Mannan *et al.*, 2017; Nordin *et al.*, 2014; Sneddon *et al.*, 2011). Since these contribute towards the most variance in adoption, it is not uncommon for recent studies to only utilise these three constructs of the DOI framework for obvious reasons (Kasmire *et al.*, 2012).

Against Rogers’s diffusion theory background, the application of the DOI theory will outline the social processes that transpire during extensive public and private interventions by applying the diffusion theoretical framework, and establish why emerging Merino sheep farmers in the research area have not transitioned to commercial-based Merino sheep farming, despite extensive public and private efforts through what is called Rogers’ innovation-decision process.

4.4 INCLUSIVE INNOVATION

The Organisation for Economic Co-operation and Development (OECD) (in Paunov, 2013) claims that discussing innovation for inclusive development is important because it can address the needs of low- and middle-income groups and reduce social inequalities. In the OECD definition, inclusive innovation – also known as “*pro-poor innovation*” and “*innovation for the base of the income pyramid*” – is a type of innovation that allows cheaper and more simplified versions of existing products to be acquired by lower-income groups so that they improve their welfare and have more opportunities for business (Paunov, 2013). Prahalad (2012) points out that the Government of Lesotho may make substantial profits at the bottom of the pyramid (BoP) by redesigning the Merino sheep farming operations models to recreate a new commercial orientated farming that is more accessible to low-income consumers.

According to Chataway, Hanlin and Kaplinsky (2014); Foster and Heeks (2015); Sengupta (2016), an “*inclusive innovation*” is any innovation that helps expand affordable access to quality products and services to create livelihood opportunities for excluded populations and thereby improve the quality of life and enhance economic empowerment through knowledge creation, acquisition, adoption, absorption, and deployment efforts targeted directly at the needs of excluded populations, primarily at the BoP. According to (Volpe & Biferali, 2008:121), an innovation is inclusive if it has a positive impact on the livelihoods of the excluded group. That positive impact may be comprehended in different ways. More qualitatively, economic perspectives would define this in terms of greater productivity and/or greater welfare/utility (such as greater ability to consume).

Other perspectives define the impact of innovation in terms of wellbeing, livelihood assets, capabilities (in a Lesotho sense), or many other foundational understandings of what development is. Inclusive innovation definitions tend to consider innovation as something “*new*”. How new is “*new*”? Newness is measured as newness in the context. Thus, inclusive innovation incorporates all forms of innovation relating to products, services, business model institutions, or supply chains with the only requirement that they are novel combinations or “*new in the context*”. Thus, any innovation that is already available in the developed world but is introduced in a novel way to benefit BoP markets is considered an inclusive.

Recently, the BoP has been conceptualised as a heterogeneous group of vulnerable households with complex livelihoods and varied needs (Volpe & Biferali, 2008:121). For the purpose of this study, an inclusive innovation framework will assist the researcher to perform a micro-level analysis of livelihood trajectories of Lesotho's emerging Merino sheep farmers to transition from subsistence to commercial farming to achieve a better quality of life. This is illustrated in Figure 4.3's exploration section.

Nonetheless, "*inclusive innovation*" proposes to isolate certain perspectives of the mainstream and expand the scope of innovation, propose a shift among targeted populations (Volpe & Biferali, 2008:121) to allow specific features to be part of the creation, process, and DOIs (Volpe & Biferali, 2008:121) without excluding the possible positive spill-over effects of social transformation from these types of innovation (Volpe & Biferali, 2008:121). Inclusive innovation is perceived as the appropriate theory for this study because it is envisaged to include research and development which results in the creation of practical designs and artefacts, business models and services, and processes or products that can be seen as practical, innovative solutions to market or societal problems that have the potential to create a better future for the BoP, with specific reference to Lesotho.

4.4.1 Characteristics of Inclusive Innovation

4.4.1.1 Mashelkar's characteristics of Inclusive Innovation

Mashelkar (2012) identifies five characteristics of inclusive innovation in the definition. These characteristics include:

- **Affordable Access:** Inclusive innovation should be affordable for the people at the very base of the income pyramid.
- **Financial Sustainability:** "*... in the long term, the 'affordable access' must not depend on the government subsidies or generous government procurement support systems, but should work by retaining the market principles with which the private sector works comfortably*" (Mashelkar, 2012:4).
- **High Quality goods and services:** Inclusive innovations should promote the concept of 'more for less' and is not simply low cost- low performance versions of

technologies in developed countries. This implies that inclusive innovations require sophisticated science or technology or creative non-technology inventions to design, produce and distribute goods and services which can lead to low cost-high performance solutions (Mashelkar, 2012).

- **Empowerment of the excluded population:** The primary beneficiaries of inclusive innovations should be the population who are excluded from the mainstream market due to low purchasing power. Furthermore, provision of services to the excluded population. Inclusive innovations must also strive towards empowering the population to enable them to take control of their lives. The empowerment of emerging Merino sheep farmers market comprises of two facets.
- Firstly, innovation should uplift the standard of living by providing access to employment in the production and supply of innovation. Secondly, emerging Merino sheep farmers aspire a modern life-style and will adopt innovations which provide a sense of modernity, makes them feel dignified and helps to uplift their perceived status in society (Foster & Heeks, 2013; Prahalad, 2012).
- **Massive Outreach:** To be truly inclusive, the innovation must be scalable, and the business model repeatable to reach a massive population at the base of the pyramid across the globe.

4.4.2 Four factors for adoption of Inclusive Innovation:

The factors identified by Rogers are applicable to all innovations, including inclusive innovation. Additional factors which are particularly important in the context of inclusive innovation are established by (Anderson & Markides, 2007; Prahalad, 2012). Anderson and Markides (2007) have identified four factors that are important for inclusive innovation to be successful in emerging markets (Anderson & Markides, 2007):

- **Affordability:** An innovation needs to be affordable for people with low purchasing power in BoP markets. Cash-flow can be a significant problem for consumers in developing countries because many of them survive on daily wages (Anderson & Markides, 2007). Emerging Merino sheep farmers need to formulate prices and revenue collecting strategies (monthly instalments) which enable consumption by even the poorest in the BoP market.

- **Availability (Accessibility):** Availability or accessibility is the extent to which the products are available for effortless utilisation for the customers. The innovation must be easily accessible to the emerging Merino sheep farmers (also known as mass market). This can be a challenge in the base of the income pyramid market due to fragmented or non-existent distribution channels. Innovative distribution channels must be devised to also reach emerging Merino sheep farmers who live in isolated rural communities.
- **Acceptability:** Furthermore, the innovation must be accepted by the emerging Merino sheep farmer society, which requires compatibility with existing culture, social norms and values. Acceptability by the emerging Merino sheep farmers as well as other members in the value chain to consume, distribute and sell a product or service plays a vital role in the successful adoption of the innovation (Anderson & Markides, 2007; Prahalad, 2012).
- **Awareness:** Furthermore, emerging Merino sheep farmers should be made aware of the existence and benefits of the innovation to be successful. Many of the emerging Merino sheep farmers cannot be reached by the conventional advertising media, hence novel ways of reaching the customers must be considered.

4.4.3 Inclusive innovation models

The existing structure in which the benefits of economic growth as a result of knowledge and innovation goes towards a concentrated sector of the population, while the vast majority are further impoverished. This opens up new theoretical approaches which should be considered of how to find new solutions to social exclusion through innovation (Dutrénit & Sutz, 2014; Johnson & Andersen, 2012). The different, but related features of the alternative models of innovation clearly paved the way for the inclusive innovation framework. Scholarly publications authored by, *inter alia*, Chataway *et al.* (2014); Cozzens and Sutz (2014); Foster and Heeks (2015); Lundvall (2010); Papaioannou (2014); and, Sengupta (2016) discuss the participation of the base of income pyramid actors, collective action, orientation of formal innovation systems towards the poor, political principles of equity and participation, and reinforce institutions as strategies for more inclusive innovative processes.

Among the models of innovation in the extant literature, Heeks, Foster and Nugroho (2014) suggest that trying to differentiate the traditional models from the inclusive innovation ones is difficult because these overlap conceptually and in practice. For example, the mainstream or traditional innovation models under the label of inclusive innovation aims to address exclusion simply in terms of innovative outputs (for example, new products, services, processes, organisational methods or practices), and reproduces the same asymmetric globalisation relationships that ultimately increases inequality (Heeks *et al.*, 2014). The recent models within the inclusive development framework understand innovation in terms of both output and social process in which the participation of different types of actors, including those at the base of income pyramid, is considered essential to reduce inequality (Cozzens & Sutz, 2014; Heeks *et al.*, 2014).

Although the concepts “*innovation for inclusive development*” and “*inclusive innovation*” is utilised interchangeably, it is essential to distinguish within the literature which models address social inclusion through the consumption of innovative products, and which models privilege the significance of social relations for a structural change in which traditionally excluded groups are active citizens in the decision-making and learning processes that aim to find new solutions to given problems. This is the reason why Heeks *et al.* (2014), proposed a step by step ladder of inclusive innovation as illustrated in Figure 4.3 below which allows the identification of the role of excluded groups, as well as aspects of innovation in which these groups are included.

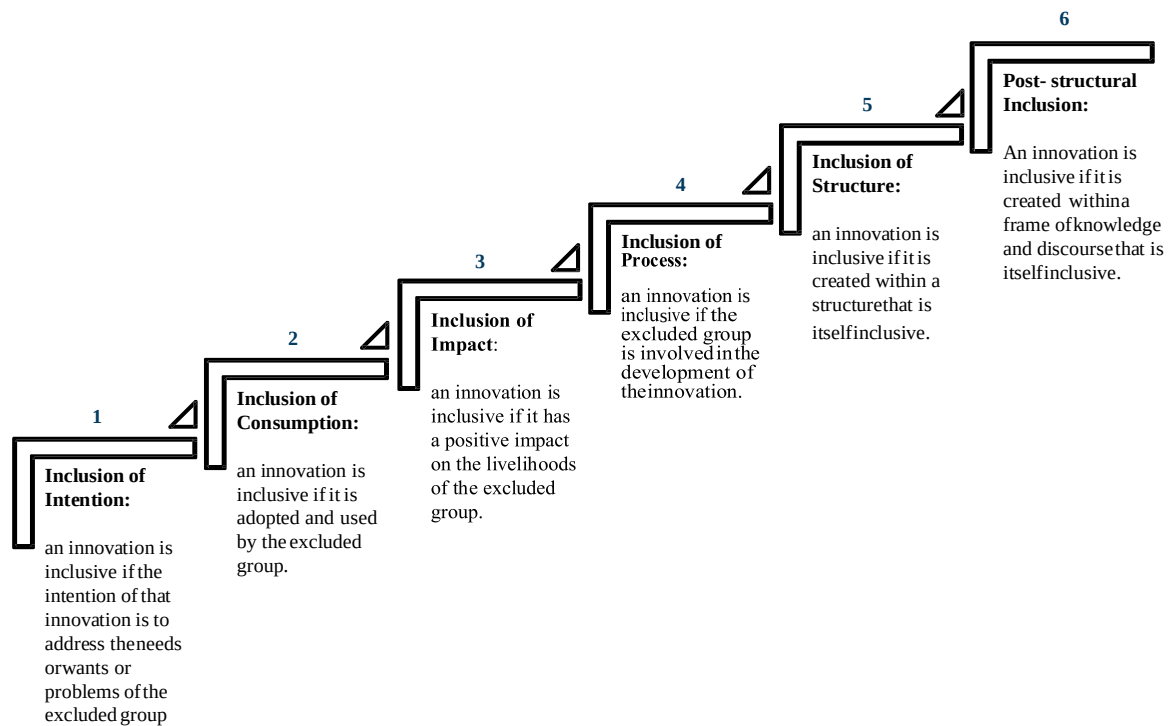


Figure 4.3: Ladder of inclusive innovation

Source: (Heeks *et al.*, 2014)

Considering the conceptualisations and implications of each of the levels of inclusion, inclusive innovation could further be defined as a structural change in which excluded groups are active agents in the social relations and interactions of learning and innovation processes supported by institutions that ensure people's freedom and capabilities within a frame of knowledge and discourse that provides a voice and power to the concerns and aspirations of different types of actors (Cozzens & Sutz, 2014; Heeks *et al.*, 2014; Johnson & Andersen, 2012).

4.5 INCLUSIVE GROWTH

Inclusive growth can be viewed as a desired outcome of innovative initiatives that emerging Merino sheep farmers in disenfranchised sectors of society and is simultaneously characteristic of the processes by which such innovative initiatives occur. What is distinctive about the researcher's lens on inclusive growth is the core principle that emerging Merino sheep farmers can, and do, engage in social innovation activities to connect disenfranchised emerging Merino sheep farmers and communities with opportunities that foster social and economic growth. In so doing, inclusive growth

diminishes trade-offs between growth and inequality because the poor become enfranchised as customers, employees, owners, suppliers, and community members.

Although most literature contextualises inclusive growth in emerging economies, where the disparity between rich and poor is more significant, its strategies can also be productive in developed economies, especially in regions of particular need. The inclusive growth model deals with increasing the pace of growth and expansion of the size of the economy. Furthermore, it levels the playing field for investment and increases opportunities for productive employment (Volpe & Biferali, 2008:121). It focuses on the analysis of the constraints to sustained high growth and explores openings to increase the pace of growth (Briones, 2015).

Kannan (2017); Volpe and Biferali (2008:121) focus on the analysis of the constraints to sustained high growth and explore possibilities to increase the pace of growth. Against this background, the research utilised inclusive growth as a basis to explore options to ensure that emerging Merino sheep farmers' commercialisation contributes towards the more inclusive agricultural growth in the research area. This is represented as an anticipated consequence post-adoption in Figure 4.4.

The key underlying factors that influences the success and failure of the commercialisation process all point towards the need for strong public and private policies and initiatives to support impoverished emerging Merino sheep farmers in the agricultural commercialisation process. Furthermore, in order for emerging Merino sheep farmers to fully benefit from both public and private investments in agricultural commercialisation, there is a need to develop new market models to ensure that disadvantaged emerging Merino sheep farmers as a result of pre-existing social, economic, environmental, and political conditions are included in high-value commercial markets, without jeopardising their productivity and livelihoods. Inclusive growth generally includes but extends pro-poor growth. According to Kannan (2017); Swan *et al.* (2008), the assumption is that growth that is beneficial for the large majority of people in developing countries is more likely to be economically and politically sustainable.

4.6 PROPOSED CONCEPTUAL MODEL

After reviewing the theoretical concepts underpinning this research, Figure 4.4 below illustrates the proposed conceptual framework and describes the relationship of the selected theoretical models applicable to address the primary research question and associated research objectives. This conceptualised framework serves as an abstract representation of the overall purpose of the study.

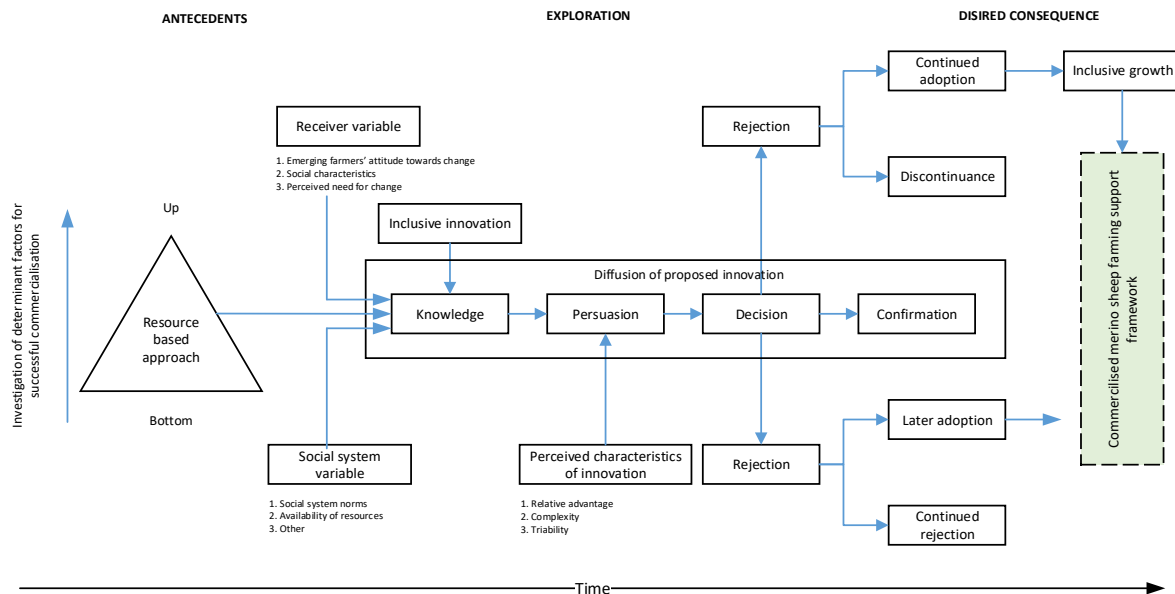


Figure 4.4: Proposed conceptual framework

Source: Author's own illustration

4.6.1 RESEARCH QUESTION AND IDENTIFIED OBJECTIVES

Despite substantial efforts in the commercialisation of Merino sheep farming, emerging farmers are yet to realise return on investment because of the low transition towards commercialised farming practices (Kingdom of Lesotho, 2014; Lesotho National Wool and Mohair Growers Association, 2017). Existing literature provides inconsistent and on occasion contradictory results in as far as the investigation of key aspects of a successful transition to commercial agricultural farming by emerging Merino sheep farmers in a developing land-locked country. Without this vital marketing acumen, emerging Merino sheep farmers and Merino sheep commercialisation practitioners experience difficulty in formulating a coherent and integrated framework to foster the transition to commercialised

Merino sheep operations in an inclusive innovation context. Against this background and the problem presented in Chapter 1, the primary research question reads as follows:

How can successful transition towards commercial Merino sheep farming be facilitated in Lesotho?

Since research in this area in the developing world has yet to reach critical mass, it was prudent to conduct this study. The objectives, naturally, stem from the need to broaden the scope of research on the key aspects which influences the successful transition to commercial Merino sheep farming by emerging latter farmers in an inclusive innovative context, and within the milieu of a developing nation. Therefore, the present research sets out to:

1. Investigate determinant factors associated with successful transition to commercial-based Merino sheep farming which can be applied in a developing country.
2. Establish why emerging Merino sheep farmers in the research area have not as yet transitioned to commercial-based Merino sheep farming.
3. Analyse the livelihood trajectories of Lesotho's emerging Merino sheep farmers to transition from subsistence to commercial farming.
4. Qualitatively explore options to ensure that emerging Merino sheep farmers' commercialisation contributes to more inclusive agricultural growth in Lesotho.
5. Develop a support framework for the successful transition to commercial Merino sheep farming, together with innovative options to facilitate commercialisation for inclusive agricultural growth in Lesotho.

In designing the research, it was imperative to consider the above objectives. The study now turns its focus to the adopted research methodology and design, which is discussed in detail in Chapter 5.

4.7 CHAPTER SUMMARY

In this chapter, based on the review of the selected theoretical models applicable to address the main research question and associated research objectives, it was understood that reducing social inequalities through innovation cannot transpire without auditing available

resources, participatory decision-making, participation of civil society and traditionally excluded groups, democratisation of knowledge, and design of innovation policies as social policies. Finally, the proposed conceptual framework was also presented in this chapter, followed by the research question and identified objectives. In the following chapter, the methodological approaches adopted to address the primary research question and associated objectives is explored.

CHAPTER 5

RESEARCH METHODOLOGY AND DESIGN

5.1 INTRODUCTION

The previous chapter critically evaluated and summarised literature associated with the holistic concept of commercialisation. The reviewed literature revealed a gap in the body of knowledge on commercialisation of agriculture, constraints and determinants associated with successful commercialisation of emerging Merino sheep farmers which is prevalent in the research area. Furthermore, an analysis of the existing literature of the study was concluded with the development of a conceptual framework and revealed the originality and relevance of the research problem and research objectives.

Additionally, this chapter presented the research design and methodology, which adopted an in-depth review of literature that was utilised to respond to the research problem. The methods selected for data collection and analysis is presented and justified, and in turn, utilised to respond to the research questions. The study was designed to follow critical realism scientific paradigm to respond to the research questions. This chapter begins with the research philosophy, a justification of the selected paradigm and methodology because these relate to the stated research problem. Thereafter, the sampling techniques and units of analysis are discussed.

To ensure quality research, this chapter further outlines trustworthiness, credibility and confirmability and its conclusions are addressed. Certain relevant ethical issues are also discussed in this chapter. Finally, the chapter concludes by highlighting the limitations of the scope within the context of the selected methodology and paradigm.

5.2 RESEARCH PHILOSOPHY

The interpretation of the reviewed literature on research methodology led to the consideration of the critical realism paradigm as the best-suited paradigm for this research. The characteristics of the chosen paradigm allow a deeper understanding of reality, and its potential to develop explanatory critique with the purpose to transform current practices in a social sciences problem. These characteristics were precisely aligned with the aim of this study: to investigate how successful transition to commercialised Merino sheep farming by

emerging farmers in Lesotho can be facilitated in an inclusive innovative context for inclusive growth. Its ability to engage in explaining and causal analysis (rather than engaging in thick empirical description of a given context) makes critical realism useful for analysing social problems and suggesting solutions for social change (Easton, 2010).

Roberts (2014) guides that critical realism takes reality as material, but acknowledges that people interpret it differently in different times and contexts. This implies that both the natural and social reality is treated as existing as provided because people, particularly, created the social reality, in the past. The key to the critical realist approach is that society has existed prior to human action, and it thus defends the ‘separability’ of ‘agency’ and ‘structure’ on the grounds that it makes it possible to expose restrictions upon agency that would otherwise go undetected. Relatedly, it empowers subsistence farmers, the Government of Lesotho, donor and supporting bodies to take more informed, strategic calculations of how to commercialise the current existing sheep value chain in ways that could eliminate such restrictions (Fletcher, 2017). The world perceived through critical realism is not only about events, state of affairs, experiences, impressions, and discourses, but also of underlying structures, powers, and tendencies that exist, whether or not detected or known through experience and/or discourse (Easton, 2010; Roberts, 2014).

5.3 RESEARCH METHODOLOGY

Interpretation of scholarly reviewed articles identifies research methodology as logical sequence that interlinks empirical data to the research’s main research questions, supporting research objectives (Collis & Hussey, 2013; Silverman, 2013) and ultimately to its conclusions. Similarly, Saunders, Lewis and Thornhill (2009) define research methodology as a blueprint for undertaking research. It specifies flexible guidelines that links theoretical paradigms to strategies of inquiry and suitable methods of gathering empirical data. Saunders, Lewis and Thornhill (2009); Collis and Hussey (2013); Silverman (2013) theorise that the method of data collection maybe either be qualitative, quantitative or mixed.

This study adopted qualitative case study methodology to address the research inquiry. The option of qualitative research methodology in this study supports the aim of the study in describing and understanding research environment from the participants’ point of view. The fulfilment of the research aim will enable the generation of a methodological

framework to facilitate effective transition from subsistence to commercial-based Merino sheep farming in an inclusive innovation context for inclusive growth. The use of qualitative methods in critical realism-based research is more established. According to Flick (2018); Smith and McGannon (2018), the application of qualitative case study methodology is ‘epistemologically valid’ because it is more capable of describing the social phenomenon being studied and it is additionally capable of generating situated analytical explanations. Case study research designs are sound sources of data in studying the phenomena in its natural setting and these also present an opportunity for innovation.

The researcher further adds that qualitative research builds its premise on inductive, rather than deductive reasoning. It is the observational elements, which poses questions that the researcher attempts to explain. The strong correlation between the observer and the data is a marked difference from quantitative research, because the researcher is strictly outside of the phenomena being investigated. There is no beginning point of truth or any established assumptions from which the researcher can begin (Saunders *et al.*, 2016). This empirical research comprised of data collected from the senses and utilised to explain phenomena relevant to social behaviours in new and emerging theories.

5.3.1 Primary characteristics of qualitative research

Qualitative research can be characterised by summarising the statements by Barney *et al.* (2011) that this type of research approach is “*naturalistic*”, should maintain “*intersubjectivity*”, it is additionally “*inductive*” and “*descriptive*”. These four primary characteristics of qualitative research approaches are summarised as illustrated in Table 5.1 below. However, one idea should be kept in mind that not all qualitative research exhibits the features to an equal degree (Silverman, 2013).

Table 5.1: Summary of the primary characteristics of qualitative research

Main characteristic	Description
<i>Naturalistic</i>	Qualitative research underscores exploring phenomena in naturalistic settings. That implies that qualitative researchers assume that human behaviour is significantly influenced by context (Hyett, Kenny & Dickson-Swift, 2014).
<i>Intersubjectivity</i>	In qualitative research, the concept of intersubjectivity denotes the act of according meaning between two or more research participants and establishing the objectivity of a claim made in research (Yin, 2017). Instead of being detached from what is investigated, researchers reflect and interpret research phenomena from their perspectives on the basis of collected data. Reflectivity is one of the crucial components of qualitative research (Hyett <i>et al.</i> , 2014).

Main characteristic	Description
<i>Inductive</i>	Qualitative research tends to be inductive. This means theory emerges from the bottom up, and “ <i>from many disparate pieces of collected evidence that are interconnected</i> ” (St. Pierre & Jackson, 2014a). Different from quantitative research, which has prior hypotheses before the research is conducted, qualitative research may merely begin with some “ <i>sensitising concepts</i> ” (Creswell & Creswell, 2017) and a “ <i>conceptual framework</i> ” (Roberts, 2014).
<i>Descriptive</i>	Qualitative research assumes that nothing is trivial and everything has the potential of being a clue to assist in understanding what is investigated (Flick, 2018). Therefore, data gleaned in qualitative research takes the form of words or pictures so as to present the thick description of the investigated phenomenon

Source: Adapted from Barney *et al.* (2011)

These four characteristics in Table 5.1 above have relevance for this study because commercialisation research deploying multiple case study methodology is essentially qualitative in nature (Tsang, 2014b). Following convention, the current study is no exception. First, the research comprised of the review of secondary literature, that is, the LNWMGA; the DoLSL; and the DoTEL. This in turn was followed by the collection of primary data from Quthing, Qacha’s Nek, and Mokhotlong. Here, the research was conducted in the field, that is, the residence of emerging farmers and the offices of the key stakeholders (LNWMGA, the DoLSL, and the DoTEL) within the Lesotho Merino sheep industry. Hence, the research was naturalistic, that is, the study was conducted in a natural setting and not contrived in a laboratory context. Furthermore, the foregoing stakeholders’ context was largely inseparable from the phenomenon under investigation (commercialisation of emerging Merino sheep farmers), hence the naturalistic approach was applied to assess the behavioural events accurately in an authentic manner. Also, such a naturalistic approach allowed for the utilisation of powerful investigative tools, such as participant observations during interviews.

Secondly, intersubjectivity was critical for this study because of the inseparability of context (LNWMGA, the DoLSL, and the DoTEL) and phenomenon (emerging Merino sheep farmer’s practices). It was critical that in order for the researcher to understand the phenomenon studied, it was necessary to personally observe in the actual environment where the emerging Merino sheep farmers farm in order to develop an empathy with the units of analysis (emerging Merino sheep farmers) and shed some light on their farming practices. Not all farming areas were the same and the particular differences between the

three districts in Lesotho sampled needed to be experienced by the researcher so that reflections of the units of analysis could be reported accurately.

The inductive nature of this research allowed for flexibility to explore the phenomenon without pre-conceived propositions. Furthermore, qualitative research understands that it is impossible to identify all probable themes beforehand (Vaismoradi, Jones, Turunen & Snelgrove, 2016). Qualitative research is primarily concerned with “...*insight, discovery and interpretation rather than hypothesis testing*” (Tsang, 2014b:369). This is an accurate summation of the intention of this study. That is, to inductively identify the key aspects for successful transition from subsistence to commercial-orientated Merino sheep farming by emerging Lesotho sheep farmers in an inclusive innovative context. This motivated the subjective aspects of human activity, focusing on the meaning rather than measurement of the commercialisation phenomenon. As such, it disqualified itself from embracing a strong positivist approach and took a critical realism stance as the appropriate paradigm underpinning.

Finally, the descriptive nature of the current research study must be acknowledged. In order for the phenomenon studied to be fully understood, it must be contextualised in a detailed manner as far as possible. Such “*thick description*” provided an important base from which to interpret the complexities of commercialisation of emerging Merino sheep farmers and practices in order to develop a support framework for the successful transition to commercialised Merino sheep farming, together with innovative options to facilitate commercialisation for inclusive agricultural growth in Lesotho.

5.3.2 The appropriateness of qualitative research application

The nature of the study is interpretive and descriptive (Silverman, 2013). The constructs are the values and interests of persons, which are not purely quantifiable (King, Horrocks & Brooks, 2018). Therefore, the investigation employs qualitative techniques to gain an understanding of the units of analysis. Guided by the primary research question and objectives, this study was primarily a theory-building attempt through inductive methods of data gathering and focused on in-depth research within an uncontrolled environment. This study undertook critical realism as an epistemological stance that allows engagement with the social world of emerging Merino sheep farmers in the Lesotho context, and

constructs the reality from the perspective of different stakeholders in the value chain of Merino sheep farming, which experience or live the phenomenon of this study.

As outlined earlier, the research undertakes critical realism as an epistemological stance. The perspective supported the need to “*appreciate the different constructions and meanings that the units of analysis place upon their experience ... explain why the units of analysis have different experiences, rather than search for external causes*” (Easterby-Smith, Thorpe & Jackson, 2012:23-24). The purpose of this research included an investigation of key aspects for successful transition to commercialised Merino sheep farming. Once these aspects have been investigated, the development of a support framework to facilitate transition together with innovative options to facilitate commercialisation for inclusive agricultural growth in Lesotho was explored. In this sense, the descriptive and naturalistic features of qualitative research match the purpose of the study.

Since researchers have claimed the appropriateness of qualitative research to explore the commercialisation of agriculture (Silverman, 2013), it is, therefore, pertinent to pursue a qualitative research tradition to understand the phenomenon. Drawing on certain perspectives of agricultural development stance which stresses the views which stem from emerging farmers’ experiences Goldsmith *et al.* (2017); Ochieng *et al.* (2016) standpoints of commercial farmers in developing countries who underscore different experiences of emerging farmers from different socioeconomic backgrounds (Komarek 2010; Mariyono 2019), the researcher assumes there is a relationship between the transition towards emerging farmers commercial farming experiences. The qualitative research tradition can assist to reveal the emerging Merino sheep farmers farming experiences from their own perspectives; and avoid taken-for granted judgments of the potential transition towards commercial orientated Merino sheep farming by emerging farmers.

5.4 CASE STUDY DESIGN

In this study, a qualitative case study research methodology approach was adopted due to the nature of the research, that is, exploration of a particular phenomenon. Yin (2017) denotes that a case study refers to a comprehensive research strategy with an all-encompassing method, which includes the logic of design, data collection techniques, and specific approaches to data analysis. Yin (2017), opines that exploratory research is type of

research applied when exploring contemporary research enquiries with no clear single set of outcomes. Academics such as Easterby-Smith *et al.* (2012) postulates that exploratory research projects attempt to create a groundwork that may result in future studies, or to determine whether what is being observed might be explained by an existing theory. As a comprehensive research method, it has been utilised in the social sciences, widely used in educational research (Silverman, 2013).

Although quantitative researchers who have positivist or post-positivist epistemological orientations also employ case study research, case studies are more likely to be utilised in qualitative inquiry. Almost any topic or type of phenomenon in qualitative inquiry can be explored through case studies (Tsang, 2014b). Case studies have been described as “*a basic form of qualitative research*” (Silverman, 2013:35). In terms of social sciences research, the qualitative case study is an ideally-suited means of investigation (Hyett *et al.*, 2014).

Moreover, case studies can be defined as a research strategy which is utilised to examine one or more instances of phenomena in certain settings (Silverman, 2013). It is about the particularity and complexity of a single case within significant circumstances, which is used to explore the detail of interaction of subjects in their context (Tsang, 2014b). Yin (2017) concludes that case studies have three explicit characteristics: study of particular instances, in-depth study of the case, and study of a phenomenon in its real-life context.

Due to these characteristics, the sample sizes utilised in case studies are often small. Because of the small sample size, the reliability of case study has been questioned. The findings of case study research cannot be generalised to the larger population. However, as Tsang (2014b) has suggested, the qualitative case study is concerned with exploring phenomena at length and its purpose is not the pursuit of generalisation. Case studies under the qualitative research umbrella share these characteristics (Tsang, 2014b), whereby continuous reflective interpretation is executed throughout the entire research process to maximise an understanding of the study.

5.4.1 Rationale for the use of the exploratory case study

Case study research is deemed suitable when the proposed study addresses a contemporary phenomenon, which the researcher has no control over; the research is largely exploratory; and addresses the “*how*” and “*why*” questions (Yin, 2017). Emanating from Yin (2017), an

exploratory approach is the preferred research strategy. Furthermore, the exploratory case study is recommended when limited prior research has been conducted on a phenomenon (Creswell & Creswell, 2017). In the current study, limited research has been conducted on the commercialisation of emerging Merino sheep farmers. Hence, the adoption of the exploratory approach is justified.

Furthermore, (Yin, 2017) argues that the case study should be utilised when the context is substantially important. In the current study, which explored how the successful transition to commercialised Merino sheep farming by emerging farmers in Lesotho can be facilitated, the commercialisation phenomenon was strongly embedded within the latter sheep farmers. Furthermore, the researched phenomenon and the context in which it occurred were not easily separable. When the phenomenon and the context cannot be clearly distinguished then a case study is the preferred research methodology (Yin, 2017). In the current study, the boundaries of the phenomenon and the context were not apparent.

In summary, the exploratory case study ranked as the most appropriate methodology for this research for a number of reasons. Firstly, the research objectives identified from the primary research question and the problem statement was geared toward an exploratory approach. Secondly, the researcher was limited in the degree of control that could be exerted over Merino sheep farming practices under investigation (the farming practices of emerging Merino sheep farmers). Thirdly, this research involved a contemporary context, that is, utilisation of semi-structured interviews and focus groups (the main strengths of exploratory case study research) and lastly, the phenomenon of commercialisation was largely inseparable from the context of agricultural growth within the wool industry in Lesotho. Hence, an exploratory case study research methodology was conducted on each of the three selected districts in Lesotho. In the next section, the rationale for adopting multiple cases is outlined.

5.4.2 The rationale for adopting multiple cases

As a basic form of qualitative inquiry, most research techniques, which are generally employed in qualitative inquiry, such as interviews, participant observation, document and artefact analysis, can also be well integrated into case study research to maximise the research purpose. Tsang (2014b) notes the major strength of the case study approach is the capacity of a multi-site case study to elicit common findings from across different settings

is one of its design strengths. For this research, case depiction of each case district (natural setting of sampled participants) developed and showed the particular and unique as well as what is common across the case districts. As a result, richer and deeper understandings of the phenomenon researched were revealed. Multiple cases are not selected because more means a better ‘sample’, with a consequent generalisation to a wider population (Tsang, 2014b). To do so would not conform with the constructionism as an epistemological stance undertaken in this research. The cases were selected because:

“Understanding them will lead to better understanding, perhaps better theorising, about a still larger collection of cases” (Tsang, 2014b:371).

This fact does not lessen their usefulness as a collection of cases. Indeed, within a multiple case study such variety can be particularly useful when conducting cross-case analysis (Tsang, 2014b). Certain researchers have also noted that two-case or multi-case studies can reveal more adequate findings than merely a single case study. Consequently, in this study, three districts with emerging Merino sheep farmers was selected. Furthermore, the researcher envisaged that by integrating exploratory research approaches with three-case studies, an in-depth description to fulfil the primary research question and the objectives would be achieved. Yin's (2017) statement justifies the utilisation of three case studies for this study. Thus, points out:

“Case studies allow investigators to retain the holistic and meaningful characteristics of real-life events.....such as individual life cycles, organisational and managerial processes, neighbourhood change, international relations, and the maturation of industries” (Yin, 2017:28).

5.4.3 Case study protocol

Multiple case study protocols provide a holistic overview for conducting research. It highlights all steps taken to address the research enquiry. The steps undertaken are expounded below to provide an understanding of how the research methods were applied in achieving the research aim set out. On the basis that this research is of explorative nature, it was imperative to acquire rich and robust data from the research participants. However, the research deemed this to a complex process, which required a logical investigation method. Therefore, primarily document analysis, semi-structured face-to-face

interviews, followed by focus groups was applied. The phases in which the research took place is illustrated in Table 5.2 below.

Table 5.2: Case study protocol for the research

Phase	Approach	Outcome
Phase 1	Review of secondary literature from the LNWMGA, the DoLSL, and the DoTEL.	Construction of a semi-structured interview guide.
Phase 2	Primary data collection from Quthing, Qacha's Nek, and Mokhotlong.	Comparison of results obtained from Phases 1 and 2 commenced. The comparisons led to the development of an interview guide for the research.
Phase 3	Interview representatives from the LNWMGA, the DoLSL, and the DoTEL.	Comparison of results from Phases 1, 2, and 3 in order to compile an interview guide for focus groups and possible dialogue.
Phase 4	Focus groups comprised of representatives from the LNWMGA, the DoLSL, and the DoTEL including emerging Merino sheep farmers from selected districts (Quthing, Qacha's Nek, and Mokhotlong).	This Phase allowed reciprocation, exploration and elaboration of ideas that may not have occurred outside the group. Findings were used to further refine results earlier obtained from previous Phases in order to generate a support framework.

Source: Author's own illustration

In Phase 1, the author reviewed and critically analysed secondary information from the LNWMGA, DoLSL, and DoTEL to construct an interview guide. In this phase, the following objective was pursued:

- To explore the economic viability (profitability and riskiness) of Lesotho's Merino sheep farming.

Phase 2 comprised of primary data collection from the selected districts in Lesotho. Due to the nature of the research, semi-structured face-to-face interviews were conducted primarily with emerging Merino sheep farmers. This rationale for this phase was to address the following set objectives:

- To empirically research the determinant factors associated with the transition to commercial-based Merino sheep farming in the selected districts of Lesotho.

- To qualitatively explore options to ensure that emerging Merino sheep farmers' commercialisation contributes towards inclusive agricultural growth in Lesotho.

Through semi-structured interviews with representatives from the LNWMA, the DoLSL, and the DoTEL guided by Phase 1 and Phase 2, Phase 3 provided the basis for analysis to achieve the following objective:

- To analyse the livelihood trajectories of Lesotho's emerging Merino sheep farmers and transition from subsistence to commercial farming.

In Phase 4, the results acquired from the preceding three phases to address and conclude the primary research objective, which was set to go beyond the identification of determinants of successful transition to commercial Merino sheep farming by emerging farmers in the land-locked country and attempting to develop a programme to facilitate successful transition in the inclusive innovation context was consolidated. These results have been outlined in detail in the following Chapter.

When the main method of data collection is interviews, which are prone to a high level of subjectivity, it has been suggested that bias may need to be addressed (King *et al.*, 2018). This can be done through triangulation (Mason, 2010). In this study, theory, data and methodological triangulations were applied. Triangulation enabled the researcher to understand and interpret the research findings more thoroughly than when making use of solely traditional research methods. The utilisation of triangulation of data collection methods not only helped to understand the motivating factors behind the move towards the commercialisation approach, but also the historical context within which such events occurred.

In addition to the interviews, data was generated through participant observation and quantitative secondary sources such as media reports and archival records as outlined in Table 5.2 above. These documents were particularly useful to establish a sense of the historical context of the various aspects of the sheep farming environment and developments. They also served as significant records of activity. Convention has it that more than one focus group is necessary unless the methods are mixed, in which case the qualitative group-derived data variably becomes the inferior branch of the project (Flick, 2018). The relationship between different elements of research methodology (approach,

design and research techniques) is illustrated in Figure 5.1. (The italic text indicates the elements of research methodology adopted in this research.)

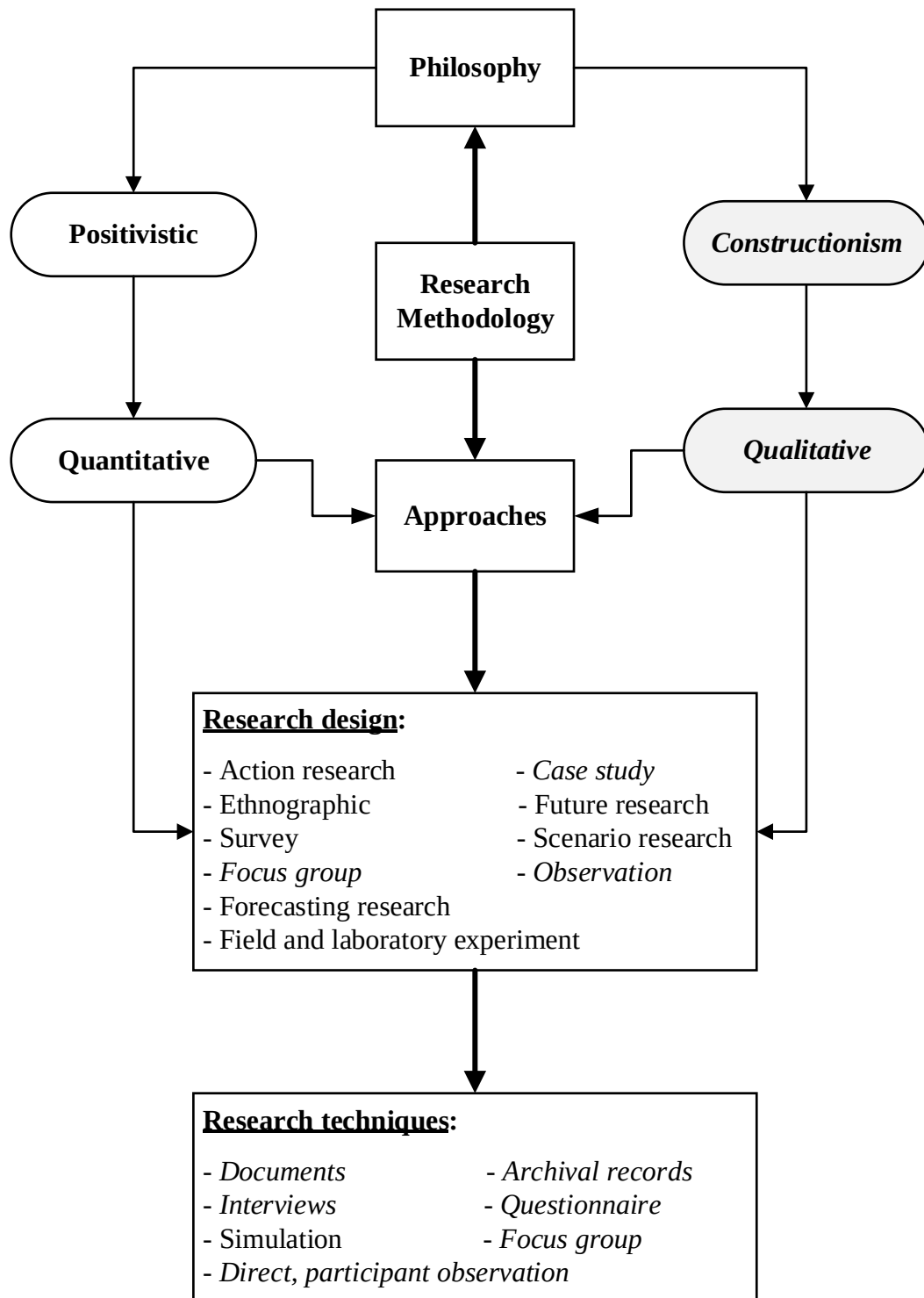


Figure 5.1: The relationship between philosophy, approach, method and techniques of research methodology adopted

Source: Author's own illustration

For this study, three focus groups were held at the local chiefs' premises with representatives from the LNWMGA, DoLSL, and DoTEL including certain emerging farmers. It was worth noting that the representation of emerging farmers was fairly low (only three were present) for the focus group organised at Qacha's Nek compared to other focus groups held at other two districts where at least twelve emerging Merino sheep farmers attended. It may be asked, what is the advantage of a focus group? From a common sense qualitative perspective, focus groups are not just a method to add numerical weight to the research: they take advantage of interactions between participants which allows reciprocation, exploration and elaboration of ideas that may not have occurred outside the group (Flick, 2018). This potential for synergistic 'sparking-off' between group members cannot occur in one-on-one interviews.

5.5 RESEARCH TECHNIQUES ADOPTED

5.5.1 Sampling design

The Lesotho Bureau of Statistics (2016) estimated the overall population of Lesotho is 2 007 201. More than 80 percent of the rural population live in rural areas and approximately 70 percent derives their livelihood, in part, from agriculture, while 51 percent of household members engage in subsistence farming (Lesotho Bureau of Statistics, 2016). Purposive sampling of cases (Creswell & Creswell, 2017; Yin, 2017) within the three districts of Lesotho, namely: Quthing, Qacha's Nek, and Mokhotlong was adopted. It was influenced by the geographic location – only emerging Merino sheep farmers in the selected districts were considered based on their willingness to participate.

The choice to restrict cases to the three selected districts was considered as per advice provided by Creswell and Creswell (2017); Mason (2010), who suggested the selection of a small enough area and accessibility to the research sample. In this research, as per Creswell and Creswell (2017) advice, the researcher aimed to sample a large enough sample to allow the unfolding of a *“new and richly textured understanding”* of the phenomenon under study, but small enough so that the *“deep, multiple case-oriented analysis”* (Yin, 2017) of qualitative data is not precluded. The aim was to acquire a broader spectrum of ideas and robust data for this study. The LNWMGA database was utilised to acquire details of emerging Merino sheep farmers. The LNWMGA database

provided the basis for sample selection that is congruent with the conceptual framework presented in the preceding chapter.

5.5.2 Units of analysis

In any scientific research, the first step in collecting and analysing data is to understand the units of analysis. Most of qualitative researchers, the meaning of this concept of units of analysis has become obscured. In its simplest form, the unit of analysis can be the person or object from which a researcher collects data from (Tracy, 2010; Vaismoradi, Turunen & Bondas, 2013). Yin (2017), for example, states that the unit of analysis depends on the purpose, and nature of the case study. The unit of analysis assist in answering the research enquiry. It helps in determining what type of data a researcher should collect from his study and who he collects it from. As such it is critical the researcher identifies the correct units of analysis well in advance once the research problem has been identified. Yin (2017) argues that the units of analysis should form part of the process of defining the research problem and deciding the methodology of the research. Adhering to this recommendation has assisted the author on how to design a multiple case study research.

In order to answer the primary research question, emerging Merino sheep farmers in Lesotho from three districts in Lesotho were selected as units of analysis (the sample is expounded upon in section 5.6). The units of analysis for this research were initially accessed several modes of communication (e-mails, one-on-one interactions and telephonic calls) to seek and secure permission to collect data through varied data collection methods. The rationale for use of multiple modes of communication was influence by access to mode of communication by the identified units of analysis. The aim of the study as specified in the earlier sections of this thesis is based on the intrinsic uniqueness of the phenomenon being researched. For this study, emerging Merino sheep farmers in the selected case districts in Lesotho were selected as the units of analysis. Easton (2010:121) definition of the summation case study design – which considers multiple elements within each case – was adopted in order to fulfil the requirements of a full research Doctor of Philosophy degree, as posited by Mason (2010), where the units of analysis were drawn from a total of three districts in Lesotho. This research was concerned with a holistic unit of analysis, because it sought to learn more about how the commercialisation of emerging Merino sheep farmers in Lesotho can be facilitated.

5.5.2.1 Sample size

Qualitative analyses typically require a smaller sample size than quantitative analyses. Qualitative sample sizes should be large enough to acquire adequate data to sufficiently describe the phenomenon of interest and address the research questions. The goal of qualitative researchers should be to achieve saturation (Malterud, Siersma & Guassora, 2016). Saturation occurs when adding more participants to the study but does not illicit additional perspectives or information (Fusch & Ness, 2015).

For this research and in conformance with Malterud *et al.* (2016); and, Morse (2015), recommendations, in order to draw acceptable results that yielded rich data to understand the phenomenon researched, an overall sample of 52 was selected. Each respondent was selected carefully. The sample selection was influenced by participation of the target sample in the Merino sheep farming industry in Lesotho and accessibility to the research sample. Table 5.3 summarises the rationale for selecting the target sample.

Table 5.3: Target sample and rationale for selection

Target sample	Sample size	Rationale for selection
Representatives from the LNMGA	3	They provided access to the database of members (emerging Merino sheep farmers). They further provided Merino sheep farming output information and challenges.
Commercial Merino farming experts	4	They provided expert opinions pertaining to best practices of commercial Merino farming.
Department of Livestock Services Lesotho representatives	6	This sample group provided insights into the potential challenges and dynamics facing emerging Merino farmers.
Department of Trade and Export Lesotho representatives	3	This sample group provides statistics largely concentrated on the characteristics of wool produced and exported.
Local chiefs from the selected districts	9	They have databases of flocks of Merino sheep in their respective areas of control.
Emerging Merino farmers	27	They provided practical experiences to the research inquiry. Other than this sample group being the locus of this research, they also provided needed information on the demographics of the group of farmers such as socio-economic characteristics, farming practices, and other characteristics.
Overall target sample	52	

Source: Author's own illustration

Though a sample of fifty-two participants was targeted, only a sample of thirty-three participants could be achieved. Table 5.4 below lists the participants that the researcher successfully interviewed.

Table 5.4: Total sample achieved

Target sample	Sample size	Reason for deviation from target sample
Representatives from the LNWMGA	2	One of the representatives could not partake because he was out of the country on work purposes.
Commercial Merino farming experts	4	Target sample achieved.
DoLSL representatives	3	Target sample achieved.
DoTEL representatives	2	At the Qacha's Nek district office of the Department of Trade and Export Lesotho, the target representative had resigned from the office.
Local chiefs from the selected districts	6	Target sample achieved.
Emerging Merino farmers	18	Data saturation had been reached after sampling eighteen respondents.
Overall sample achieved	35	

Source: : Author's own illustration

Out of the overall target sample, three focus groups were conducted in each district. Focus groups comprised of a representative from the LNWMGA, DoLSL, and DoTEL, local chief and three emerging Merino farmers from each district. The selected sample enabled the researcher to generate rich, dense, focused information based on the research question. This corroborates with King *et al.* (2018), views that sample selection should have a clear rationale and fulfil a specific purpose related to the primary research question, which is why qualitative methods are commonly described as 'purposive'.

5.5.3 Research environment

In order to establish new and richly textured understanding of the phenomenon under study, the researcher conducted multiple case studies at the three selected districts in Lesotho. The research was conducted at the actual field setting where key informants (emerging Merino sheep farmers) farm Merinos sheep. Keeping in mind that some of the participants are from different grazing regions, it was imperative to be in the field setting in

order to inhibit the duplication of information. The researcher initially envisaged that such a research environment would provide the researcher with an opportunity to systematically investigate, observe, gather and document data of the sample experiences (Easton, 2010; Tracy, 2010) through strategies such as participant observations, various written texts, face-to-face semi-structured interviews as well as focus-group interviews in a social and cultural context in which the learning occurs. Understanding the meaning that participants in the selected case districts give to the events, situations and actions that they are involved with and of the accounts they give of their lives and experiences was the main aim to conduct this research in the actual field setting.

When the researcher visited the subsistence farmers, he tried to establish their comfort zones so that they discussed their daily duties such as visiting Ha-Koali, Lebelonyane and Mphaki shearing sheds to witness how Merino sheep were sheared. The researcher took photographs of the farmers and of the infrastructure they have at their homes to assist during the writing-up phase. Field notes were also taken after informal discussions to comprehend some of the aspects he could have missed because of the generation gap between himself and the farmers. Being in the research area, though for a limited time, also helped the researcher to understand the dynamics of rural life, payment delays for wool sold and the lives of emerging Merino farmers rather than gathering information from hearsay or literature. This significantly improved the reliability of the gathered data.

Participant observations was utilised as an additional method of data collection. As theorised in the literature, observations are a unique method for investigating the enormously rich, complex, conflictual, problematic, and diverse experiences, thoughts, feelings, and activities of human beings and the meanings of their existence (Jorgensen, 2015). The participants were observed as they were being interviewed. According to Ranney, Meisel, Choo, Garro, Sasson and Morrow Guthrie (2015), the researcher plays the role of an 'Observer as Participant' whereby he/she is in a situation only as an observer.

The researcher focused primarily on patterns or behaviour to understand the assumptions and values of the phenomenon and attempted to make sense of the social dynamics. In this sense, the researcher is neutral without influencing the dynamics (Smith & McGannon, 2018; Vaismoradi *et al.*, 2016). The most important aspect of this tool that made it relevant was that the researcher developed a deeper understanding of the experiences and social norms of the community and could interpret their expressions better.

5.5.4 Data collection instruments

The primary strength of qualitative research is its potential to explore the phenomena explored in depth (Fusch & Ness, 2015). However, this potential is dependent on the selection of data collection instruments. In this research, multiple data collection instruments were chosen in order to generate rich, dense, focused data on the research enquiry. Data-collection methods included in-depth review of academic and industry literature, observations, semi-structured interviews, and focus groups (Table 5.2 above). Since the phenomena under review is not clearly defined in theory, both induction and deduction were required (Easton, 2010; Yin, 2017) in this study. Semi-structured face-to-face interviews, observations and focus groups methods were the most appropriate data collection methods for this research. Prior to data collection, ethical clearance was sought from the institution respectively. Data for this study was gathered from field research that was conducted between late March 2019 and late April 2019.

Use of face-to-face semi-structured interviews was motivated on the argument by Leedy and Ormrod (2013) that face-to-face semi-structured interviews are more likely to establish a good rapport with the research participants, especially in the actual field setting. In other words, semi-structured interviews are considered appropriate since they allow the research participants an opportunity to engage in the study in a conversational manner by providing their perceptions while focusing on the purpose of the study. Semi-structured interviews are characterised by a series of open-ended questions centred on the research topic areas that the researcher intends to investigate (Leedy & Ormrod, 2013). For this type of interviews, the interviewer prepares a set of predetermined questions in advance (Creswell, 2013). Therefore, the researcher was afforded the benefit to prepare for the field research well ahead of time. This allowed the researcher to be prepared and appear competent during the interview.

The key informant face-to-face semi-structured interviews made use of a set of self-constructed semi-structured interview questions to gather data from each of the research participants. These questions were formulated mainly through the review of secondary literature from the body of knowledge and practice (kindly refer to Appendix E and Appendix F (Sesotho translated)). The questions were set out in such a manner that the researcher explored the extensiveness of the phenomena being researched to acquire maximum information of key aspects related of the successful transition to commercial

agricultural farming by emerging Merino sheep farmers in Lesotho in order to generate a methodological framework to facilitate effective transition from subsistence to commercial-based Merino sheep farming in an inclusive innovative context.

In order to maintain consistency for the entire data collection process, the researcher developed an interview schedule (kindly refer to Appendix D) to guide each participant interview. In an attempt not to disrupt the daily activities of each research participant, the interviews were carried out in the actual field where emerging farmer keep their Merino sheep. The research participants were given a brief introduction prior to the commencement of each interview. Both verbal and written consent were acquired from each participant before the face-to-face interviews commenced (kindly refer to Appendix B and Appendix C (Sesotho translated)). The Sesotho translated questions additionally aided the researcher with the establishment of rapport with the research participants. The interview sessions were facilitated in such a manner to allow the research participants the freedom to express their views in their own terms. Whenever the research participants provided either abrupt or shallow responses, the researcher made use of prompts to capture precise new and novel information as it emerged.

During the face-to-face interviews of each research participant, observations of the research participants simultaneously occurred. Throughout the data collection process, the researcher took concerted effort and respect while taking note of the research participants' emotions. As such, this enabled the researcher to capture the circumstances and experiences of the research participants through their expressions and elaborations. Through this, rich valuable data was generated and precise transcripts of each interview including observations notes were captured to get a general sense of the entire idea presented. All interview questions as stipulated in Appendix E or Appendix F were posed during the interviews.

The data collection process stopped once 'redundancy' of data generation or 'saturation' was achieved. Saturation is 'the process of sequentially conducting interviews until all concepts are repeated multiple times without new concepts or themes emerging' (Fusch & Ness, 2015). Data saturation was reached from the twenty-seven targeted sample of emerging Merino sheep farmers. The concept "*data saturation*" (developed originally for grounded theory studies but applicable to all qualitative research that employs interviews as the primary data source) entails bringing new participants into the research until the data

set is complete, as indicated by data replication or redundancy. In other words, saturation is reached when the researcher gathers words; saturation is reached when the researcher gathers data to the point of diminishing returns, that is, when nothing new is added (Fusch & Ness, 2015).

5.6 DATA ANALYSIS APPROACHES AND TOOLS

This study was conducted in different phases as discussed earlier in this chapter. In the first phases the focus was to have data reduction and deductions where abstracts of data were selected, simplified, focused and transformed to a given context. At each phase, different techniques and tools of analysis was utilised to establish themes that had emerged. This is a common data analysis technique according to Vaismoradi *et al.* (2016), for qualitative studies and it is known as “*thematic analysis*”. The three sequential stages of qualitative data analysis to identify themes and codes from data collected were applied as recommended by Saunders *et al.* (2016:568). These main stages are as follows:

1. Data refinement: this stage involved line by line analysis and re-reading of transcripts to identify words and phrases which described the participants’ experiences at the selected three districts;
2. Displaying data refers to the stage where detailed data is organised into simplified, easily understood patterns and categories; and
3. Deducing and authenticating conclusions.

Application of Saunders *et al.* (2016), stages of analysis in this study resulted in the identification of themes and codes which aligned to the reviewed literature. Several methods of analysis were utilised to refine key themes and deduce the critical ones. To articulate meanings from descriptions codes, themes and categories were generated from collected data. Following on, comparisons of coded data with raw data were performed to assess variations, outline similarities, and highlight patterns and to generate relationships. From the raw data collected, reflections including ideas associated with sections of the refined data collected was abstracted and a detailed analysis was presented in an organised manner making of ATLAS.ti™. Additional collection of data assisted the researcher in the testing as well as expansion of ideas.

The qualitative data analysis tool, ATLAS.ti™ software was utilised for the thematic and discourse analysis of the findings as well as modelling identified dynamics underlying key aspects for successful transition to commercialise Merino farming by emerging Merino sheep farmers from which the study drew its sample. It is worth noting that, at each phase relevancy and meaning was attached to the identified factors, regularities, sequences, patterns, and relationships were drawn. This helped to identify the key themes, which were analysed. These qualified key themes that were utilised in the development of the framework.

5.7 QUALITY CRITERIA FOR A QUALITATIVE RESEARCH APPROACH

There is often criticism of research findings based on its quality, and whether it is considered trustworthy (Smith & McGannon, 2018; Yin, 2017). The reasons are many studies lack a clear understanding and application of research methodology (Tracy, 2010). To generate robust and rich findings with a potential to contribute to the body of knowledge and practice, it is necessary to ensure that the research paradigm is well understood and applied correctly. Furthermore, there is much literature in which the procedures yield quality results (Tracy, 2010). The reviewed scholarly publications indicated three different types of quality criteria applicable in this study, namely “*Credibility*”, “*Transferability*” (external) and “*Dependability*” (reliability). The purpose of identifying a set of procedures is to ensure quality research findings.

5.7.1 Credibility

“*Credibility*” refers to the degree to which the research represents the actual meanings of the research participants, or the “*truth value*” (Noble & Smith, 2015; Silverman, 2013; Yin, 2017). When evaluating qualitative research, credibility stems from the intended research purposes, and credible research decisions are those that are consistent with the researchers’ purpose (Yin, 2017). Credibility was addressed at various levels of the research. The researcher first mapped the research findings alongside existing theoretical concepts identified from the in-depth review of literature. This approach corresponds with the reviewed credibility literature that credibility occurs in the research data analysis. In this stage, comparisons of specific codes, themes and categories that emerged within captured transcripts from interviews conducted, observations and focus groups. The rationale was to ensure richness of data at gathered.

5.7.2 Transferability (external)

“*Transferability*” refers to the degree to which the phenomenon or findings described in one study are applicable or useful to theory, practice, and future research (Smith & McGannon, 2018), that is, the transferability of the research findings to other contexts. The use of multiple cases as in this research aided the replication of findings. At the same time, the use of theoretical concepts strengthened the transferability of this study. Two strategies were further applied for employing adequate transferability. One was what Fletcher (2017); and, Yin (2017) referred to as “*rich thick description*” of the case’s embedded units of analyses such as successful participants. Accordingly, the research methods, contexts, the participants’ general information (such as survey district in Lesotho and name of the village where the respondent reside), socio-demographic data (that comprises of age of the household head, marital status of the household head, education level of the household head) and assumptions underlying the study were detailed. Moreover, detailed and in-depth descriptions of the findings were presented verbatim with adequate evidence from the participants’ focus groups and interviews, along with taxonomies, thematic maps, and conceptual models.

Another strategy to enhance transferability is naturalistic generalisation, which refers to generalising based on similarity (Hyett *et al.*, 2014). The more similar the participants and circumstances in a particular research study are to the ones that a researcher wants to generalise, the more defensible the generalisation will be. To accomplish this, King *et al.* (2018); Ranney *et al.* (2015) suggest providing the following type of information: number and kinds of people in the study, selection procedure followed, contextual information, the nature of the researcher’s role, information about research subjects, methods of data collection, and data analysis techniques utilised for the study. The majority of these items have been described in this chapter. The remaining information is provided in the following chapter so that the reader can make an informed decision.

5.7.3 Dependability (reliability)

Flick (2018) refers to dependability as “*the stability of findings over time*”. In qualitative research, researchers mostly make use of dependability rather than reliability. The researcher aimed to achieve the highest level of dependability thereby the findings can be rendered reliable and valid. Data collection persisted until data saturation was achieved

(until no new themes emerged). Once each interview was concluded the researcher additionally maintained an audit trail as per advice by Flick (2018). The following documents were kept for crosschecking the inquiry process: raw data from interviews, observations and focus groups and documents and records collected from the field.

A thorough examination of the research inquiry process whereby the researcher accounted for all the research decisions and activities in the data collection, capturing of data and data analysis was essential during to ensure dependability. The continuous qualitative data analysis informed further data collection and iterative data analysis. With the thought of replication of the study in mind, the researcher clearly outlined the inquiry process at the initial stage of the research design. As a result of a clear research outline process, coherence of the internal processes and the logical presentation of findings can be assessed (Creswell, 2013).

5.7.4 Pilot study

In order to troubleshoot the research instruments, the author involved three research participants from the LNWMA, DoLSL, and an experienced Merino farmer from Maseru. Their recommendations were incorporated in the refinement of the final research instruments and these three preliminary research participants did not partake in the main data collection research process. From the pool of the preliminary research participants, the Merino sheep farmer was referred by the LNWMA who was one of the largest wool producers in Lesotho and a well-established veterinarian. It is through the pilot case study process that it was established that the anticipated interview session would take an average of 45 minutes. Minor changes were effected to certain questions to clarify terminology (mainly the context of commercialisation). These changes were made to avoid confusion among the interviewees.

5.8 RESEARCH DIARY

Smith and McGannon (2018) for example argue that, the human author contextualises qualitative case study research and ultimately interpret the meaning as well as the research results. The detailed descriptions of the steps followed throughout the entire research process are chronicled Appendix H. The research diary is an abstract representation of the reflections and thoughts of the researcher associated with this study. As such, the synopsis

is an attempt to furnish the contextual background on how the research journey unfolded. The documentation of the researcher's reflections and thoughts makes it possible for the reader to assess potential shortcomings of the research. Generally, truthfulness and ethics prevail.

The interviewees were generous because they gave the researcher sufficient time for the interview and suggested that they would avail themselves at any time to confirm their responses or if further information was required. This provided the researcher with confidence of the accuracy of the interview process and increased the reliability of the research. Although it is difficult to evaluate honesty and accuracy from the responses provided by interviewees, the overall impression was that the respondents were generally knowledgeable, open, and cooperative.

5.9 ETHICAL CONSIDERATIONS

Ethical conduct and reflexivity are core features of qualitative research practice as ethical questions may arise in every phase of the research process (von Unger, Dilger & Schönhuth, 2016). Generally, ethical considerations in research should be observed from the point of selecting a research topic, and followed through the writing up to the point of disseminating the results of the study. Lancaster (2017:94) argued that ethical behaviour should embrace all the agreements shared by researchers of what is either proper or improper in the conduct of scientific inquiry. Although it was impossible to completely predict all potential ethical issues, it was necessary for the author to uphold high ethical standards. This was achieved by adhering to the following ethical remarks to minimise any negative consequence that could have arisen from this study:

- **Informed consent:** Participation of all participants was voluntary and was based on sufficient information and an adequate understanding of the research and the consequences of their participation. The participants were informed of the nature of the study that was conducted beforehand.
- **Presumption and preservation of anonymity:** The participants were assured of the confidentiality in handling their responses. They were further assured that their identities would be preserved with the strictest confidence throughout the entire research process.

- **Protection from harm:** participants in this research were not subjected to any form of distress. They were additionally protected from physical harm during the research process. Protection from harm was fundamental to the author that no adverse consequences resulted to the research participants as a result of their participation in this research.
- **Respect for others:** The research participants were treated as autonomous, free to make their own decision during the research and their views about the research questions shall be respected. There was no use of any form of deception used.
- **Voluntary nature of participation and no coercion:** since this research is of voluntary nature, the key informants were notified beforehand the risks and benefits of participating in this research. They were made aware of their right to refuse to provide any information related to the interview questions and their right to withdraw at any time in case they felt uncomfortable. Participation was not subject to any coercion or threat of harm for non-participation.
- **Responsible data analysis and reporting of research findings:** The findings of the research were reported honestly. This standard was applicable even though the results were unfavourable or different from the researcher's expectations.
- **Integrity and objectivity of the researcher:** A statement regarding the purpose of the inquiry was provided to all the participants of the study beforehand, which included their role in the study and how the information they provided was to be treated and utilised.

Data collection only commenced after the study was registration and ethics clearance was granted by the UFS Ethics Committee. The UFS Ethics Committee approved the application for ethics clearance for this study on the 21st of November 2018. The following ethical clearance number was provided: UFS-HSD2018/1410 (kindly refer to Appendix A).

5.10 CONSTRAINTS

Although the qualitative exploratory case study research strategy has been justified as an appropriate research approach to address the questions of the study, a number of

limitations need to be acknowledged. Firstly, since data is highly dependent on the responses from the participants, the extent to which they responded to the interview questions determined the quality of the data. In this study, because the representatives from the DoLSL and the DoTEL had tight and busy working schedules, the time to interview them was fairly limited. Needless to say, this consequently influenced the depth of the data gathered. An attempt was made to offset this limitation by: endeavouring to build a positive relationship with each participant so that they would be committed to the research; and, to avail myself at the time that most suited their schedules.

Secondly, due to the low educational levels of some of the emerging farmers, cognisance was taken of the probability that certain target samples would be unwilling to form part of the study. However, adherence to local protocols was paramount. In order to access emerging farmers from various villages at the three sampled districts of Lesotho, the researcher had to seek permission to gain access to them from the local chiefs. This mitigated the risk of them not being able to access the sample or even placing the researcher at risk during data collection. The translation of the interview questions into Sesotho simplified the respondents' participation to fully comprehend the intent of the overall research. This also reduced the time to gather data than initially anticipated.

Lastly, the time to access certain emerging farmers was longer than initially predicted due to poor infrastructure development and transportation challenges in the selected districts of Lesotho. Moreover, a horse was rented to access remote areas where road access was not possible. This was primarily within the Quthing district at Ha-Makoe village. An off-road motorbike could have been an alternative but since the study was self-funded, hiring a horse proved to be a cheaper option. The required data was secured.

5.11 LIMITATIONS OF THE METHODOLOGY

A limitation of a research design or instrument is the systematic bias that the researcher did not or could not control and could inappropriately affect the results (St. Pierre & Jackson, 2014a; Tsang, 2014b). This thesis, as with any other research is not free from limitations. The limitations of the present study were:

- **Time constraints:** In keeping with the requirements of the PhD degree, this study had to be completed within a specified time frame. Therefore, certain research designs, for example, longitudinal methodologies could not be utilised.

- **Privacy restrictions:** During the pilot study, it was reiterated that the names of the participants must be withheld as reasonably as possible throughout the entire study. More so, the participants who are employees of the state (representatives from the DoLSL and DoTEL) and LNWMGA. As such, the researcher was advised not to utilise an audio recorder given the current amendments to the legislation surrounding wool trade in Lesotho.
- **Financial constraints:** Since the author had a limited budget to conduct the research, the methodology and design was customised to conform to the available budget. For example, the choice of the sample and data collection techniques was influenced by the financial constraints imposed on the research process.
- **Geographic scope:** The study was restricted to the emerging farmers in the selected districts of Lesotho. Consequently, it would be inappropriate to generalise the results as totally applicable in other settings.

The above-mentioned limitations applied to this study and were considered during the discussion of the findings.

5.12 CHAPTER SUMMARY

Chapter 5 presented the research design and methodology of the study. The research philosophy, methodological choice, adopted research techniques, data analysis approaches and tools, quality criteria for qualitative approach, research diary, ethical considerations, constraints and limitations of the methodology was expounded upon. This chapter also described the rationale for adopting the qualitative research design more specifically, the explanatory multiple-case study design. It further clarified the processes and procedures utilised to conduct the study. The primary unit of analyses included three local districts in Lesotho namely: Quthing, Qacha's Nek, and Mokhotlong and representatives from the LNWMGA, DoLSL, and DoTEL. Chapter 6 discussed the empirical results.

CHAPTER 6

DATA ANALYSIS, RESULTS AND PRESENTATION OF FINDINGS

6.1 INTRODUCTION

The previous chapter, described the methodological approaches pertaining to this thesis, including methods applied to collect primary data. Qualitative case study methodology and critical realism paradigm was applied to gather data through semi-structured interviews, observations and focus groups. The overarching aim of this study was to go beyond the identification of determinants of successful transition to commercial Merino sheep farming by emerging farmers in Lesotho. Furthermore, also endeavour to develop a programme to facilitate the successful transition in the inclusive innovation context. ATLAS.ti™ was utilised as the qualitative tool for analysis. The research methodology and design processes as well as the researcher's thoughts and reflections were chronicled in section 5.9 (research diary) of the preceding chapter, Chapter 5. The data analysis processes, as influenced by the, overall aim of the research, the primary research question and the theoretical framework developed is also discussed in Chapter 5. Lastly, the remaining two sections of the chapter presents the consolidated analysis of the themes that emerged from the analysis and concludes by discussing validity and truthfulness. The section below presents a brief description of the cases.

6.2 BRIEF DESCRIPTION OF CASES

The cases were drawn from the following three districts, namely: Quthing, Qacha's Nek and Mokhotlong in Lesotho where emerging Merino sheep farmers operate. The sampled respondents were selected from the following villages in the above three districts: Thoteng, Mt. Moorosi, Tosing, Mphaki, Ha-Koali, Sehlabathebe, Tsoelike, Ha-Sekake, Mapholaneng and Malingoaneng. The local Chiefs in the above districts and the Lesotho National Wool and Mohair Growers (LNWMGA) representation, and the DoLS representation played a major in providing valuable insight into this thesis. In total, thirty-five research respondents were sampled. In order to adhere to ethical standards and the conditions of the approved ethical clearance to undertake this study, the identities of the sampled respondents were not disclosed. Pseudonyms to protect the identities of key

informants interviewed were used and a pseudonym register was maintained for clarifications and verifications. The following section discusses the data analysis process.

6.3 DATA ANALYSIS PROCESS

The sampled participants provided rich and substantial data when reflecting upon their Merino sheep farming experiences. The interviewer probed into the activities of the selected key informants by requesting a narrative account of activities they performed in relation to emerging Merino sheep farming. This approach is supported by other researchers in the critical realism field (Fletcher, 2017; Smith & McGannon, 2018). Ultimately, all fieldwork culminates in the analysis and interpretation of some set of data, be it a numerically quantitative survey/questionnaire or qualitative textual transcript (St. Pierre & Jackson, 2014b; Vaismoradi *et al.*, 2016). The purpose of the qualitative analysis was to examine, interpret and explain the data as it emerged as concepts, constructs, patterns, themes, categories and relationships, according to the research purpose (Ranney *et al.*, 2015; Vaismoradi *et al.*, 2016).

The purpose of this research, as discussed in previous Chapters, was to establish the cause of an event rather than having a predisposed opinion thereof (Vaismoradi *et al.*, 2016). Therefore, the selection of themes was a crucial issue. However, after following a rigorous approach themes based on the following were selected: consideration of the role and responsibility attached to participants within the emerging Merino sheep farming segment in Lesotho of how emerging Merinos sheep farmers can transition to commercialised Merino sheep farming. If a critical issue arose during one interview, it was raised in another section prior to posing such question. This was considered important so that the research is a robust effort.

The author took cognisance of the prevailing challenges pertaining to the policy environment in the wool trade in Lesotho. Presently, the changes in the wool trade policy are very sensitive issue for the majority of wool producers and other stakeholders in the country. The sampled participants had varied views, while others placed accentuated certain issues, when it arose. Such questions were posed in the subsequent interview to establish whether these issues were important. As outlined in the methodology Chapter, primary data and evidence was collected through interviews, observations and comprehensive review of secondary literature that was supported by the deconstruction of

the qualitative data into manageable codes and themes, patterns, trends and relationships (Ranney *et al.*, 2015; St. Pierre & Jackson, 2014b). The data collection, analysis, deconstruction and reconstruction were based on multiple case study strategies to address the primary research question and objectives, that is, emerging Merino sheep farmers and key stakeholders within the industry. Several interviewees re-emphasised certain issues a number of times: therefore, such issues were also identified as themes for discussion.

6.3.1 Written interviews, notes and transcribed interviews

Given the prevailing atmosphere of the newly promulgated amended wool trade policy, and delayed payments due to the wool producers on the wool clip sold, at the time when data was collected, at the request of the research participants and the LNWMGA, none of the semi-structured interviews were digitally recorded. Consequently, detailed fieldnotes were taken on a traditional notepad. The anonymity of sampled participants was also declared during the Ethical Clearance application process. This method of data capturing was tedious and time-consuming although interesting when the themes emerged from the interviewees. Every effort was made to ensure that each interview was recorded and transcribed accurately into Microsoft Word software immediately after each interview. An experienced co-researcher was present on the first day of the interviews and provided academic assistance during the process. The assistance involved, amongst other things, guidance of the interview according to the research focus and posing clarification to questions posed.

To save on time and cost, as recommended by Ranney *et al.* (2015), the researcher's spouse assisted with the transcription. Each transcribed interview was analysed individually to arrive at an understanding of each participant. The transcriptions were checked for correctness by comparing the fieldnotes against the Microsoft Word text. At least two checks were conducted on each transcription for correctness. In one of the semi-structured interviews, three checks were conducted because of typographical errors. Furthermore, each interview and observation were carefully scrutinised in detail not to miss out any important data that would make the overall findings robust. It was an iterative process in finding clarifications, assessing confirmations including contradictions. The extraction of direct quotation in written interviews was a tedious and difficult process. However, the author took every effort to ensure that the overall reflections – words, actions and feelings of respondents were captured. To ensure reliability and validity of data, the

transcribed interviews were presented to the respondents before the focus group discussions to verify and confirm the content.

At the end of each interview and focus group session at each district, fieldnotes summarising the main issues were prepared. The fieldnotes enabled the author to perform preliminary analysis by assigning codes to the text and comparing and contrasting findings to other interviews. To maintain protection of identities of the sampled key informants, an edited version of the transcript was produced. This copy replaced all material that could identify an individual, and the position held if employed by the state. Even the names of some of the sampled emerging farmers who were willing to disclose their identities was replaced with pseudonyms to maintain the ethical code of conduct. Within the pseudonym register opened any amendments made were recorded to keep track of the changes. Since all findings from the interviews were manually captured and transcribed into Microsoft Word, these were subsequently converted into rich text format (.rtf) to make them compatible with ATLAS.ti™. The results of the decoding process were re-submitted to the co-author for an independent evaluation. Regular discussions took place and adjustments were made according to suggestions and recommendations.

6.3.2 Observations

The field study was beneficial because the researcher was allowed access through the respective local Chiefs from each of the three districts villages to observe the farming activities of the sample. In total, approximately the entire day was spent observing the emerging farmers in their natural setting. During the exercise, the researcher interacted with various stakeholders involved in Merinos sheep farming, especially on the day of the Livestock show held in the Quthing and Maseru districts. The researcher was privileged to have first-hand experience to engage with various stakeholders in the Merino sheep segment in Lesotho. The interview guide was consulted to determine significant aspects not to waste the stakeholders' invaluable time. When certain responses were unclear, the farmers and stakeholders were asked to elaborate further to fully clarify their input.

6.3.3 Consolidating analysis

Data collection and analysis took the form of semi-structured interviews and observations (Vaismoradi *et al.*, 2016; Yin, 2017). Each interview was initially analysed independently.

Subsequently, the themes that emerged from the interviews were analysed, and this constituted the “within-case” analysis. The comparison of cases was the basis for “cross-case” analysis. In order to integrate the findings, the literature was also consulted to contextualise the findings within the greater body of knowledge.

6.4 PRESENTATION OF RESEARCH FINDINGS FROM THE DATA

The presentation of the findings is guided by the interpretation of the transcripts. The thematic analysis, in line with the specific objectives of the research was utilised. The primary datum collected were analysed using the qualitative data analysis software ATLAS.ti™. ATLAS.ti™ offered the researcher the possibility of building network representations connecting codes-to-codes, and quotations-to-quotations, through meanings. The coding process was rather a cyclic process that enabled the author to not only label, but link responses to ideas. The dominant themes that emerged from the cyclic thematic analysis process included: Social status, Income and Culture; Asset Holding; Education and Training; Agricultural Support Services; Funding; Resources; Markets, Access and Information; Transaction Costs; Technology and Innovation; Policy Environment; and Infrastructure as the main themes for commercialisation of Merino sheep farming in Lesotho. A network diagram illustrating the relationship between codes to codes to represent themes or families is shown in Figure 6.1 below.

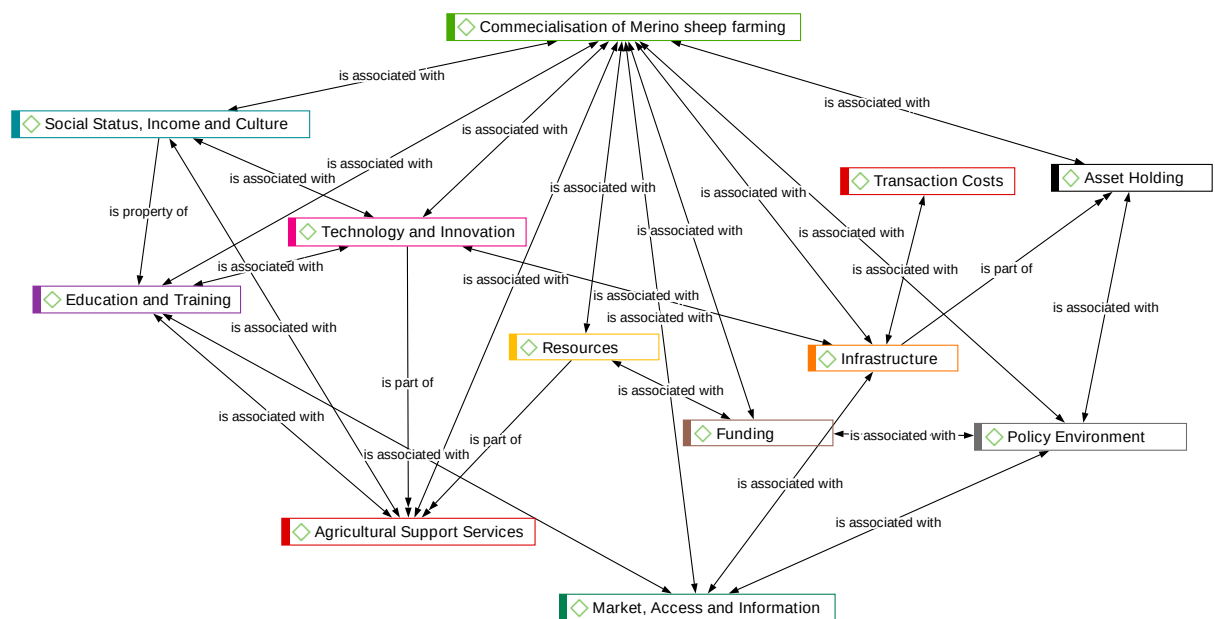


Figure 6.1: Association diagram of Commercialisation of Merino sheep network diagram

Source: Author’s own illustration

The ATLAS.ti™ network diagrams allow the author to look at the components of the qualitative data analysis of data collected not as individual pieces or fragments, but rather as a system of relationships. Network diagrams facilitate the process of building a holistic representation of findings as demonstrated on Figure 6.1. The network diagrams assist in the illustration and comprehension meanings. The themes are presented in relation to the broader context of this thesis, which is the social context of how commercialisation of Merino sheep farming in Lesotho can be facilitated for inclusive agricultural and rural economic growth to improve the livelihoods of emerging farmers. Codes, themes and categories were developed from the data collected. The rationale for the development of the latter was to articulate the meanings through thick-description. Data collected was meticulously analysed, cross-checked, scrutinised, and compared to establish the emerging patterns. During this process, some codes appeared repeatedly more than others and they gave rise to categories. The Code List for this study is shown in Appendix G. Direct quotations from the transcripts are provided as evidence for the identification of a theme. Certain quotations appear more than one theme because they were also relevant. The next subsection presents the demographics of the sampled respondents.

6.4.1 Demographics of the sampled respondents

The discussion of the demographics of the sampled respondents includes age and gender, literacy and educational qualifications and marital status.

6.4.1.1 Age and Gender

The mean age of the respondents reveals the average age of respondents. This helped to establish how a development worker can address the farmers as elderly people, for example, are illiterate, and therefore, age is important for the envisaged commercialisation of emerging Merinos sheep farmers. The number of males involved in farming Merinos is higher than those of women. Nineteen men and five women farm Merino sheep. Most of the farmers were middle aged from twenty-one to eighty years. Nine of the sampled respondents were between twenty-one and forty years of age. In this group, only six participants were men and the remaining three women. Twelve of the sampled respondents were males and one woman and their age were in the range of 41-60 in years.

In the age range of sixty-one to eighty, there were only two respondents, which comprised a man and a woman. The results revealed that the participation of youth in Merino sheep farming is limited.

The review of scholarly publications by authors such as Njuki *et al.* (2015); Tibesigwa and Visser (2016) advance that overall, gender affects all development efforts in agriculture because every society is marked by gender differences which vary widely across cultures. It is thus imperative to pay attention to the dynamics of each society, of how gender affects decision-making. Fischer and Qaim (2012a); Njuki *et al.* (2011); Schneider and Gugerty (2010) hypothesised that in rural areas, such as the one from which this research drew its sample, women are less educated compared to their male counterparts. As such, in order to achieve the intended commercialisation of emerging Merinos sheep farmers, it is pertinent to address women differently to men. The higher percentages of the sampled women were younger than the male respondents.

6.4.1.2 Literacy and educational qualifications

Okpachu, Okpachu and Obijesi (2014); Pant and Singh (2016), state that a farmers level of education irrespective of whether the person is literate, has an impact on how a farmer responds to new scientific technologies intended for agricultural development. It can be difficult for illiterate farmers to understand these new technologies. It was, therefore, vital to explore the farmers' literacy levels to establish whether they would understand new approaches to execute functions; the manner in which they respond to the agricultural problems; and how they can solve these, which is related to their level of education. All the sampled respondents possessed primary education. The achieved educational qualifications ranged from primary to post graduate education. As noted from the reviewed literature on literacy and educational qualifications, literacy is a key ingredient to transform the sampled respondents towards commercialised farming operations when exposed to new technologies and innovation in the Merino sheep farming fraternity. The emerging farmers may thrive in the commercialised Merinos sheep farming environment.

6.4.1.3 Marital status

In most Lesotho's rural areas, marital status can have an effect on how households manage problems, especially in the case of married women. Similarly, in other studies for example,

(Murray, Gebremedhin, Brychkova and Spillane, 2016; Tibesigwa and Visser, 2016) posited that women seem to lose their decision-making power in matters related to farming and market access because the husbands generally take all the decisions. It is significant to be aware of the marital status of the farmers as an agricultural advisor, especially if one is going to be working with female farmers. As observed from gathered analysed data, the majority of the sampled respondents are married and only a limited number are single and widowed. The presentation and discussion of the semi-structured interviews is expounded upon in the following sub-sections.

6.4.2 Theme – 1: Social status, income and culture

Although the importance of social status, income derived from Merino sheep and culture concerning Merino sheep farming in Lesotho cannot be over-accentuated. It was important to probe the purpose of the sampled Merino sheep farmers. As outlined in the literature overview, Merino sheep farming remained the source of income, provision of food and meet the varied cultural needs of the communities in Lesotho, and thereby contribute towards the household livelihood, food security, poverty alleviation and nutrition. To provide the basis for analysis for livelihood trajectories of the emerging Merino sheep farmers in Lesotho, the sampled respondents were asked: *“What is your purpose for farming Merino sheep?”*, *“For how many years have you been farming Merino sheep?”* and *“What are your reasons for farming Merino sheep compared to other types of livestock?”* In responding to these probing questions, the sampled respondents expressed mixed views. The views they expressed substantiated the literature from the body of knowledge.

For example, the majority of the sampled respondents revealed that they farm Merinos primarily for additional income as well as a source of meat for the farming households. The majority of the sampled farmers have an average of 126 Merino sheep farming years’ experience. This view is substantiated by: *“.....most of us farm Merinos over other type of livestock for additional income through the sale of wool, meat for my family and for manure for my gardens.....compared to other types of livestock, Merinos are easier to dispose to the slaughter market during difficult or curling times.....So far, Merinos are well adaptable to our local widely ranging climate conditions in terms of rainfall, especially our weather conditions. They have proven to be relatively resilient to the cold winters we experience annually. They thrive well in this area. However, if they are not*

sheared on time their productivity may also be affected by heat at the peak of summer. Our grazing land has limited trees that can provide shade.....” It was observed that Merinos were the preferred over other types of livestock because of the benefits they present to the majority of the Basotho. For example, Merinos adapt well to the Lesotho conditions. Moreover, farmers rip dual income from the sale of wool or sheep in the slaughter market.

Other participants explained that Merinos afforded them ‘bride price’ and served as a form of financial security for the farmers’ households. This view was expressed by the respondents who claimed that: *“.....I have Merinos to afford the bride price (lobola) when my children marry one day at a later stage of their lives.....They additionally act as a form of financial security for my household because I can sell them whenever a need arises..... They are easier to sell than other types of livestock.”* Furthermore, it was indicated that some farmers perceive Merino sheep farming as a social status activity and a generational hobby. On this view the sampled participants asserted that: *“.....It is a generational hobby passed to me by my late parent.Farming Merinos keep my kids pre-occupied and mischief because they have farming responsibilities to fulfil most of the time. Beyond all these, I get dual income from my Merinos. I get revenue from wool and animals sold.you must be noted that Merinos are more of a status activity. My sheep are my secure, risk free investment for future financial needs.....”*

Over and above the sampled respondents’ views presented above that Merinos presented a spectrum of benefits to the farmers such as different levels of income, food, financial security and social status and social capital, other respondents revealed that: *“.....Merinos provide manure for the fields.....additionally, sheep are used for rituals such as appeasing gods and naming of new born.....”* It is evident Merinos provide multiple benefits for the farming households.

The number of years the respondents claimed they had been farming Merino sheep ranges from 0-15 years. Those emerging Merinos sheep farmers with an excess of five years farming experience had larger Merino sheep stock than those with fewer years of farming sheep. This was also an indication that the majority of the respondents are well above 41 years of age. The average herd size in terms of numbers was approximately 130 sheep. In the absence of formal insurance markets where the sampled emerging Merino sheep farmers farm, they tend to diversify traditional crop farming with Merinos to achieve a balance between potential returns and the risks associated with climate variability, market

and institutional imperfections. Merinos are significant contributors to the rural livelihoods and are growing in importance.

Figure 6.2 below illustrates the relationship diagram of sub-themes of the social status and culture theme that emerged during the interviews and the focus group discussions.

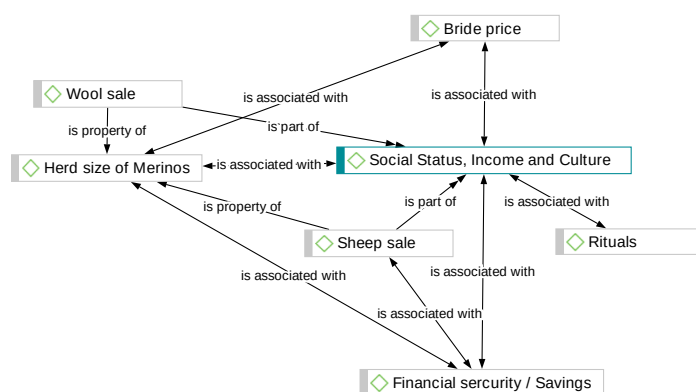


Figure 6.2: Relationship network diagram of Social Status, Income and Culture theme

Source: Author's own illustration

6.4.3 Theme – 2: Asset Holding

Asset holding in any form, supported by farming experience, plays an important role in Merino sheep farming in Lesotho. Asset holdings are relevant in the commercialisation of emerging farmers' process, because they mitigate unexpected shocks prevalent in the process of agricultural commercialisation. Farmers with access to adequate assets are faced with appropriate incentives engage actively in the markets. To assess the asset holding of the sampled emerging farmers, the following investigative questions were posed: *"In terms of numbers, please indicate your Merino sheep herd size. Additionally, please explain how you acquired your Merino sheep stock."* And, *"Where are your Merino sheep sheared?"* and, *"Is the shearing shed privately or state-owned?"*

When responding to the investigative questions, the respondents expressed mixed views. The sampled farmers revealed that almost all the available shearing sheds in the country are state owned and strategically positioned for ease of access by the majority of wool producers nationally. These are not situated far from the main road network. The sheds are old and do not have power. If they had electrical power, shearing sheep during the season would improve because electrical shearing clippers could be utilised. The shearing sheds are operated and managed by the DoLSL. Most sheep owned was inherited from the late

parents, imported internationally, purchased locally or acquired through bride price (lobola) payments. To support these views, the respondents asserted that: “.....I inherited my initial sheep stock from my late parents.....I make use of Upper-Moyeni shearing shed for shearing. The shearing shed is state-owned under the management and control of the Ministry of Agriculture and Food Security (MoAFS).....” The ownership of the shearing sheds was further reiterated during the focus group discussions.

In the same vein, other the respondents articulated that: “.....my sheep were purchased from the Sheep Stud here in Quthing. I have since been breeding them to have the best flock suitable for the wool market.....” other sampled respondents further outlined that: “.....when I began Merino sheep farming, my Merino breeding stock was purchased through the state from a well-known and highly recommended commercial Merino sheep farmer (Ntate (Mister) Eddie Prinsloo) farming in the Free State, in a small farming region called Smithfield.....My initial purchase was a purchase of a breeding stock of 20 (1 ram and 19 pregnant ewes)” It was observed that the way how the sampled respondents acquired their initial Merino stock varied significantly.

The remaining pool of participants claimed that: “.....most of the sheep I have were a lobola payment for my daughter. I have since been breeding them.....” followed by “.....to run away from inbreeding, I sourced my sheep from different farmers in different districts. Mainly from Mokhotlong and Qacha’s Nek. Farmers in these districts are renowned for high returns per kilogram of wool clip.....” The primary asset holding of the sampled respondents was the Merino stock. The state has assisted the existing farmers significantly with the provision of operational shearing sheds. The aforesaid shearing sheds act as a link between the farmers and the wool markets. Figure 6.3 below illustrates the relationship diagram of sub-themes of the asset holding that emerged during the interviews and the focus group discussions.

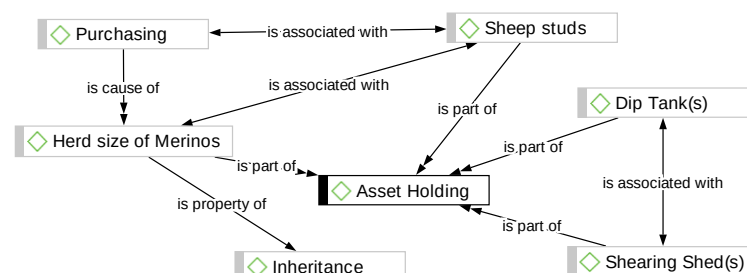


Figure 6.3: Relationship network diagram of Asset Holding theme

Source: Author’s own illustration

6.4.4 Theme – 3: Education and Training

The review of scholarly publications by numerous academics such as Khan and Damalas (2015); Mehar (2016) theorise that successful farmers are those with either a higher education level or higher level of training on best farming practices. Evidently, this is a token that “natural skills can be enhanced through a sound background of education and training; for it is palpable that education functions as a base to make well-informed decisions. To support this statement, Kilelu *et al.* (2014), posited that education and training should go hand in hand, education being the primary motivator and an initiator. Specific training has to be continued by the extension of services as a component of the training programme. To assess whether the respondents had received any form of training and the level of education to date, they were posed the following question: “*Have you ever received Merino sheep farming training and what was the highest level of education received?*”

It was observed that all the respondents had formal education, even though the education level attained varied from one respondent to another. The lowest education achieved was primary education and the highest at the postgraduate level, that is, Master’s degree. The rationale behind the respondents having basic education could have been influenced by the fact that basic education is provided freely at all state-owned primary schools. Pant and Singh (2016); Spielman, Ekboir, Davis and Ochieng (2008), underscored that every initiative in agriculture development should begin by training the particular farmers prior to providing other support services to achieve good results. To validate this view, the majority of the respondents claimed that they indeed receive some form of training from different stakeholders.

Only one of the respondents revealed that they had not received any form of training availed by various stakeholders in the provision of training related to Merino sheep farming because of personal reasons but were eager to attend such sessions in the near future. The findings revealed a strong relationship with the education and training received and the herd size owned by the sampled respondents. Emerging Merino sheep farmers who had achieved higher levels of education possessed larger herds. This could have been influenced by the fact that some had formal employment and as such, they had other ways and means to support their livestock.

The stakeholders involved in the provision of Merino sheep farming related the training offered on the inoculation and dosing of Merinos livestock, livestock improvement through the introduction of quality rams and ewes in the breeding system, treatment of diseases and medicinal requirements for the Merino sheep livestock. The majority of the “respondents received Merino sheep farming related training and advice from the MoAFS, DoLS and LNWMGA local office when it was available. During the focus group discussions, it became apparent that almost all the respondents shared experiences and practical advice with each other at regular intervals. They also utilised each other as sources to acquire vaccine and supplementary feeds or at least an idea of the purchase price for the vaccine and supplementary should be.

To a large degree, responses related to the education and training theme revealed consistency with the literature reviewed earlier. The following responses and examples from the respondents serve to substantiate the preceding view. Most of the respondents explained that: “.....*most of the training presented to farmers of training related to breeding plans and diseases management and control. Subsidised hybrid seeds that can tolerate our environment to plant for the sheep for supplementary feeding. Prioritising initiatives against livestock theft.....Use of genetically improved rams and ewes, which can cope with conditions in this area. Provide training for breeders, practice intensive farming & stall feeding instead of grazing in communal pastures.....*” This was further substantiated during the focus group discussions.

Most of the respondents, the training was meant to capacitate the emerging Merino farmers in many ways. For example: “.....*we have received training from LNWMGA. This training was on equipping farmers with essential information on raising Merinos for quality wool production.....*” There were seemingly multiple sources of advice related to Merino sheep farming in the following narrative: “.....*the trainings were provided by MoAFS and LNWMGA. The trainings were based on routine dosing, vaccinations and taking care of wool before shearing for better rewards.....*”. Furthermore, even the training topics presented to the respondents changed occasionally to include the essentials of Merinos sheep farming. For example: “.....*the trainings were mainly on health management of Merino rams, ewes and lambs for improved rewards.....the trainings also encompassed wool classification, curling and benefits of investing on quality animals for good returns through best farming practices.....*”

It was further observed that training would not be adequate. Moreover, it needs to be dynamic and adapted to the farming environment. The narrative below demonstrates this view from several respondents: “.....*thought the trainings we have received so far have been limited, they have been informative. We need more training from different role players in the value chain of Merino sheep farming to gain a better competitive advantage.....the extension officers from the DoLSL have trained us on ways of achieving clean wool before the annual shearing and periodic vaccinations and dosing for control internal and external parasites.....The LNWMGA has also shed some insights on ways to acquire quality stock for successful Merino sheep farming and how the Lesotho wool market is structured in Lesotho.....*”

There is a potential within this group to share information and experiences, but it is limited to peers. However, several respondents do not want to farm communally and prefer to be in charge of own Merinos farms. It can be inferred that Merino farmer study groups, workshops, and training programs for poorly resourced farmers to access agricultural information for optimal Merino sheep production should be strengthened. Entrepreneurial success requires formalised knowledge of functional aspects such as market access, reproductive management, health and nutrition, supply chain management and finance (Gouët & van Paassen, 2012). Hence, education boosts the management potential of farmers when formulating and executing plans, as well as gathering information to ameliorate marketing abilities.

In the same vein, studies (Okpachu *et al.*, 2014); Spielman *et al.*,2008), revealed that the level of training increased the probability of farmers selling livestock. Thus, all programmes for agricultural training must include how to utilise market information to enhance decision-making related to marketing issues. Training, however, goes beyond the issue of marketing, and those related to production techniques need to be addressed urgently. Similarly, local educational institutes in Lesotho can play a great role in improving the level of training of emerging Merino sheep farmers. The training must serve emerging farmers with the aim to increase the profitability of farms through disseminating management techniques considering the specificities of each region.

Figure 6.4 below illustrates the relationship diagram of sub-themes including the education and training theme, which emerged during the interviews and the focus group discussions.

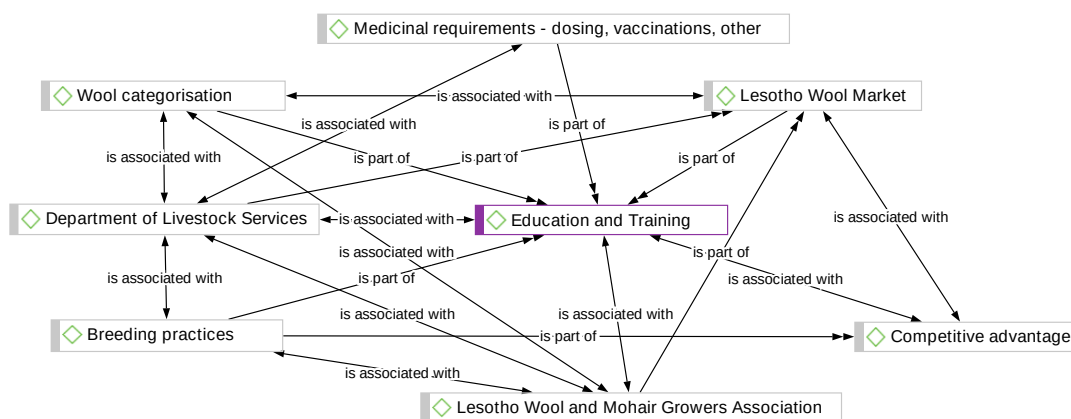


Figure 6.4: Relationship network diagram of Social Status, Income and Culture theme

Source: Author's own illustration

6.4.5 Theme – 4: Agricultural support services

The provision of support services remains one of the major interventions in the agricultural sector for rural development, commercialisation, food security, poverty alleviation and income generation of emerging farmers (Ogutu & Qaim, 2019; Pingali, 2010; Yaseen *et al.*, 2018). The commercialisation of emerging Merino sheep farmers in Lesotho cannot be achieved without appropriate farmer support services. Adequate access to farmer support services will enable emerging agriculture to contribute towards an increased inclusive agricultural growth, socio-economic development and have a positive impact on the farm's income. The interviewees were asked: *“What are the challenges you have faced with farming Merino sheep in your area? Elaborate.”* And, *“What are the big risk concerns in your family when you are still involved in subsistence Merino sheep farming?”* When responding to the investigative questions pertaining to agricultural support services, the respondents voiced various views. These responses were also accentuated during the focus group discussions.

As outlined previously, the provision of support services remains one of the major interventions in the transformation of agriculture towards commercialising farming operations and improved generation of income. A quick glance at the codes assigned to this particular category, revealed a relatively close relationship and consistency compared to the responses from the two previous categories, namely: education and training. Examples of the responses included:

“.....In this area and close by areas, there was a lot of stock theft experienced by Merino farmers. This notorious stock theft has since reduced because of the involvement of Lesotho Mounted Police Services (LMPS) in curbing stock thefts. The arrests of the syndicate involved has been very high, hence the reduction in stock thefts. The LMPS has been very much involved in the setup of community policing forums hand-in-hand with the local Chiefs.....”

“.....Though, there are offices of the DoLS, there is limited support we are receiving from the offices. In most cases, the number of extension officers with passion for our success for sheep farmers in this area is fairly low. They are unable to reach most of the households in this area. As a result, some of the farmers in remote areas cannot be reached hence poor productivity. The veterinary services are additionally poor. I am highlighting this because of the limited supply of essential medical requirements related to Merino sheep farming we are receiving from the local offices. When these medicinal supplies are purchased from the local businesses, they are very-very costly.....”

“.....The big risk concerns I have been mainly on the overgrazing of the surrounding pastures. If the Chief does not involve in the control and management of the grazing pastures, we are going nowhere as farmers. Even the adverse weather conditions are not in our favour, in recent years, the rainfall pattern is unpredictable, and it impacts our planning. This can be a problem, especially if it significantly hails as it did last summer. Even the snow we have been experiencing is drastic and tends to kill livestock.....”

“.....Adverse weather conditions remain a huge risk for my family when it comes to farming Merinos. There are always many ifs to answer. Last year summer, I lost 14 lambs I had selected for production, including 8 pregnant ewes because of the unusual hail we experienced. This hail killed most vegetation and supplementary feed preserved for our livestock for rainy days. I had to import supplementary feed from South Africa through a third party. If it were not the financial support received from my kids to purchase supplementary feed, I would have lost most of my livestock. Because of the adverse weather conditions, soil erosion has peaked; this is a concern for myself as a farmer. Though it has peaked, the Ministry of Forestry, Range and Soil Conservation has been reactive in the reduction of the amount soil eroding and increasing the harnessing and conservation of water for development.....”

“.....The Soil Conversation has been supportive in this regard, especially in reclaiming degraded land base through provision of technical guidance to land users such as us farmers and introduction of structural and biological measures.amongst others, this technical support includes small dam constructions, water tanks constructions and stone lines contractions as you might have driving to this area. I must mention that high lamb mortality rate because of poor reproduction management is an additional to myself and other farmers I farm with in this area. This problem is acerbated by poor breeding practices. In my opinion, it is essential for us as farmers in this area to attempt to synchronise our livestock to lamb early spring when there is sufficient warmth for the lambs and the pastures are turning green to feed the lambing ewes. If so, the lambs will have enough milk to feed the lambs and they will also recover speedily from lambing.....”

“.....The way Merino sheep farming information is disseminated to farmers is fairly limited. Due to the remoteness of where we far, the frequency at which workshops are held by extension officers and other key stakeholders knowledgeable of best farming practices is low. This remains a serious concern for our prosperity as emerging farmers. Sharing of information essential information must not only be limited to face-to-face interactions with extension officers or industry experts but should also be disseminated through other platforms other than radio and public gatherings. The government should also make use television programmes, as an in thing that most of us watch, newspapers and maybe use free of charge information packs.....”

“.....the communal grazing additionally makes it impossible to practice best breeding practices. The ewes occasionally graze with the ewes, as such; they breed as they please if not under close supervision of shepherds that are aware of best breeding practices. Such also has a potential to negatively impact the quality of lamb if it ever happens that the ewe mates with an inferior quality ram.communal grazing management of livestock requires a skilled shepherd to overlook the animals. However, and in recent years, skilled workforce for the management of livestock has become a scarce resource. Most of youngsters prefer white collar employment than farming related employment. This is a big concern when farming Merinos.....”

It appears from the responses that, support services are provided by various role players. The GoL has seemingly allocated resources to inhibit stock theft. Participation by the local

Chiefs is also an important driver in caring for the environment and facilitating the prosecution of perpetrators involved in stock theft. The respondents enunciated various risks related to Merinos sheep farming, which ranged from stock theft to delay in payment for the wool clip sold. An in-depth analysis of the responses revealed that recommendations had been made indirectly on the dissemination of information, that is, not be limited to face-to-face interactions but other avenues also be considered. These views corroborate with those presented earlier in the reviewed literature on communication.

The above responses were reinforced by posing the following question to the respondents: *“What kind of support related to your Merino sheep farming do you receive and from whom?”* Their views were similar to the above responses that the most support that is Merino sheep farming related is provided by the GoL primarily through its ministries and privately registered association, the LNWMGA. However, extension and veterinary services to support emerging farmers at various Merino sheep farming areas of Lesotho was limited and could not reach aspiring farmers to commercialise their operations. Standard Bank Lesotho was highlighted to render financial advice support to emerging farmers. The participants explained that: *“.....farmers previously used to receive cheques for the sale of sold that they would cash at local businesses. They used to keep cash from cashed cheques at their homes, which proved to be unreliable for farmers. Standard Bank Lesotho has since assisted emerging farmers with opening of saving and cheque accounts for farmers to save their wool sale rewards.....”*.

This was evidently not a viable option to save money and the practice of giving farmers cheques has since been abolished. The participants also outlined additional support they receive from freelancers who render services to Merino related farming at a higher cost compared to the GoL extension officers. Some of the participants revealed that: *“..... though their services are slightly expensive, they render comprehensive services and supply of our medicinal requirements on time and in full. Without their support, our farming ventures would be at risk.....”* The role played by the interviewees and the various players in the farming environment was explored. The participants were posed the following question: *“The government of Lesotho has been supporting emerging Merino sheep farmers through BKB, Lesotho Wool and Mohair Growers Association and other organisations, providing: advisory/extension services, agribusiness and market linkages,*

Merino sheep farmer's institutional development, and monitoring and evaluation. What are the benefits, limitations, and possible ways of improving these services in your area?"

The respondents underscored how they acquired quality Merino from South Africa. *"..... the GoL through the MoAFS and LNWMGA have played a significant role by making the importation of Merinos from South Africa slightly easier with provision of assistance in identifying pedigree Merino breeders and provision of subsidised transport to and from the identified farmers in South Africa....."* Responding to the same question, the other participants' responses were similar - that: *".....LNWMGA and other farmer groups provide advisory support to emerging farmers in terms of the operational structure of Lesotho's wool market....."* The interviewees highlighted that the advisory services at least address the market information gap. Access to market is Theme – 7, earlier identified and is discussed in subsection 6.6.8.

The majority of the participants claimed to receive support services for their farming ventures, while others claimed not have received any form of Merino sheep farming related support services. Most farmers proclaimed that the extension officers visited them once in a while and none of them could recall the visit routine. Although some of the farmers could not recall the visit routine, the DoLS reacts swiftly with provision of medicine whenever there is an outbreak of diseases. The analysed results imply that emerging farmers in the sampled area do not receive adequate information and the quality thereof from the extension officers is problematic.

Zwane, Groenewald and Van Niekerk (2014) studies revealed that an agricultural extension service is one of the primary instruments utilised by Provincial Departments of Agriculture in the neighbouring South Africa and other states to achieve their agricultural developmental goals. These goals are generally achieved through the provision of appropriate agricultural information and knowledge to enable and capacitate farmers towards improved, sustainable and economic development (Van Niekerk, Groenewald & Zwane, 2014). During the focus group discussion, although the presence of extension officers might have influenced the discussion, the respondents revealed that they were provided information on "wise" Merino sheep farming because they are faced with poor returns on the wool sold including poor distribution of medicine. The discussion did not focus on the quality of training. Hence, this area requires further research.

Figure 6.5 below illustrates the relationship diagram of sub-themes of the agricultural support services including the theme that emerged during the interviews and the focus group discussions.



Figure 6.5: Relationship network diagram of Agricultural support services theme

Source: Author's own illustration

6.4.6 Theme – 5: Funding

In Lesotho, the economic success of emerging Merino sheep farmers depends on, amongst others, access to finance for improved access to input and output markets. According to Lesotho National Wool And Mohair Growers Association (2016); Mutibvu *et al.* (2012), access to input and output markets by emerging Merino sheep farmers is a key precondition for transformation of commercialised Merino sheep farming in order to ensure a healthy industry which contributes towards the country's gross domestic product (GDP), food security, social welfare, and job creation. Lesotho has a developed banking sector that is comparable to those of developed countries (Central Bank of Lesotho, 2016; Sakr-Tierney, 2017). However, the emerging Merino sheep farming sector has experienced slow growth in credit supply compared to the other sectors of the economy. This is despite the strategic significance of the Merino sheep farmers in contributing towards the reduction of rural poverty, hunger and food insecurity.

The local commercial banks do not entertain financing activities toward emerging Merino sheep farmers. This is attested to by almost all the interviewees who were asked: *“What do you think contributes to the failure/success of your Merino sheep farming activities as an*

emerging farmer?” and “What barriers have been identified which contribute to lack of interest in commercialising?” The interviewees highlighted “.....limited access to funding.....The absence of finance to fund farming operations, acquire capital goods and meet working capital requirements has arguably been the largest challenge for most us as emerging Merino farmers.” One of the interviewees even suggested that: instead, some Merino sheep farming households were taking loans from loan sharks rather than from banks. This is as a result of rejection of credit applications by the local commercial banks.

This data is consistent with the findings by Akudugu (2016); Ogundeji *et al.* (2018), who posit that moneylenders are the most prevalent informal lenders in South Africa and in many developing countries because they have more information on emerging farmers than banks do. They argue that some of the reasons why banks lend less to farmers is as a result of high borrower monitoring costs, and a lack of collateral, and information constraints. Some of the interviewees argued that: “.....access to credit funding in one of the most significant bases of capital accumulation and in fact a device for providing the basis for increased production that is market-orientated.....inputs such as improved rams and ewes, dosing baths, fertility equipment, sheds, supplementary feeds, vaccines require capital in the form of short-term credit.....”

In other study, Fecke *et al.* (2016) argue that available credit is often captured by larger producers while the poorer farmers may have little or no access to it because of institutional barriers. Poor farmers often have difficulty obtaining credit and financial institutions are typically biased against emerging Merino sheep farmers, particularly women farmers. This is supported by one of the woman interviewees that suggested that: “.....Merino sheep farming is not an easy sector for females in this country, it is still male dominated. Even when seeking any form of assistance, whether financial, technical or other, I have always been judged because I am a woman.....” This view is firmly supported by Fischer and Qaim (2012a); Moyo (2013) in their study of the contribution made by women to agricultural environment in Africa. They suggest that the agricultural credit policy should be formulated so that credit facilities are more accessible to women.

An analysis of the gathered raw data suggests that emerging Merino sheep farmers (from which this thesis drew its sample) have limited access to affordable credit. This poor access to credit funding support services experienced by the selected respondents is

attributed to the socioeconomic characteristics as well as the unfavourable financial policies within the local commercial banks operating in the country. The lack of access to external financing, such as banks and other forms of credit, has been cited as one of the reasons for the poor performance. The results drawn from this analysis confirm what previous studies have reported.

For Lesotho to benefit from the potential of this financially marginalised merging Merino sheep farming sector, most financial support should be channelled to emerging farmers. This will enable these farmers to finance their Merino sheep farming requirements. With full government support through extension services, emerging Merino sheep farmers have the potential to grow to become self-financing enterprises, and thereby contribute towards the national reserves and the fiscus. It is also important that the local commercial banks be creative in developing credit products, which are tailor-made for the emerging Merino sheep farmers. Figure 6.6 below illustrates the relationship diagram of sub-themes that formed part of the funding theme that emerged during the interviews and the focus group discussions.

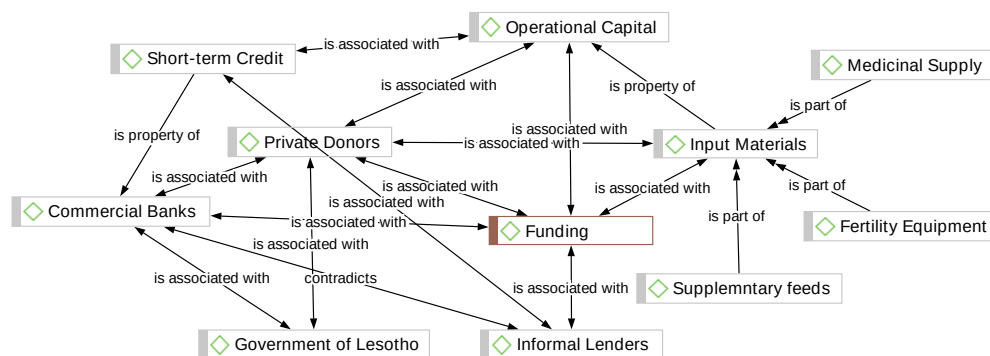


Figure 6.6: Relationship network diagram of Funding theme

Source: Author's own illustration

6.4.7 Theme – 6: Resources

Radchenko and Corral (2018); Scoones and Tsikata (2017) argue that capital resources such as natural, land, economic, human and social capital should be available for effective inclusive agricultural development and sustainable livelihoods by those at the base of the pyramid. Ochieng *et al.* (2016), concluded that emerging farmers in developing nations struggle to access resources as a result of being marginalised due to their past through discriminatory policies. According to the aforementioned authors, such emerging farmers

are engaged in family-based agriculture compared to commercial farmers in developed nations characterised by highly intensive farming activities and record high returns on their produce regularly. Conz (2019); Mpiti-Shakhane *et al.* (2002), refer to emerging Merino sheep farmers in Lesotho as those who are poor, lack capital assets, and need to farm to sustain their livelihoods. When the participants were asked: *“Which resources have contributed to the success of your Merino sheep farming? Please elaborate”* they responded *“.....the availability of skilled shepherds overlooking my Merinos has resulted in clean clip and a lower lamb mortality rate...though skilled shepherds have become scarce in recently.....”*. This suggests that skilled human capital plays a vital role in the emerging Merino sheep farmers operations in Lesotho.

As indicated in the literature review, land tenure and land use remain a pre-condition for successful farming. In their scholarly publication, Kuyah, Öborn, Jonsson, Dahlin, Barrios, Muthuri, Malmer, Nyaga, Magaju and Namirembe (2016) reported that in Zambia, households with secure land tenure increase long-term investments in their farms by planting more trees to prevent soil infertility and erosion. The in-depth analysis of data collected revealed that almost half of the respondents inherited land or were presented therewith by the local Chiefs. This is a natural resource availed to prospective farmers. However, it was further postulated by the participants who possessed traditional land tenure that the security thereof land must be improved.

Emerging Merino sheep farmers with poor access to resources such as physical infrastructure, clean water, capital to acquire quality Merino sheep are more at risk if they are to succeed in their farming operations. Merino sheep farming is considered as the most user friendly of environmental resources such as water earlier mentioned, pastures and nutrients and its sustainability depends upon its availability. If environmental resources such as the ones mentioned above are not available or depleted, Merino sheep cannot flourish, and this threatens food security and biodiversity. The majority of the participants explained, *“..... availability of clean water drinking water for our Merinos plays a vital role for their survival. If its availability could be compromised, our livelihoods are compromised.....”* An in-depth analysis of the gathered data suggests that sustainable land management practices which were introduced recently is a key premise for emerging Merino sheep farmers. The interviewees revealed that *“.....in order to preserve our pastures and land, we are mandated to practice conservation agriculture by not overgrazing to revitalise existing vegetation..... the local chiefs enforce hefty penalties*

on transgressors if found guilty of animals grazing in controlled pastures without a permit.....” It is evident that the local admiration among the sampled districts takes natural resources conservation seriously for sustainable agricultural growth.

However, it must be noted that the situation faced by the sampled farmers in the research area has similarities with those identified by IFAD (2017). It was revealed that emerging farmers in the developing world are faced with many challenges, especially resources which impedes their productivity including the lack of assets; limited access to services; degraded natural resources; input, poor access to technology; and weak human and social capital. In most instances specifically those at the base of the income pyramid face such challenges. This was also revealed in the reviewed literature. Such limitations must not be ignored for any form of agricultural development.

The analysis further revealed that the sampled farmers lack access to land. They are faced with agro-climatic conditions where they farm or reside. Moreover, the land is of poor quality. This was underscored when the majority of the participants reiterated that “.....adverse weather conditions are not in our favour in recent years, the rainfall pattern is unpredictable, and it impacts our planning.....poor rainfall patterns erode the land.....” Mokotjo and Kalusopa (2010) concur and argue that emerging farmers in Lesotho farm in places with poor rainfall and the soil is characterised with lesser fertility. The results suggest that the interviewed farmers possessed limited agricultural assets, which inhibits sustainable livelihoods and transition towards commercialised Merino sheep farming. Figure 6.7 below illustrates the resource relationship of sub-themes of the resources that emerged during the interviews and the focus group discussions.

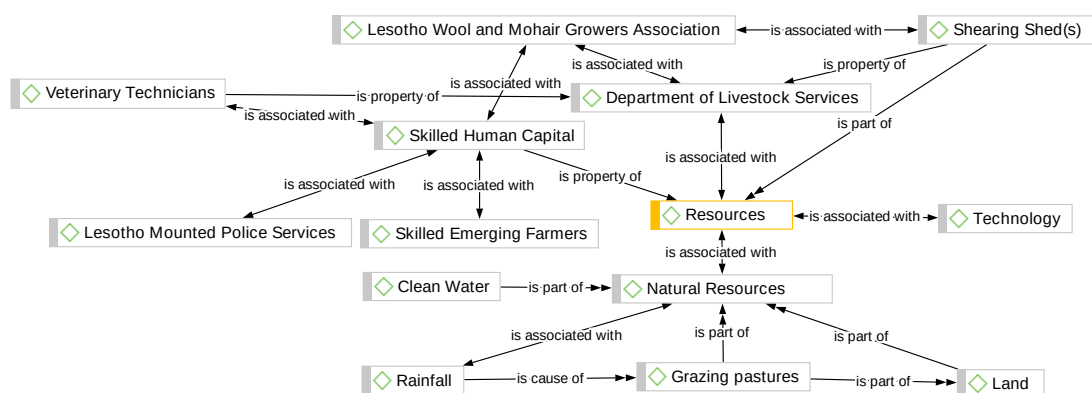


Figure 6.7: Relationship network diagram of Resources theme

Source: Author’s own illustration

6.4.8 Theme – 7: Markets, access and information

Much of the reviewed literature on market access and its integration by emerging farmers highlights the wide imperfections of markets in the developing world. Ebata and Hernandez (2017) hold that the low-cost, well-integrated and efficient rural markets are a key determinant in agricultural commercialisation. Scholarly review of publications also reveals that commercialisation of emerging farmers requires high uptake of improved farm inputs, link to markets, quality control, including information on markets and prices. The latter was also highlighted which requires both government and non-government intervention to enhance emerging farmers' transformation.

When asked: *“What do you understand about commercialisation in general?”*, *“Which resources have contributed to the success of your Merino sheep farming? Please elaborate*, and, *“Which resources, in your opinion, do you think will enable you to access the wool market for better rewards? Please explain”*. To substantiate the above investigative questions, the following was posed to the respondents: *What marketing channels are you using to market your Merino sheep wool? Do you have access to market information prior to sale of your sheared wool? Please explain. What factors limit trade of wool of wool in this area and how can trade of wool produce be enhanced in this area?* The respondents expressed varied views.

The findings revealed that that participants had an idea of what commercialised Merino sheep farming entailed. They accentuated *“Income maximisation through commercialised Merino sheep farming”*. Furthermore, the participants are faced with marketing challenges such as insufficient information. The participants revealed that: *“..... most of us in this area do not understand how the final pricing for our wool clips is reached. We are just receivers of the final value of the wool clip sold, given to us as farmers by BKB after auctioning at the auction floors.....”* There is seemingly insufficient market information provided to the emerging farmers by the stakeholders in the sale wool. During the focus group discussions, the representation from the LNWMGA asserted that the majority of the farmers had limited education to understand how the market functioned and how prices for different categories of wool were calculated. Some of the respondents claimed that: *“.....even some of the farmers who managed to produce wool and sheep of good quality were not realising good profits from their produce owing to insufficient market information.....”* Access to the market information is essential to these farmers.

Furthermore, the observations by IFAD (2017) despite the seemingly developed and perfectly competitive Merino sheep farming value chain, emerging farmers continue to complain of limited market access in terms of low prices, limited outlets, and hence low net returns. According to the respondents, the remoteness of the central warehouse facility for wool clip for export exposed emerging Merino sheep farmers to high transportation costs. Hence, high transaction costs resulted in lower returns for the farmers. On the other hand, during the focus group discussions, the respondents concluded that: “.....*the problem of low prices received and limited access is associated with inefficiencies along the market chain that starts from the farmer to the final consumer.....*” This finding corroborates with those of Jayne *et al.* (2010), that the chain actors generally lack adequate knowledge, information and resources to help them meet quality standards and formal market specifications.

Emerging farmers use different types of marketing channels to market their produce. The findings revealed that some of the emerging Merino sheep farmers resort to trading with private wool traders to secure immediate payment for the wool clip unlike those who utilise state-owned facilities. Each marketing channel has associated costs such as transportation, profits and prices for produce. Before selecting a marketing channel, a farmer has to consider these costs. The farmers’ choice of a marketing channel can pose problems and result in lower earnings, especially when dealing with private wool traders. The majority of respondents claimed that: “.....*the earnings from private traders is lower than the one received from marketing the wool clip through state owned facilities.....*” The majority of the sample appeared to utilise formal wool markets to market their commodity even though the majority of the respondents did not have access to market information.

The reviewed literature revealed that such farmers are unlikely to participate in market-orientated commercial Merino sheep farming because they are not well informed of what takes place in the markets. The farmers were not well informed of market prices, products in supply or the products in demand. Only a handful of the respondents had access to market information. The majority of the farmers with access to market information relied on family members, self-research and other farmers for market information. The farmers claimed that the information was not timely, occasionally bias and was unreliable. Consequently, the information was considered doubtful. Based on the findings, it was

reiterated that low-cost, well-integrated and efficient rural markets are a key determinant in the commercialisation of Merino sheep farming.

Figure 6.8 below illustrates the relationship of market sub-themes, access and information that emerged during the interviews and the focus group discussions.

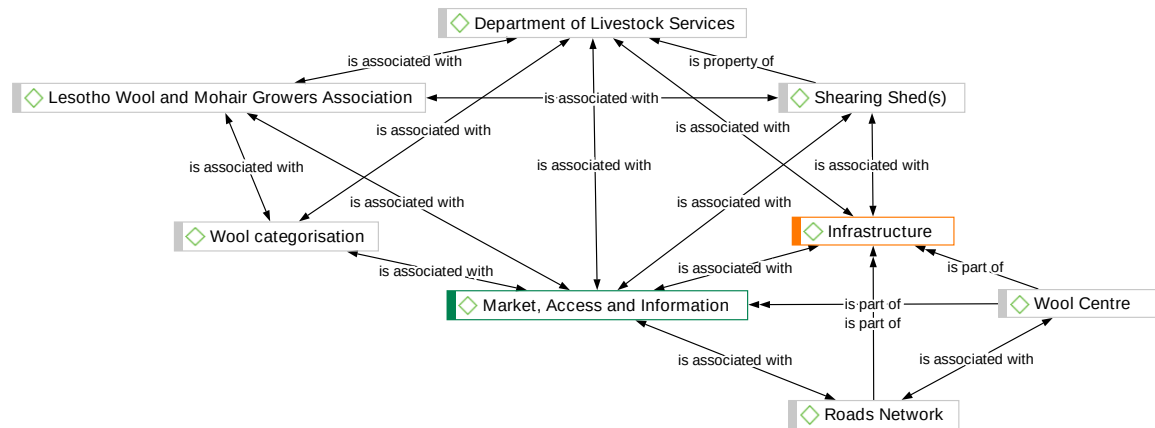


Figure 6.8: Relationship network diagram of Market, Access and Information theme

Source: Author's own illustration

6.4.9 Theme – 8: Transaction costs

Participation in the market exchange is a core element in the commercialisation process of emerging Merino sheep farmers. However, transactions in markets are not without conflict and cost. Three important empirical implications emanated from the in-depth analysis of responses. First, the analysis suggests a particular pattern of enterprise diversification in small-scale farming regions: greater economic distance separating farms and market centres. This was revealed by the interviewees when they claimed that: “..... *the new Lesotho Wool Centre is located in Thaba-Bosiu, it is way far from our region and other regions. As a result, we are the ones who experience very high transportation costs. More especially when you do not have your own transport to transport the clip to the wool centre. The dilapidated road infrastructure even makes it worse for some of us..... we are very far from the auction warehouses.....*” The larger share of the proceeds is allocated to transportation costs. Furthermore, there are physical marketing costs such as storage, transaction costs related to searching and processing information, negotiating contracts, monitoring agents, and enforcing payments.

The second analysis pertained to the requirements of baling, storage and testing wool clip produce. Not only must this information be detailed, its attendant costs are also required for trading the wool clip. Whereas some of these costs – for example, transportation – are relatively straightforward to quantify, others such as baling, wool testing, brokering fees, storage and waiting costs is less so. The sunk costs are not only limited to the latter, but also includes satisfying quality requirements, regulations governing the sourcing and procurement of produce for international consumers as well as the speed of payments. This suggests that transport costs are reasonable first approximations of farm-to-market transaction costs in emerging farmers regions. More complicated, however, is the econometrics of household production under costly exchange.

The results further advance a potentially important, but generally overlooked source of heterogeneity in emerging Merino sheep farming regions, namely spatial location, especially relative to major trading centres. Instances of where farm-to-market transaction costs are ignored, the findings of seemingly inefficient ‘under-production’ or ‘over-production’ of given items may be assured by construction. The reason could be attributed to market- or village level prices typically entered in these estimations and probably overvalued certain products, for example, sale of sheep for the slaughter market – and undervalue others – such as Merinos meant for home or cultural consumption. Similarly, transaction costs do not only impede emerging wool farmers from participation in commercialised markets, but also inhibit potential wool traders from direct engagement with emerging Merino sheep farmers. Wool produce results in incremental transaction costs because contracting with local emerging Merino sheep farmers requires greater investment by the contractor in terms of start-up capital, workforce upskilling, facilitation of administrative activities as well as sound management practices to ensure quality.

Finally, according to the LNWMA representation responses: “.....as an optimal response to high trading costs, commercialised Merino sheep farming is better interpreted as evidence of an ideal strategy to structure production according to comparative advantage as reflected not in relative market-level prices but in relative prices as they materialise on-farm.....” This suggests that in addition to development and research programmes seeking to promote productivity and growth of emerging farmers via commercialisation, there should also be measures, for example, support for collective transportation of farm produce to market centres which augments emerging Merino sheep

farmers' ability to compensate for the transaction costs associated with the increased imperative to trade implied by commercialisation.

Figure 6.9 below illustrates the relationship diagram for sub-themes of the transaction costs which emerged during the interviews and the focus group discussions.

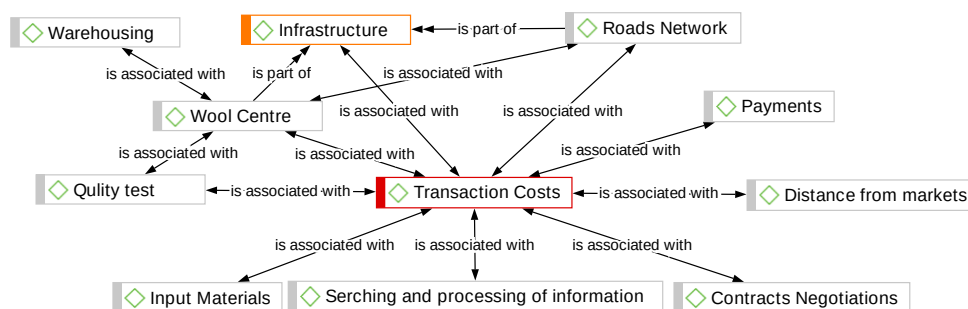


Figure 6.9: Relationship network diagram of Transaction Costs theme

Source: Author's own illustration

6.4.10 Theme – 9: Technology and innovation

The earlier review of academic publications on commercialisation of agriculture highlighted that the adoption of improved agricultural technology, such as utilisation of genetically improved livestock that can survive local conditions, and improved seed varieties could inspire the changeover from the present low productivity, peasant, and subsistence farming to market-orientated farming (which is able to produce surpluses). According to Abdullah *et al.* (2017), adoption of new agricultural technologies is thus viewed as a key determinant of commercialisation of emerging farmers. This view is supported by Nepal and Thapa (2009) that the adoption of improved agricultural technology has the potential to catalyse the agricultural market share output through which emerging farmers' resource utilisation and output diversification decisions could be guided increasingly by the objective to maximise profit.

The respondents were asked: *“Which resources, in your opinion, do you think will enable you to access the wool market for better rewards? Please explain; In your opinion, what approaches should be used to develop emerging Merino sheep farmers in this area for commercialisation?”* and, *“What barriers have been identified which contribute to lack of interest in commercialising?”* In response to these semi-structured interview questions, the respondents expressed different views. The findings revealed that utilisation of information

technology can significantly improve market access and participation by emerging farmers. To substantiate this, the respondents explained that: “.....*some of the Merino sheep farming information is disseminated through social media platforms such as WhatsApp and Facebook.....in most cases, since some of the Merino farmers are not technology savvy they do not see the need to have a smart device.....*” Scholarly publications posit that it is generally considered that the reason for adoption of agricultural technology was low because farming households in Lesotho are resource constrained (Mokotjo & Kalusopa, 2010).

Other participants elaborated that: “.....*on the other hand, some of the farmers do not have smart devices capable of having communication applications such as WhatsApp and Facebook mainly because of their socio-economic statuses, as a result, important information does not reach them on time or does not reach them at all. There are farmers with smart devices but cannot even operate them to their full capacity.....*” The farmers’ choice to utilise a particular set of technologies on a farm is not only dictated by biophysical attributes, but also by socioeconomic situations which vary greatly resulting in heterogeneous farming patterns across a landscape (Davis *et al.*, 2009; Maertens & Barrett, 2013). It was revealed in the focus group discussions that farmers with smart devices were at an advantage because they could access Merino market related information compared to farmers without smart devices. It was expressed during the interviews that social groups for Merino sheep farmer on WhatsApp and Facebook was popular to exchange information.

Merino sheep production faces considerable conflicting challenges and pressures in Lesotho. In developed countries, particularly in Western Europe and Australia, the challenge is to remain sustainable and competitive in the face of declining prices and increasing costs, competition from abroad, public pressures including legislation that imposes further costs on the Merino sheep farming industry. For the Merino sheep production industry to remain viable, the *status quo* is not an option. As such, this calls for the adoption of breeding technologies to provide solutions to emerging Merino farmers which are socially, biologically, environmentally and economically viable over a foreseeable period of time and thereby contribute towards the well-being of all stakeholders in the Merino industry.

During the focus group discussions, it was explained that: “.....our local breeding practices are nowhere close to the best and sustainable international breeding practices. We are having a gap that needs closure. The DoLS is presently investigating the introduction of artificial insemination as an alternative of importing live sheep from South Africa. The department is close to concluding the sources of the best semen available, including the logistics surrounding this concept..... in particular, the DoLS has concentrated on genetic technologies that are appropriate to the sustainable Merino sheep industry for Lesotho.....” There are sound future prospects for the emerging farmers in Lesotho. It is evident that the role of technology in aiding the implementation of superior genetics, management control and the definition of future target areas is explored. Sustainable livelihoods are an objective to which sustainable Merino sheep production systems can make a major contribution.

Further analysis of the findings revealed that an important sociological aspect of the sustainability of a Merino sheep production system is the extent to which it depends on external inputs, for example, chemicals, foodstuffs, and breeding material. Another sociological aspect is the recognition and enhancement of the value or “cultural identity of the indigenous animal genetic resources, especially when they contribute towards disease management or reduction of risks. Such recognition further empowers local communities. Therefore, when considering genetic solutions to sustain the local Merino sheep production, genetic management strategies that utilise indigenous animal genetic resources and reduces reliance on external chemical inputs are those most likely to be successful and sustainable. From the findings and review of relevant scholarly publications, increased product output and efficiency of production have been the primary focus of genetic improvement programmes and will continue to be so.

Furthermore, in Lesotho, a large number of promising technologies are already available. These include genetically improved Merinos, electronic record management systems, hybrid seeds, various methods of small-scale irrigation such as solar pumps for boreholes, electronic sheep identification and others. Unfortunately, while available in principle, the findings revealed that the sampled Merino farmers’ contact with new technology is distinctly limited in practice. During the interviews several respondents reported that: “.....irrigation is primarily confined to peri-urban production with vegetables in a few limited areas.....” Seemingly, watering fields remain the most common method of irrigation reported by farmers using irrigation. This translates to the adoption of low rates

of technology. During the focus group discussions, the adoption of electronic sheep identification (chipping) was being rolled out to all livestock farmers in the country. The GoL promotes the adoption of high-quality Merino breeds that are market-orientated and capable of surviving Lesotho conditions.

Farmers' contact with new technologies depends primarily on the presence of non-governmental organisations and donor-supported projects. Constrained access to credit features prominently among the often-cited reasons why technology fails to diffuse in the sampled districts. Furthermore, the sampled farmers have the potential to benefit from public research and extension. Arguably, research and extension should be the fundamental core of government activity to support Merino sheep farming development for improved livelihoods. Against these findings, an important policy centre on the best ways to encourage adoption of improved technologies is being debated. While efforts to encourage the adoption of technology have not been achieved, the broad scale national impact as evidenced in the focus group discussions, have been dedicated to areas such as research and extension and formation of agricultural associations. If one or more of these efforts could be shown to yield positive returns in terms of technology adoption, these demonstrated effects would buttress the argument for enhanced commitment of encouraging the adoption of agricultural technology.

In summary, successful adoption of technology can be a dominant factor in reducing poverty as the agriculture sector has a multiplier effect on the economy, with more favourable outcomes to alleviate poverty as suggested earlier by (Mariyono, 2018b). The role of modern farming technologies as a determinant to commercialise emerging farmers is occasionally viewed as more important than any other, and in certain instances, it is assumed that the adoption of technology is directly proportional to commercialisation (Mehar, 2016).

Figure 6.10 below illustrates the relationship of the technology and innovation sub-themes that emerged during the interviews and the focus group discussions.

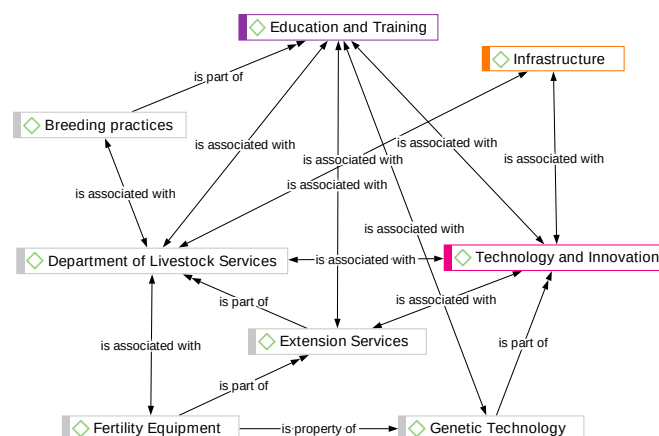


Figure 6.10: Relationship network diagram of Technology and Innovation theme

Source: Author's own illustration

6.4.11 Theme – 10: Policy environment

As discussed earlier in the review of scholarly publications, academics such as Pingali and Rosegrant (1995); Riwthong *et al.* (2017); Schut *et al.* (2016), have underscored the significance of appropriate government policies to facilitate the smooth commercialisation of subsistence agriculture. This is necessary because the process of commercialisation of emerging farmers, especially those at the base of the income pyramid cannot be left only to the market alone (Komarek, 2010; Von Braun, 1995). The policy environment findings proved disturbing. The majority of interviewees and the respondents in the focus group shared similar views that the policy was not in their favour, but rather a path to “steal” the proceeds of their hard-Merino sheep work.

The farmers explained that: “..... most wool growers in the country, had not yet received an income since March 2018 for their wool clip sheared during the shearing season.farmers are now selling their stock to slaughter markets in a desperate attempt to survive.....” The findings suggest that more than 50 000 wool and mohair growers in Lesotho had been affected by the legislation introduced by the ruling government in 2018. The Agriculture Marketing (Wool and Mohair Licensing) (Amendment) Regulations 2018, stipulates how and where farmers can trade their produce and inhibit them from exporting to South Africa without relevant permits. “..... these amendments are a day light robbery to wool growers in this country.....it is hard for many farmers who are not employed to put food on the table in the absence of those wool proceeds given the effected changes of the legislation. Some farmers have school going

children who are unable to go to school at the moment due to lack of resources.....”

The amendment to the regulations further compels farmers to send their wool to the new Lesotho Wool Centre in Thaba-Bosiu.

The respondents further claimed that: *“.....Merinos were the animals that we have depended on for sustenance for many years. The operators of the wool centre have played us for fools making promises that they have failed to keep to support us better than BKB. This has since not been the case.....”* Change management is essential for stakeholders when implementing policy changes, for example, from the findings. If policy changes are not strategically managed, it is probable that the intended changes may be destructive. Furthermore, policy changes must also promote participation by women in commercialised agriculture. This could also encourage the private sector to participate in the inclusive development of the rural economy for inclusive agricultural growth. Moreover, the role of government is crucial in specifying property rights and enforcing contracts to promote specialisation and market exchange lower market costs (Musah *et al.*, 2014; Onoja *et al.*, 2013).

The extent to which the costs of hiring labour for commercialised Merino sheep farming was highlighted during the interviews. If the policy environment prescribes unaffordable minimum wages for the Merino sheep farming workforce, there is a significant possibility to impede the transformation of the industry towards commercialised Merino sheep farming. The reviewed literature supports this notion of the high cost of hiring labour when the cost of selection of workers and supervision is added to the wages. The household farm with labour that largely supervises itself is the institutional response to these costs. As a result, most emerging Merino sheep farmers operate at the scale of the family. In the absence of mechanisation, the size of the farm is generally small.

The implication hereof is that when labour costs are an important aspect of agricultural costs, emerging farmers who are commonly small, may have significant advantages over larger commercial farmers. Conversely, once agriculture becomes more intensive in transactions beyond the farm gate, for example, purchasing substantial quantities of input and selling most of the output, larger farms may have the advantage. Thus, emerging farmers have the edge over less technologically advanced agricultural farms because of low labour costs. However, as the economy develops with increased utilisation of capital-intensive technology and hired labour, the advantage shifts to larger or commercial farms.

Notwithstanding the advantages of emerging farmers in developing countries, as theorised by Gebremedhin *et al.* (2009); Jaleta *et al.* (2009); Komarek (2010), policy has often favoured large commercial farms. However, subsistent farmers, through access to subsidised credit are protected for the output of such commercial operations, and infrastructure provision in areas of large commercial farming, amongst other measures. Policy-makers have often perceived commercial farming as modern, technically advanced, and efficient, a view reinforced by commercial farmers themselves who are often better organised to lobby public support. However, the sampled emerging Merino sheep farmers have persisted more often than not despite such bias.

According to the majority of participants, overgrazing in particular can degrade the local environment and care for the latter is non-negotiable. It is claimed that: “.....in recent years, the involvement of the local government in the management and control of pastures has resulted in improved soil conservation.....” The soil conservation policy is pro sustainable environment conservation. If implemented properly, the enforcement of the policy will protect the natural resources, which provides essential feed for the Merinos. Historically, careful studies of changes to soil and water quality have generally had to be executed on a small scale although the development of near infrared spectroscopy (Conz, 2019; Gwimbi, 2017) looks set to change this. Extrapolation from such studies to estimate for larger areas is fraught with problems. Studies of environmental change, moreover, tend to focus on damage and do not always consider improvements made by farmers, such as soil conservation works and tree planting. Figure 6.11 below illustrates the relationship diagram for sub-themes related to the policy environment that emerged during the interviews and the focus group discussions.

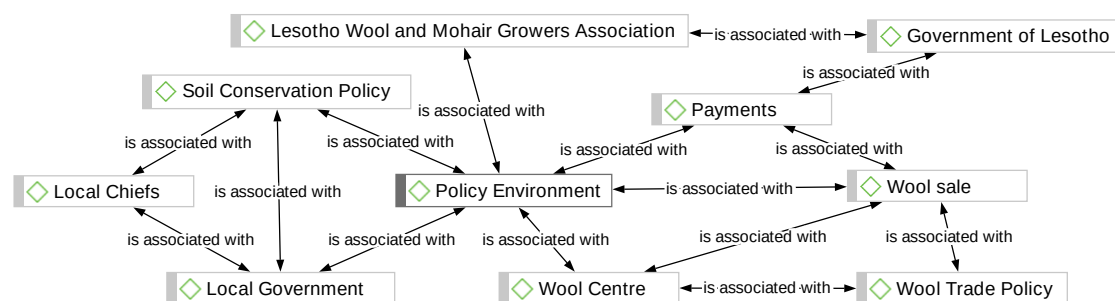


Figure 6.11: Relationship network diagram of Policy Environment theme

Source: Author’s own illustration

6.4.12 Theme – 11: Infrastructure

Agricultural infrastructure is that which serves agriculture's needs at all levels. Fredriksson *et al.* (2017); Gani and Hossain (2015); Ingabire *et al.* (2017); Mango *et al.* (2018), suggested that emerging farmers' attempts to increase their farming productivity and market participation were impeded by limited infrastructure worsened by poor conditions such as limited research centres, unreliable water resources, unreliable electricity/power sources, inefficient veterinary centres and poor road networks. Agricultural infrastructure affects the type of production selected and determines the agricultural inputs. The road and transportation network is considered a key element for a successful agricultural sector in marketing products and communicating with other markets. It determines the type of farming, production level, prices, alternative markets and choices. Lesotho's transportation network is the legacy of the British colonialism. The colonisation era played an important role in the exchange of agricultural produce and other natural resources inside and outside" the country.

Although the GoL is making considerable efforts to develop and invest in rural infrastructure, the poor often do not benefit directly. The findings from the primary data revealed that road transportation plays a crucial role in the timely marketing of the Merino sheep produce. However, the respondents underscored the *".....the road network is not maintained accordingly. It needs government's intervention in order to promote sound market participation and access by farmers.....to date remote Merino are not able to participate in the wool market effectively because of the poor road network in some. These remote emerging farmers cannot be ignored.....their wool produce is sold to private traders instead of selling through the dedicated state-owned sheds....."* The road system is vital to collect produce from the farmers and deliver input materials and other supplies to the farmers. It is the main link between the farmers and the market.

The respondent further articulated that: *".....one of the many challenges Merino sheep farmers face in this area is high transport costs as it plays a vital role in marketing our merino sheep and wool clip. Transport links the Merino farmers to the market mainly the shearing sheds, agricultural day or individual buyers of sheep mainly for meat. Other than transport, the roads condition additionally adds to the high transport costs, our road network is fairly poor. Some roads do not even reach where we farm. We have to commute long distances for essential services for our farming activities, this is costly for some of*

us.....” Other sampled interviews reiterated this claim by indicating, “.....*limited infrastructure, especially in rural area such as this one will probably lower income derived from our sheep farming activities.....*” The focus group discussions revealed that the recent road network expansion helped to link some of the isolated remote areas to urban centres even though the expansion had been slow.

The emerging Merino sheep farmers in Lesotho rely primarily on the river networks for the Merinos water supply. The present study’s findings reveal that surface water includes rainfall held in dams and tanks, which are primarily provided by private donors. Respondents’ states that dams and tanks provide the sheep with supplementary water. The respondents were pleased with the reliable water supply. However, given the adverse weather conditions, there are regions in the country which experiences limited supply of clean water. On the contrary, Lesotho’s telecommunication and Internet services are less developed and more expensive compared to other African countries. This was revealed by respondents when they claimed that: “..... *the telecommunications infrastructure is limited to urban and not rural areas..... access to telecommunication infrastructure by all can better how we farm in this area and nationally.....to illustrate my point, only few in this area are able to receive Radio Lesotho. I am referring to Radio Lesotho because it is state owned and broadcasts a lot of essential market related information pertaining to Merino sheep farming.....*” Efforts to resolve poor access to agricultural information (hence the high transaction costs) by emerging farmers focused on promoting information transfer through communication technology-based innovations. By facilitating easier access to market information, the transfer thereof through information communication technology-based innovations could reduce transaction costs and thus improve trade efficiency between regional markets.

Presently, television and radio waves operate in Lesotho, which have aided the transfer of information. Radio and television are evidently utilised often interactively with mobile phones. These reach audiences locally, regionally, nationally and internationally. Vodacom Lesotho operates the mobile phones services network. Vodacom Lesotho has most subscribers and continuously aims to increase mobile subscription by reaching the entire nation. However, Mokotjo and Kalusopa (2010) reported that telecommunication infrastructure in Lesotho needed development and noted that neither broadband internet access nor roaming access for the major international mobile networks is commonly available.

Amongst other lack of infrastructure in Lesotho, the findings indicted that the wool processing infrastructure has been neglected completely. The respondents held that: “.....the bulk of the wool produce is exported internationally. If it could be classed cleaned and processed further locally into raw material for the textile industry, it would benefit the country more than it is presently..... there are no existing facilities to process the wool.....” This initiative would have to be backed up by a comprehensive market and analysis of the industry. However, there is a gap in agricultural research to support this notion. It is evident from the interviewees that the role of agricultural research in the country is limited and weak due to the limitation in financial resources and expertise in the research field including the lack of technological support.

Moreover, the results further suggest that one of the major weaknesses of agricultural research in Lesotho is that its activities do not correspond with its current challenges although such research has been conducted in many of its areas. It can be inferred that infrastructure is an important determinant for livestock commercialisation as observed earlier in the review of scholarly publications. Figure 6.12 below illustrates the relationship diagram for infrastructure sub-themes, which emerged during the interviews and the focus group discussions.

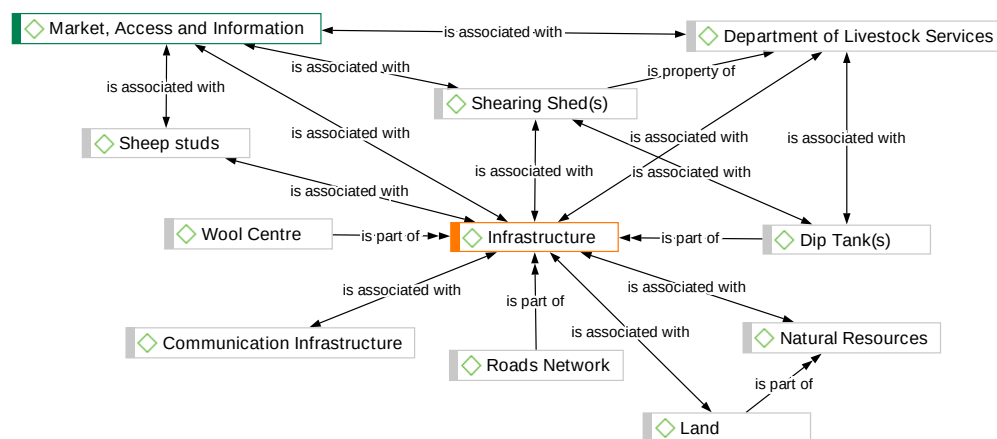


Figure 6.12: Relationship network diagram of Infrastructure theme

Source: Author’s own illustration

6.5 CONSOLIDATED ANALYSIS

The objective to establish determinant factors associated with successful transition towards commercialised Merino sheep farming, the Resource-Based Theory (RBT) was utilised in this study by identifying resources available in the research area from which the study

drew its sample. The RBT was applied through the Bottom-Up approach. The findings from the QDA revealed that the sampled group has the potential to transition from subsistent Merino sheep farming operations to commercialised operations by adopting best Merino sheep farming practices. Available best practice Merino sheep farming includes the adoption of modern technology and innovation, such as, utilisation of artificial insemination, hydroponic fodder systems for supplementary feeds, and other based on the QDA results.

As a result of the Bottom-Up approach, the RBT helped to create exclusivity by preserving and leveraging local values and culture by identifying determinant factors associated with the commercialisation of the emerging Merinos sheep farmers; farming in the sampled areas in the context whereby resources are created and developed from within and “control of the socio-economic community’s path which consistently rests on emerging farmers. The application of RBT and the Bottom-Up approach created a basis on which available resources in the research area can be developed and diffused to aspiring emerging Merino farmers for commercialisation.

The interviews and focus group discussions revealed that diffusion must embrace what the respondents have: limited access to: short-term credit and high-quality inputs for livestock due to low household income; including knowledge of Merino sheep fertility management best practices and their economic profitability and benefit. Other institutional observations from the findings included: lack of: material and financial resources; adequate sensitisation of the emerging farmers population for the adoption of innovation practices; agricultural credit policies that can motivate the private sector to invest; insufficient capacity development leading to low knowledge and engagement levels; weak farmers’ organisations; low collaboration between researchers and other stakeholders in the agricultural sector in Lesotho; potential resistance to innovations that may aggregate their produce; and, shortcomings in production techniques due to ineffective extension system.

In the following chapter, the development of a support framework for commercialised Merino sheep farming based on observations together with innovative options to facilitate commercialisation for inclusive agricultural growth have been discussed. However, the fact that most farmers have some form of education and training, it is envisaged that the adoption of commercialisation strategies that utilises the DOI theory is probable. According to Ochieng *et al.* (2016); Okpachu *et al.* (2014); Spielman *et al.* (2008), the

level of education of a farmer or whether the farmer is literate has an impact on how the person would respond to new scientific technologies intended for agricultural development. It would be difficult for illiterate farmers to understand these new technologies. The identified central themes, and associations presented earlier on the network in Figure 6.1 was utilised as the foundation to develop the support framework.

6.6 VALIDITY AND TRUTHFULNESS

In this study, the validity and truthfulness criterion were achieved by several techniques at different phases of the research.

- i) Before data collection: the researcher immersed himself in the actual field setting of key informants to establish correct and enduring contact with the key informants. This enabled the researcher to pilot data collection instruments and to fine-tune them where applicable. At this stage, the researcher remained a participant observer to additionally familiarise himself with the actual field settings.
- ii) During data collection and analysis: the findings from the in-depth semi-structured interviews were triangulated by secondary data – archival records, theoretical triangulation and prolonged exposure in the actual field setting. This persisted till saturation was reached as earlier discussed in the Research Methodology and Design chapter. The initial text analysis and observation notes were meticulously compared with findings of the interviews to determine the coded/factors for further analysis with ATLAS.ti™.
- iii) After the analysis: the findings from the preliminary qualitative data analysis were further triangulated by the focus groups. The findings from the focus groups dialogue further substantiated the overall findings.

6.7 CHAPTER SUMMARY

In summary, the findings from the qualitative analysis was presented and discussed in this Chapter. Thereafter, the network diagrams of emergent themes that resulted from the QDA of participants' responses and how these are associated with each other were presented. The network diagrams were generated making use of the qualitative software ATLAS.ti™. The comprehensive network diagram in Figure 6.1 above highlighted the association

between the dominant themes and the associated sub-themes, which emerged from the QDA. The findings advance that for commercialisation to be achieved, the observations outlined in the consolidated analysis must be considered, as well as effective dissemination of information to emerging farmers is an imperative.

Overall, the emergent dominant themes support some of the findings from the body of knowledge discussed in the literature review of the study. The dominant themes from findings form a basis for developing a support framework to address the primary research question. Finally, the chapter concluded with chronicling details of the research process. The development of a support framework is discussed in Chapter 7.

CHAPTER 7

PROPOSED SUPPORT FRAMEWORK FOR COMMERCIALISATION OF EMERGING MERINOS SHEEP FARMERS

7.1 INTRODUCTION

The previous Chapter presented the results of the analysis. It provided an in-depth and contextualised analysis of the emerging Merino sheep farmers experience in Lesotho. The analysis revealed constraints faced by these farmers. It was imperative to understand the current status of the research area, more specifically in terms of enabling factors or constraints faced by the emerging Merino sheep farmers to facilitate the development of the proposed support framework. The literature review revealed that the development of market-driven Merino sheep farming can be a sustainable way of improving the socio-economic status of resource-limited emerging farmers (Hounkonnou *et al.*, 2012).

The qualitative data analysis in Chapter 6 also identified the main themes of this study. This chapter is structured around the primary research question: *How can successful transition towards commercial Merino sheep farming be facilitated in Lesotho?* This research question was prompted by the lack of commercial emerging Merino sheep farming taking advantage of the lucrative wool and free-range red meat market in Lesotho. The primary research question and objectives identified in Chapter 1, was followed by a comprehensive review of the literature, as well as qualitative data collection and analysis. Hereafter, the proposed theoretical framework for the study was developed.

Chapter 7 examines the development of the proposed support framework for the successful commercialisation of emerging Merino sheep farmers, including innovative options to facilitate commercialisation for inclusive agricultural growth in Lesotho as a final objective of this study. The resource-based theory with a bottom-up approach, diffusion of innovation, inclusive innovation and growth laid the foundation for data collection and the development of the proposed support framework. Jabareen asserts that a conceptual framework is “*something that is constructed, not found*”, and points out that “*the overall coherence*” of a conceptual” framework “*is something that you build, not something that exists ready-made*” (Jabareen, 2009).

Jabareen further posits that four possible sources exist which can be utilised to derive a conceptual framework, namely: the author's own experiences and knowledge; existing theory and research; exploratory research; and thought experiments. For this study, the existing theory was employed and the findings from the qualitative data analysis of the exploratory research to develop the proposed support framework for the commercialisation of emerging Merino sheep farmers in Lesotho. The author's own experiences proved limited to utilise as a major source of concepts to develop the proposed support framework. The following section discussed the summary of the findings on the basis of the application of the initial conceptual framework for the commercialisation of emerging Merino sheep farmers in the research area.

7.2 THE SUPPORT FRAMEWORK FOR COMMERCIALISATION OF EMERGING MERINO SHEEP FARMERS IN LESOTHO

As observed in the previous Chapters, this study adopted a multidimensional research and concepts approach to this phase of the thesis. A conceptual framework results from bringing together of a number of related concepts to explain or predict a given event, or to provide a broader understanding of a particular phenomenon or research problem (Swan *et al.*, 2008). The refinement of the initial framework previously presented in Chapter 4 included drawing a distinction between dominant themes from findings that may impede or catalyse commercialisation in areas from which this research drew its sample.

The findings suggested that the majority of the sampled participants had an idea of what commercialisation entailed and its associated benefits. They interpreted commercialisation as "*market driven production of Merino sheep*". However, the emerging Merino sheep farmers who were interviewed had not as yet commercialised their Merino farming activities because of the prevailing challenges they face. The proposed refined conceptual support framework for the commercialisation of emerging Merino sheep farmers in Lesotho is illustrated in Figure 7.1 below.

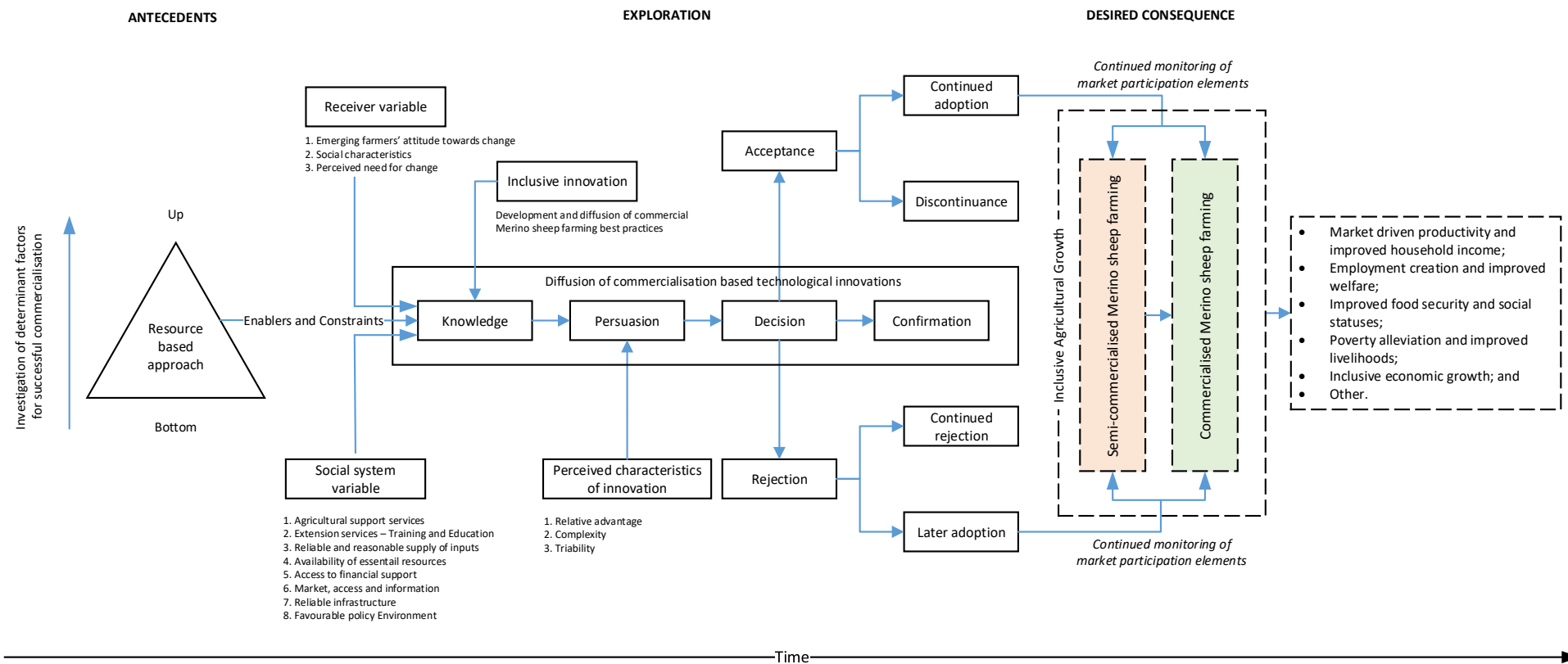


Figure 7.1: Proposed support framework for commercialisation of emerging Merino sheep farmers

Source: Author's own illustration

7.3 SYNOPSIS OF THE PROPOSED SUPPORT FRAMEWORK FOR COMMERCIALISATION

This section provides a more detailed synopsis of the attributes, which constitute the proposed framework for the commercialisation of emerging Merino sheep farmers in Lesotho. The interconnectedness of antecedents identified from the application of the support framework is discussed in the following sub-section.

7.3.1 The antecedent phase of commercialisation of emerging Merino sheep farmers

The application of the first phase of the proposed support framework for the commercialisation of emerging Merino sheep farmers in the research area enabled the identification of dominant themes in this area to support commercialisation efforts. The antecedents were identified as dominant themes during the thematic analysis of qualitative data. These antecedents are an abstract representation of the emerging Merino sheep farmers' farming environment. The following antecedents were identified: Social Status, Income and Culture; Asset Holdings; Education and Training; Agricultural Support Services; Funding; Resources; Markets, Access and Information; Transaction Costs; Technology and Innovation; Policy Environment; and Infrastructure.

As demonstrated in the previous Chapter, the identified antecedents using the proposed support framework are interrelated. In the research area, the antecedents act as enablers or constraints for the emerging Merino sheep farmers to commercialise their farming activities. The utilisation of the bottom-up approach as part of the resources-based approach to investigate the antecedents could enable the government and private institutions to devise strategies to commercialise emerging Merino farming. For example, when demand is growing, production for the market is necessary, and when appropriate technological innovations for Merino sheep farming is availed to emerging Merino farmers, market-orientated production is more efficient.

As emerging Merino sheep farmers' progress towards market-driven production, the success and failure of the commercialisation process is influenced by the diffusion of the implementation strategies for the desired market-driven production of Merino sheep. The implementation includes knowledge creation, persuasion, decision-making and confirmation. When these elements of implementation are favourable, these facilitate or enable the process, thus helping to make the desired commercialisation of emerging

Merino sheep farmers a success, but when unfavourable these impede the process, thus resulting in failure. Once the decision to utilise applicable innovations and technology has been accepted and the initial investment facilitated, the emerging Merino sheep farmers progressively transform their operations from semi-commercialised farming operations to fully commercialised ones.

The commercialisation process is approached differently based on the leading agents of change or the primary driver or any combination of these factors identified during the phase when the antecedents were investigated. The commercialisation strategies adopted determine the role actors, key activities, and the role of emerging Merino sheep farmers. The literature review revealed that most successful cases of the commercialisation of agriculture for inclusive agricultural development is based on collaborative efforts, since successful commercialisation can be complex without appropriate partnerships and all-inclusive approaches. For the commercialisation of emerging Merino sheep farmers to be successful, it should be monitored and measured regularly through extensive participation in the Merino sheep markets. The antecedents, which are not all within the emerging Merino sheep farmer's control, is discussed in the sub-sections below.

7.3.1.1 Education and training

Intuitively, it is reasonable to assume that agricultural education and training has a significant impact on the commercial orientation of farming households. To support this perception, Kilelu *et al.* (2014), posit that education and training should go hand in hand, education being the primary motivator and an initiator for the anticipated agricultural development. Kassie *et al.* (2011); Maertens and Barrett (2013) add to this notion by drawing on experiences beyond Africa and share lessons to improve formal education and training meant to commercialise emerging subsistence farmers in the region. Among others, his recommendations include the need to avoid a one-size-fits-all approach system design and structure since each farming environment is unique, and to maintain a long-term, multigenerational time horizon that is dynamic as the farming environment for the development of the best-suited scope of education and training.

More practically, the researcher identifies the need to mobilise and sustain greater political support for continuous investment in education and training; design and implementation of incentives that can attract and retain trained professionals; exploration of alternative cost-

effective training modalities (such as collaboration with universities and research institutions); and the promotion of agricultural research programmes to strengthen the commercialisation of agricultural education and training. From a resource-based approach, the point of departure for initiating the education and training antecedent is to perform a needs assessment. The latter is important in farmer training because it “provides clear guidelines as to which professional skill deficiencies must be remedied and what the profile of future trainees [emerging farmers] should be ... Training needs come from underdeveloped skills, insufficient knowledge or inappropriate” emerging farmers’ attitudes (Ferreira & Abbad, 2013).

Academics such as Pant and Singh (2016) outline the reasons for conducting training needs assessments. These are meant to identify the existing and required competency levels of knowledge, skills and aptitudes; determine the content of the training programme; enable the trainers to determine the training plan; ensure that targeted and relevant training is conducted; are a means of maximising the use of scarce resources; and can be utilised as a monitoring and evaluation tool of the training plan. A training needs assessment gathers information from respondents about their level of knowledge on a given topic and reveals their ability to apply such knowledge in real-life situations (Kilelu *et al.*, 2014).

It should be noted that sound background of education and training are token that could enhance a person’s natural skills. It is clear that education functions as a base to take well-informed decisions. As such, it is viewed as a key element of the antecedent phase for the successful commercialisation of emerging Merino sheep farmers. In this study, there was a strong emphasis on the role of education and training as a catalyst for commercialisation. A common finding was that commercial success was linked to special skills combined with hard work and entrepreneurial motivation. Some of the respondents acknowledged their shortcomings in the technical and production knowledge of Merino sheep farming and expressed their willingness to receive” more training related to market-orientated Merino sheep production.

7.3.1.2 Infrastructure

The majority of scholarly publications such as Mariyono (2019); Rantšo (2016d); Yaseen *et al.* (2018), revealed that relationships linking distance to market, type of road, wool handling facilities, communication infrastructure and other types of infrastructure, to

commercial orientation. The findings of this study and an in-depth review of the literature revealed reliable infrastructure is as an essential antecedent for commercialisation. The findings are consistent with the conclusions reached by the above-mentioned academic scholars. However, this thesis demonstrates that road and communication infrastructure development can be a fundamental enabler. Other infrastructure developments such as electricity and equipped livestock services facilities are also important, but less critical as fundamental enablers. The findings also suggested that infrastructure developments have the potential to substantially benefit those emerging Merino sheep farmers predominantly found at the base of the income pyramid.

7.3.1.3 Funding

The lack of access to credit has long been identified as an important, if not the foremost, constraint for emerging farmers in developing countries, especially those categorised at the base of the income pyramid. As suggested in the reviewed literature, there are several possible reasons to explain the reluctance of formal financial institutions to better serve emerging farmers. In their research, Ogundeji *et al.* (2018), grouped these into four categories: information asymmetries (access to different information); transaction costs; enforcement constraints; and ambiguity aversion.

Information asymmetries lead to moral hazard and adverse selection. Regarding transaction costs, the reviewed literature on funding access by emerging farmers revealed that these costs are high because lenders, with specific reference to the formal financial institutions, must reach out to a large number of emerging Merino sheep farmers, each of whom borrows relatively small amounts (Yaseen *et al.* (2018), and must also evaluate each borrower's reliability, capacity to repay, and intention to utilise the funds wisely. Enforcement problems are created if borrowers attempt to engage in strategic default, and it is difficult and costly for lenders to distinguish between lack of willingness and lack of capacity to repay the money. Collateral to induce repayment is frequently restricted because poor borrowers have limited collateral to offer, and the process of seizing and disposing of seized assets is often costly and inefficient. As outlined in the previous chapter, certain farmers resort to informal lenders.

Ambiguity aversion refers to the preference of formal financial institutions for serving familiar clients with known risks rather than learning the complexities and risks of serving

the agricultural sector due to its special spatial and risk characteristics (Ogundeji *et al.*, 2018; Schut *et al.*, 2016). Another reason for the reluctance to lend is the significant systemic risks, such as price and production that can affect a large number of emerging farmer borrowers simultaneously and require restructuring of many loans to avoid default. Because of the lack to ameliorate such risks, formal financial institutions will likely ration agricultural lending to limit risk exposure. In this study, it was evident that bank finance was available across the majority of the wealthier class of farmers, with a higher rate of uptake by the wealthier families. The more remarkable changes in commercial activity were clearly associated with large loans.

The findings accentuated the informal lending market than the formal financial institutions. Funding remains a key antecedent for commercialising, and available sources of funding need to be investigated at the initial phases of commercialisation, as illustrated by the proposed support framework. There was strong evidence from the qualitative data analysis that the overall process of commercialisation was constrained by a lack of access to finance. It appeared that those who had the physical resources and skill-set to apply for funding were able to access the capital that they needed from either the formal or the informal sectors.

7.3.1.4 Asset holding

The reviewed literature earlier introduced the hypothesis that asset holdings is relevant in the commercialisation of emerging farmers' process, since these mitigate unexpected shocks likely to occur in the process of commercialising agriculture. The findings of this study corroborated with this hypothesis. Makki (2012) demonstrated that private asset accumulation is a prerequisite for the transition of emerging farmers to commercial agricultural production. Makki (2012) also indicated that one avenue for emerging farmers to accumulate private assets is to enter into those farming activities which have the potential to enhance their livelihoods and income, such as market-orientated dual-purpose livestock farming and cash crops. The government has significantly promoted the utilisation of pedigree Merinos by importing these from established commercial farmers in South Africa and creating breeding facilities that are strategically located in various districts in Lesotho.

The rationale for introducing market-orientated pedigree Merinos and upgrading the breeding facilities is to gradually improve the existing Merino herds so that there are greater rewards for the farmers. Merinos are the primary assets for emerging farmers in the sampled areas. Rantšo (2017) corroborates the findings of this study that holding assets by emerging farmers is an essential antecedent for commercialised farming, and that such assets may include fertility facilities and equipment, dipping tanks for disease control, land, and other applicable assets essential for the production of marketable surpluses. Those farmers with access to adequate assets and infrastructure and provided with appropriate incentives engage actively in the markets, while those who lack one or more of those three essential ingredients largely do not (Yaseen *et al.*, 2018).

The results in this study are generally supportive of the findings from the body of knowledge, but prevailing farming conditions must also be considered. First, the situation between emerging farmers is confounded by differing land conditions that need to be addressed as soon as possible. The Government of Lesotho has indeed designed and implemented certain measures to preserve the available farming land. Second, some highly profitable activities such as precision farming in general and hydroponic fodder production systems rely more on capital, technical skills, and labour rather than on large areas of land. Accordingly, land is an enabler but not a fundamental determinant of commercialisation for existing Merino farmers or those aspiring to be commercial Merino sheep farmers.

7.3.1.5 Social status, Income and Culture

During the qualitative data analysis phase, “social status, income and culture” was the primary reason given by emerging Merino sheep farmers for farming Merinos. According to IFAD (2014); Kingdom of Lesotho (2011), the sale of livestock products can account for up to 90 percent of the regular cash income of the majority of emerging Merino sheep farmers in the research area. A 6-year study in Lesotho revealed that investing in Merinos earned farmers an interest rate equivalent of more than 10 percent, while a bank account lost 10 percent because of inflation (Kingdom of Lesotho, 2014). It is, therefore, not surprising that the majority of the farmers – and many non-farmers – invest their money in Merino sheep farming rather than banks.

The occasional sale of sheep and the annual wool harvest provides the emerging Merino sheep farmers’ households adequate income to satisfy household expenses such as school

fees, school uniforms, food, medical care, fertilisers and supplementary feed. Social status, income and culture is an important antecedent for commercialisation that should be evaluated to determine the appetite for Merino sheep farming by potential farmers, even though sheep farming is perceived as a tradition for the Basotho. This study highlighted that Merinos are a very important source of income and nutrition, and a social status tool. Most income in the country is derived from the annual sale of Merino wool.

Levels of wool production in Lesotho are very high. People in the rural areas are highly dependent for their livelihoods on the production of wool, which contributes significantly towards their standard of living. Most wool production is in the hands of emerging Merino sheep farmers, based primarily in rural Lesotho. Livestock serves an important function as a savings account, producing offspring as interest. Income from cropping or other enterprises is often invested in livestock. In many countries, this form of investment is more reliable and lucrative than banking. Preoccupation with livestock gives the Basotho people their social and cultural identity. According to scholarly publications, this is a phenomenon found in most developing economies.

7.3.1.6 Agricultural Support Services

The provision of agricultural support services cannot be overemphasised in the commercialisation of emerging farmers. Research into Lesotho's emerging farmers by the Kingdom of Lesotho (2014); Lesotho National Wool And Mohair Growers Association (2016); Matarira *et al.* (2013), suggests that most farmers in rural Lesotho are unable to access basic agricultural support services which may be available on the market for a fee, and which other types of farmers (who are better resourced) can access. A lack of access to reliable agricultural support services may impede the commercialising efforts, which is the intended outcome of the support framework. As such, agricultural support services remain an essential antecedent for successful commercialisation, and as a recommendation advanced by the majority of the participants, should be monitored regularly. The key elements from findings of this research and that of other associations are outlined in Figure 6.5 in the previous chapter.

The findings from this study are corroborated by those from the reviewed scholarly publications (Matarira *et al.*, 2013; Yaseen *et al.*, 2018). Most emerging Merino sheep farmers operate in remote rural Lesotho, and as a result, access to essential agricultural

support services is limited. The DoLSL remains the custodian for the provision of advisory services such as improved herd management practices, administration of vaccinations for both routine and critical diseases, animal health inspection and animal disease management, the newly introduced Livestock Identification and Trace-back System, and advice on necessary livestock inputs. However, agricultural support services in the research area have been criticised for inefficiency and stagnation over the last ten years by the majority of the emerging Merino sheep farmers. This inefficiency in agricultural support services has evidently led to a skills gap among the emerging farmers.

In many instances emerging farmers that have potential, ability and willingness to commercialise their farming operations are inhibited by a lack of access to adequate agricultural support services such as reliable extension services or appropriate and timely agricultural advisory services. This remains a challenge for emerging Merino farmers. According to the findings, reliable agricultural support services will enhance market participation by emerging farmers.

7.3.1.7 Resources

The empirical literature review and the present study's findings reveal that resources such as: skilled human capital, input materials, natural resources and environmental resources, physical infrastructure, working capital and sustainable use are pre-conditions for successful market-orientated farming. For example, Kuyah *et al.* (2016), revealed that in Zambian households with secure land tenure increased long-term investment in their farming operations by planting more trees to prevent soil infertility and erosion. The farmers in Lesotho, on the other hand, live below the poverty line and typically have few physical and natural resources, limited technical aptitude, and inadequate managerial skills, as well as poor access to credit funding.

In this study, the majority of the sampled emerging farmers do not have access to basic resources. Labour as a means to take care of the Merinos was mentioned as a constraint by a large number of participants. Furthermore, limited disposable financial resources and inadequate veterinary services are scarce resources in the research area. These were reported by relatively fewer respondents compared to other types of resources associated with the dominant theme "Resources" identified in the previous chapter. Most of the sampled participants accentuated that veterinary services were generally inadequate, while

others underscored the remoteness of the DoLSL – Veterinary Services stations. Farmers have to travel long distances to access basic veterinary medicines and technicians.

Certain farmers expressed limited disposable financial resources and inadequate veterinary services persist, the emerging farmers will be unable to participate efficiently in the market-driven Merino sheep production. However, with the proper financial assistance, they could transition towards commercialised production. Apparently, the present interventions by the government and private institutions to address some of the scarce resources have created a promising environment for the emerging farmers.

7.3.1.8 Markets, Access and Information

Markets, access and information is considered an essential antecedent for the successful commercialisation of emerging Merino sheep farmers in the research area. However, as discussed earlier in the literature review chapter, many of the reviewed scholarly publications relating to market participation and market access for emerging farmers, and access to market information, highlighted broad imperfections and limited access in this regard. Ebata and Hernandez (2017); Khapayi and Celliers (2016) and Jayne *et al.* (2010), hold that the commercialisation of agriculture requires well-integrated markets and access to these markets by farmers. It also needs market information to be readily available to farmers including those with potential. The findings of this study concurs with those held by these researchers.

This study also revealed that the reason why most of the sampled emerging farmers cannot improve their livelihoods is because they face difficulties in accessing both markets and related information timeously. Although some of them (those who are better off) have access to basic Merino sheep farming inputs, they are faced with challenges related to market participation. They, therefore, remain trapped in the poverty cycle because they dispose their Merino sheep farming produce in unprofitable markets, and in certain instances they are forced to sell their wool and sheep to informal buyers at whatever price offered. Their bargaining power is limited. Furthermore, the findings on distance-to-market resonate with those of other researchers. For example, Mariyono (2019); Ogutu and Qaim (2019) posit that market access negatively correlates with distance to market.

Furthermore, the findings also revealed that the sampled emerging farmers who had access to markets were more educated than those with limited education. This finding conforms

with Gouët and van Paassen (2012), who revealed the important role education played in the participation of the emerging farmers. In general, the gathered analysed data suggests that market participation is associated with the availability of market information, costs to access the markets, asset holdings, infrastructure, availability of agricultural support services and access to credit funding, all of which may contribute towards improved participation. As such, there is a close relationship to the Markets, Access and Information antecedent among those antecedents earlier identified as dominant themes.

7.3.1.9 Transaction Costs

The thematic analysis identified transaction costs as one of the dominant themes. The reviewed literature discussed earlier in the literature review chapters suggested that transaction costs are an important antecedent for successful commercialisation. In Lesotho, emerging farmers find it difficult to participate in markets because of high transaction costs in Merino sheep farming. Transaction costs are predominantly hidden costs. Hence, it is difficult to access input and output markets (Pingali, 2007; Pingali, 2010; Pingali & Rosegrant, 1995). Transaction costs are the embodiment of access barriers to market participation for most resource-poor emerging farmers (Fredriksson *et al.*, 2017).

Any assumption that access to Merino sheep market information has no cost does not concur with the findings of this study. The reviewed literature also revealed that emerging farmers are unlikely to participate in market-orientated commercial Merino sheep farming because they are not well informed of what is transpiring in the markets. In this study, it was revealed that in order for some of the sampled emerging farmers to access markets, they must travel long distances to the DoLSL or the LNWMGA offices, but this could prove costly for most of the farmers. Emerging Merino farmers will not have the appetite to enter the lucrative Merino sheep markets when the value of participating is outweighed by the costs of undertaking the transaction. In most instances, these transaction costs, which can either be observed or hidden, is experienced in transportation, middlemen costs, and various taxes charged in markets or by the government.

The findings further revealed that a weak institutional circumstance in the research area has led to high transaction costs. These institutional factors include high input costs, poor road infrastructure, poor communication services, limited access to agricultural support services (and specifically veterinary services), need to satisfy quality requirements, delayed

payments for wool produce, presence of middlemen and perceived low prices in the formal market, and regulations governing the sourcing and procurement of inputs. In this study, the findings largely attributed high transaction costs to poor infrastructure, which imposes increased transportation costs on the emerging wool producers participating in the wool market. Poor communication services have resulted in information inefficiencies in the research area. It is the bundle of transaction costs which emerging Merino sheep farmers' face that determines their participation in the market.

7.3.1.10 Technology and Innovation

The reviewed literature suggested that those at the base of the income pyramid are marginalised and have low participation in the markets, as well as limited access to basic agricultural support services and market information. This is primarily due to poor infrastructure – particularly transport and communication infrastructure. As one of the antecedents identified in the findings, Technology and Innovation may have the potential to reduce transaction costs. Thus, when developing and diffusing technology and innovation in the research area, efforts should be made to reduce transaction costs, since high transaction costs reduce the revenue from the emerging farmers' activities, and increases the cost of utilising additional production inputs and adopting innovative technologies.

According to the findings, the adoption of modern Merino sheep technology and innovations may yield high Merino sheep production. The findings revealed that the adoption of an advanced breeding technology such as artificial insemination would result in improving existing flocks, since the transaction costs of importing pedigree rams and ewes is extremely high. The findings suggest that this is the most promising way to enhance the Merino sheep production capacity of emerging farmers. Ease of access to certain remote areas, provision of reliable public infrastructure, and improved delivery by the DoLSL – Veterinary Services would result in a reduction in transaction costs and promote investment in affordable modern Merino sheep farming innovation and technology. Therefore, the government of Lesotho and private institutions should aim to invest in technology and innovations to increase input productivity so that the income-generating capacity of the emerging Merino sheep farmers in the research areas can be increased.

Given the overall goal of commercialising emerging Merino sheep farmers based on the refined support framework, it has become evident that the development of reliable infrastructure, as well as technological innovations, need to go hand in hand. The relationship between markets, infrastructure and technologies is fairly complex. The role of technological innovations as a determinant of the commercialisation of emerging farmers is occasionally perceived as more important than any other, and in certain instances, it is assumed that the adoption of technology is directly proportional to commercialisation (Mehar, 2016). The envisaged investments in technology and innovation will have to be adjusted to suit the farming environment in the research area. The proposed support for emerging farmers does not encourage a one-size-fits-all approach. On the basis of this study's findings, in areas with access to reliable infrastructure that is applicable to Merino sheep farming, the use of technical innovations allow for the acquisitive scale commercialisation effects economically.

7.3.1.11 Policy Environment

In the real world, a strong association between policies and politics exists. As such, politics either promotes or inhibits the successful implementation of policies. The commercialisation of emerging Merinos sheep farmers in Lesotho, therefore, requires political stability for the implementation of policies that serve emerging farmers, supported by appropriate strategies and programmes to match the ever-changing local social and economic environment so that it is favourable to emerging farmers. The findings also revealed that a conducive policy environment requires, at the bare minimum, no conflict.

It appears from the findings of this study that the marketing chain in the Merino sheep industry is lengthy and comprises of many distinct exchange configurations from the emerging Merino sheep farmers to the auction floors. The findings revealed that this very long marketing chain imposes high overall transaction costs on the emerging farmers. Each of the distinct exchange configurations deals with its own items at different stages of processing, and in various locations, and involves diverse actors and environments. Thus, the Government of Lesotho should aim to implement a transparent trading system that will promote increased market participation.

According to the findings, the Government of Lesotho owns much of the land and is also held under Lesotho's traditional system. Locally, land tenure systems discriminate heavily

against the sampled emerging Merino sheep farmers, with negative consequences for the entire society. In the research area, a lack of secure tenure undermines incentives for those at the base of the income pyramid to invest in their land – for example, to build or even to plant supplementary feeds. On the basis of limited-access short-term credit funding, formal land rights for emerging Merino sheep farmers could make it easier for the latter farmers to access short-term credit to commercialise their operations. The findings call for land reform and tenure policies that would promote land markets and the consolidation thereof, as well as promote the empowerment of emerging farmers who can effectively adopt technology and investments and utilise land suitable for commercialised Merino sheep production. The findings revealed that policies are required which would lead to market-oriented Merino sheep production systems compatible with sound natural resources management. Specific policies are needed to promote collective action by emerging Merino sheep farmers, increase private sector participation, and facilitate greater participation in the Merino sheep market chains.

Given the findings on the Policy Environment antecedent, favourable policies conducive to the emerging Merino sheep farmers are necessary, but not sufficient to create the transformation necessary for commercialised Merino sheep farming. To be fully effective, there must be political commitment so that these policies are followed up with effective implementation plans in terms of strategies, programmes, financial resources, and monitoring and evaluation systems to detect problems in order to avoid unintended adverse effects.

7.3.2 Exploration phase for commercialisation of emerging Merino sheep farmers

The second phase of the support framework is the exploration, which involves the diffusion of technological innovations set out in the findings of this study. According to the reviewed literature presented earlier, diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system (Rogers, 2010). Rogers' diffusion of innovation theory attempts to predict the behaviour of individuals and social groups in the process of adopting innovation, considering their personal characteristics, social relations, time factors and the characteristics of the innovation (Schut *et al.*, 2016). It is a social process that involves interpersonal communication. Communication is a process in which participants create and share

information with one another in order to reach a mutual understanding. Diffusion is a special form of communication-related to new ideas.

In the context of this study, the new idea is the commercialisation of emerging farmers for improved livelihoods. However, the diffusion and adoption of inclusive technological innovations, as suggested in the findings, is likely to be significantly influenced by local policies which affects the general economy and the Merino sheep farming environment. The diffusion of technological innovations for commercialisation, as a social construction, is created in the interaction of awareness and the need for the innovation, openness and focus on achieving the desired outcome of the support framework, and commercialised emerging Merino sheep farmers for inclusive agricultural growth.

In the research area, commercialising emerging Merino sheep farmers is a social innovation. In this way, commercial Merino sheep farming is not only a new form of farming but a social innovation aimed to change patterns in the relationships between the farming environments of emerging Merino sheep farmers at the base of the income pyramid. Commercial Merino sheep farming market-orientated production was earlier defined for the purpose of this research. With regard to the exploration phase of the proposed support framework, the different stages involved in the diffusion of technological innovations for commercialised Merino sheep farming was illustrated namely: knowledge creation about the technological innovations, persuasion, decision-making regarding the technological innovations, and confirmation. The findings revealed various technological innovations that currently diffuse in the research area. However, these technological innovations are out of reach for emerging Merino sheep farmers at the base of the income pyramid. Their access to various technological innovations is further constrained by unreliable road and communication infrastructure.

It further emerged from the findings that, while some of the technological innovations were available, some of the interviewed emerging farmers indicated that they lack the necessary experience and information to benefit therefrom. However, they did not, at first glance, consider these technological innovations for the commercialisation of their operations to be too difficult or complex. Even though these innovations required certain investment, some of the emerging farmers were willing to sacrifice their savings or seek alternative finance if this would help them achieve higher returns on their Merino sheep farming activities.

Emerging farmers with higher education and access to training are likely to be the early adopters of the available technological innovations.

7.3.3 Desired consequence phase for commercialisation of emerging Merino sheep farmers

The desired outcome of the support framework is fully commercialised Merino sheep farming by emerging farmers. The overall process to commercialise emerging Merino sheep farmers is time-dependent. The desired commercialisation in an inclusive innovation context is unquestionably important to enhance the household livelihoods of emerging farmers and to achieve inclusive agricultural growth. It is envisaged that it will yield positive outcomes. However, it should be noted that the application of the proposed support framework is prone to unintended effects such as market risks, asymmetric income distribution, high expenses, and potential negative consequences for the sustainability of existing natural resources, but these will depend primarily on the context and the strategies adopted.

7.4 CHAPTER SUMMARY

As already pointed out in the research methodology and design chapter (6), this study took a critical realism stance, and the proposed support framework was based on the subset of interrelated antecedents from the research findings, substantiated by the literature from the body of knowledge and the real domain. The application of the proposed support framework acknowledged that there is a distinction between the reality in the research area, and the knowledge claims of those objects of knowledge, as well as the fallibility claims – the latter being always relative to the historical, social and political context in which emerging Merino sheep farmers operate. Since the commercialisation of emerging Merinos sheep farmers is time-based, the proposed framework aided the role players in the research area with a clear guideline of how to approach the desired outcome of the proposed support framework, and to make the transition towards fully commercialised Merino sheep farming.

It must be noted that each Merino sheep farming environment is unique in its own way, as are the emerging Merino sheep farmers, and as such, the bottom-up approach in assessing the farming environment is vital to establish the prevailing enabling factors and

constraints. A blanket approach may not yield positive results. The extent of market participation should also be monitored and measured regularly. The measurement elements can also be utilised to profile emerging Merino sheep farmers according to the extent of their commercialisation in order to craft targeted strategies and interventions for different levels of commercialisation. The proposed framework has the potential to help isolate key issues and provide lessons from the experiences. The following chapter presents the conclusions and recommendations of this study.

CHAPTER 8

CONCLUSIONS AND RECOMMENDATIONS

8.1 INTRODUCTION

The conclusions are discussed in relation to the problem statement and the primary research question in Chapter 1. With a specific focus on commercialisation of emerging Merino sheep farmers in Lesotho, this study documented the constraints and determinants faced by these emerging farmers in order to develop a support framework together with innovative options to facilitate commercialisation for inclusive agricultural growth in Lesotho. The strategies that may bring about the commercialisation of emerging Merino sheep farmers in Lesotho is summarised in this concluding Chapter. Explicit consideration has been given to the significance of enabling and constraining factors, earlier considered as antecedents of the proposed support framework for commercialisation. The research strategy was based on case study analysis.

This study partially demonstrated that the reality of commercialisation of Merino sheep farmers in Lesotho may be a complex issue; improved on the knowledge and understanding of contextual factors influencing transition towards commercialised Merino sheep farming; and, developed and contributed a new methodological approach for commercialisation with a proposed support framework. This study drew cases from three districts. The development of the case studies was based on capturing the unique realities in each district faced by the emerging Merino sheep farmers. The dynamics of change related to both commercial orientation and overall livelihoods was investigated in-depth through qualitative semi-structured interviews. Cross cases were compared to explore common and contrasting patterns of transition.

The investigations were informed by prior theory but no specific hypotheses were tested. Rather, the study built on a philosophy of documenting empirical situations within a contextual and holistic framework, and then sought emergent insight and understanding which could be compared to existing theory to further build and modify the latter. The conclusions are discussed in relation to the problem statement and the main research question identified in Chapter 1. Furthermore, implications for policy, practice and theory are discussed. Lastly, the remaining three sections of the Chapter present the limitations of

findings, recommendations, including proposal for future research and personal reflections. The following subsections highlight overall conclusions drawn from this study.

8.2 GENERAL CONCLUSIONS MADE FROM THE RESEARCH

The livelihoods of emerging Merino sheep farmers largely depend on Merino sheep farming. Commercialised Merino sheep farming in this research is the catalyst for inclusive agricultural growth that would potentially benefit the units of analysis from the case studies. The findings acknowledge the availability of a lucrative formal Merino sheep market that exists in the area for emerging Merino sheep farmers. However, to date, the extent of market participation by these farmers is low, and as such, most still practices subsistence farming. In addition, despite the fact that Merino sheep production accounts for over 85 percent of marketed agricultural products in the Mountain Kingdom of Lesotho, only a handful of market participating households' control over two thirds of the marketed volumes. Of the two thirds, the majority are located in rural Lesotho and are categorised at the base of the income pyramid.

Hitherto, limited empirical evidence exists on what enables or constrains these emerging Merino sheep farmers from commercialising their farming activities. Moreover, there is a dearth of empirical literature, with a specific focus on Lesotho detailing how commercialisation of emerging Merino sheep farming to address rural poverty in an inclusive context. Thus, transforming emerging Merino sheep farmers from low productivity to a market-oriented or commercialised Merino sheep production is indispensable to ensure sustained economic and agricultural growth in the rural areas of the country. Embarking on this research was to understanding the farming conditions faced by the emerging farmers.

While there is no universally agreed definition of agricultural commercialisation, this study adopted the definition that considers agricultural commercialisation as “*an innovative transition from smallholder Merino sheep production to systematic market-orientated Merino sheep production by emerging farmers*”. However, for the purposes of this study, market orientation is seen as the extent of market participation. The finding of this study concurs with those from the reviewed literature that is, enabling and constraining antecedents for commercialisation of emerging Merino sheep farmers in the research areas. The findings from the study revealed Social status, Income and Culture; Asset Holding;

Education and Training; Agricultural Support Services; Funding; Resources; Markets, Access and Information; Transaction Costs; Technology and Innovation; Policy Environment; and Infrastructure as the primary antecedents. The majority of these antecedents are constraints, which confront emerging Merino sheep farmers in the research areas.

For improved market- orientated production and participation by the emerging Merino sheep farmers, there is a need to address the barriers to access the market. Based on the findings and the developed support framework, there are innovative options to facilitate commercialisation for inclusive agricultural growth in Lesotho. However, the problem is that ‘one size approach does not fit all’. Each farming environment is unique in its own right, it differs from one to another and depends to some degree on the socio-economic dynamics in each farming area as revealed per the findings from the units of analysis. The application of the proposed support framework and innovative options are almost inevitably likely to be context specific, affected by primary antecedents that emerged from the findings. In conclusion, the findings from the units of analysis revealed that:

- i) The findings from the qualitative data analysis indicate that the majority of the units of analysis sell their wool produce in the formal wool market. Only a limited number sell their wool produce to the informal traders. Most of the emerging Merino sheep farmers revealed that the returns they received for the sale of wool was good but could be better if there was adequate support from key stakeholders. When compared to other types of livestock, Merinos are preferred livestock because of the benefits they present to the majority of the Basotho. Merinos adapt well to the Lesotho conditions; and the farmers rip dual income from the sale of wool or the sale of sheep to the slaughter market.

Over and above the respondents’ views presented, Merinos provide a spectrum of benefits for the sampled farmers such as different levels of income, food, financial security and social status and social capital. In the absence of formal insurance markets where the sampled emerging farm, they tend to diversify the traditional crop farming with Merinos to achieve a balance between potential returns and the risks associated with climate variability, market and institutional imperfections. Merinos are significant contributors to the rural livelihoods and are growing in importance. The majority of the units of analysis practiced smallholder Merino sheep farming but

had an appetite to transition towards market-orientated production. It is, therefore, imperative to find ways to commercialise emerging farmers to increase market participation.

- ii) The findings also revealed that there is potential within this group to share information and experiences, but it is limited to peers. However, certain sampled farmers do not want to farm communally and prefer being in charge of their Merino farming activities. It is suggested that training programmes for Merino farmer study groups, workshops, and poor resourced farmers to access agricultural information for optimal Merino sheep production should be strengthened.

For the majority of the respondents, training is meant to capacitate the emerging Merino farmers in many ways. The findings revealed that training, however, goes beyond marketing, and issues related to production techniques need to be addressed urgently. Similarly, local educational institutes in Lesotho can play a great role in improving emerging Merino sheep farmers the level of training. The training must serve emerging farmers with the aim to increase the farms profitability through diffusing management techniques considering the specificities of each region.

- iii) Evidently, the findings revealed limited agricultural support services as one of the constraining antecedents of commercialisation in the research area. The provision of support services remains one of the major interventions in the transformation of agriculture towards commercialising farming operations and improve income generation. The GoL has allocated adequate resources to address stock theft. The involvement of the local Chiefs is also an important driver in caring for the environment and in facilitating perpetrator prosecutions involved in stock theft. The allocation of resources is not limited only to stock theft but also resources for the provision of extension services that includes veterinary services.

However, due to poor road network infrastructure and impact of communication infrastructure, the availability of agricultural support services for emerging Merino sheep farmers in remote rural areas, especially farmers aspiring to commercialise their farming activities, is limited. The findings revealed that all the emerging Merino sheep farmers indicated that they sheared wool annually between late spring and mid-summer. The weather conditions and availability of feeds does not allow

them to shear more than once as it may impact on the overall Merino sheep farming productivity.

- iv) The findings further revealed that the majority of the interviewed respondents from the case studies are faced with small farm sizes allocated from the communal fields by community leaders, which do not have title deeds. Hence, they have no property rights; and are unable to access essential credit needed for commercialisation from formal financial institutions. Larger producers often capture available credit, while the poorer emerging Merinos sheep farmers may not have access to credit, because of institutional barriers. Emerging Merino sheep farmers at the base of the income pyramid often have difficulty acquiring credit and financial institutions are typically biased against these farmers, particularly women. Furthermore, this inhibits their desire to invest more into their farming operations. Consequently, they rely solely on rain-fed agricultural systems for production, which has proven unreliable in recent years.
- v) One of the key antecedents influencing the emerging Merino sheep farmers' production is the markets, access and information. Despite the seemingly developed and perfectly competitive Merino sheep farming value chain, emerging farmers continue to complain of limited market access in terms of low prices, limited inputs and outlets hence low net returns. This is primarily because of limited essential market information vital for the commercialisation of emerging Merino sheep farming. Insufficient market information was also revealed in the findings. The entire market value is not clearly understood by certain emerging farmers. The remoteness of the central warehouse facility for the wool clip for export exposes emerging Merino sheep farmers in the research area to high transportation costs. Hence, high transaction costs have resulted in lower returns for the farmers. Regardless of these challenges, there is a willingness to participate in the Merino sheep markets as long as markets are available to sell the produce. Thus far, the markets are promising regardless of the challenges.
- vi) As seen above, there numerous factors that contribute towards increased transactional costs in the research area, which are associated with the requirements for baling, storage, testing and transportation of the wool clip produce. As seen in the previous chapters, some of these costs are relatively straightforward to quantify when

compared to others. However, the sunk costs are not only limited to the above, but also includes satisfying quality requirements, regulations governing the sourcing and procurement of produce for international consumers as well as the speed of payment. This suggests that transport costs are reasonable first approximations of farm-to-market transaction costs in emerging farmers regions. If the road network and communication infrastructure remain a constraint, commercialisation aspirations raised by the majority of the units of analysis will be realised at increased transaction costs.

The findings from the study reveal that the availability of labour and the costs for hiring remains high. If the policy environment prescribes unaffordable minimum wages for the workforce in the Merino sheep farming industry and it is not proportional to the revenue generated, the overall commercialisation of emerging Merinos sheep farming will only be limited to the elite but not those at the base of the income pyramid. From the soil conservation perspective, the GoL has made significant progress even though there is still much to do. The local soil conservation policy is pro-sustainable environment conservation. If implemented properly, the enforcement of the policy will protect the natural resources, which provides essential feeds for the Merinos.

In sum, a number of factors are responsible for determining the level of commercialisation among the emerging Merino sheep farmers, including access to credit, farm experience, farm size, post produce income, asset holding, availed education and training, access to agricultural support services, availability of Merino sheep farming related resources; sufficient access to Merino sheep markets and information, reduced transaction costs, technology and innovation, favourable policy environment and access to reliable infrastructure that links the emerging farmers to the markets.

8.3 CONCLUSION ABOUT THE RESEARCH PROBLEM

Overall, the objective of the research was to investigate the primary research question:

How can successful transition towards commercial Merino sheep farming be facilitated in Lesotho?

In relation to this research question, it was paramount to examine the enablers and constraints in order to evaluate whether commercialisation of emerging Merino sheep farmers is feasible. The conclusion from evidence collected in this study significantly supports commercialisation of emerging Merino sheep farmers and suggests that it is indeed a feasible strategy with the potential to adequately address the needs of the poor in Lesotho, from where this study drew its sample. Similarly, the findings on the impact of agricultural commercialisation on household poverty are strongly in support of agricultural commercialisation of smallholder farmers.

The findings were very conclusive that commercialisation of emerging Merinos sheep farmers can potentially improve the probability of agricultural growth outcome for improved livelihoods among the commercialised households. Again, the poverty gap between commercialised and non-commercialised households could be closed if the resource returns (efficiency effect) and the amount thereof (level effect) is improved to the level of the former. In this regard, it is important to note that a bigger proportion of the poverty gap originates from the resource level than the returns effect. The current smallholder Merino sheep farming practices exposes the emerging farmers to increased transaction costs, which result in low net returns for them. Above all, these results support and confirm the findings cited earlier by scholars such as Mariyono (2019); Ogutu and Qaim (2019) in their scholarly publication, in which they argue that the case for smallholder development as one of the foremost approaches to alleviate poverty in low-income countries which remains compelling.

8.4 CONCLUSION ABOUT THE RESEARCH OBJECTIVES

The recommendations that follow are based on a combination of the theoretical and the empirical findings. The recommendations are formulated and discussed to improve antecedents perceived to be constraints and capitalise on those perceived as enablers for commercialisation of emerging Merino sheep farming. This is done to transform emerging Merino sheep farmers from smallholder farming to become viable commercial Merino sheep farmers while recognising the potential impact this transformation may have on the overall rural economy and livelihoods. The recommendations are based on taking cognisance of the economic and social benefits of the lucrative Merino sheep sub-sector of agriculture, and that the emerging Merino sheep farmers on their own cannot achieve

transformation to commercial farming. The recommendations are subdivided and discussed according to the set objectives. Objective one and two is discussed simultaneously followed by objectives three and four. The general recommendations have also been highlighted.

The first objective of this study was to “*to investigate determinant factors associated with successful transition to commercial-based Merino sheep farming that can be applied in a developing country*”. An in-depth literature review was conducted. This included the review of secondary literature from the LNWMGA, the DoLSL, and the DoTEL. The review of applicable literature led to the construction of a semi-structured interview guide that was also utilised to gather qualitative primary data. The findings from the qualitative data analysis identified dominant themes, which were viewed as antecedents for the commercialisation of emerging Merino sheep in the research area and probably its environs. The relationship network between the dominant themes that emerged is revealed in Figure 6.1 in the previous chapter. These antecedents were discussed in detail in the previous sections and the majority of these are perceived as constraints for commercialisation of emerging Merino sheep farmers in the area of research. The findings corroborate with those from the body of knowledge.

The second research objective was “*to analyse the livelihood trajectories of Lesotho’s emerging Merino sheep farmers to transition from subsistence to commercial farming.*” Semi-structured interviews aided the achievement of this objective. The dominant theme that emerged from the qualitative data of the livelihood trajectories was “Social status, income and culture”. As discussed in the “Data analysis, results and presentation of results” chapter, it can be concluded that Merino sheep are kept by emerging Merino farmers primarily for social status, income received on the sale of wool, lamb and meat to the red meat market and fulfil cultural ceremonies.

The units of analysis revealed that those with an excess of five years farming experience had larger Merino sheep stock than those with fewer years of farming Merino sheep. This was also an indication that the majority of the respondents are well above 41 years of age. It can be concluded that those farmers with an excess of five years of Merino sheep farming experience have a high probability of commercialising their farming activities if the constraints they face is improved. They are experienced and have a better understanding of the dynamics in the value of Merino sheep markets in the country. In the

absence of formal insurance markets in the research area, they tend to diversify the traditional crop farming with Merino sheep to achieve a balance between potential returns and the risks associated with climate variability and market and institutional imperfections. Merinos are significant contributors to the rural livelihoods and are growing in importance.

Though the Merino sheep industry in Lesotho is lucrative and it is a very important form of improving emerging Farmers' livelihoods, it was important *“to establish why emerging Merino sheep farmers in the research area have not yet transitioned to commercial-based Merino sheep farming.”* The latter was the third objective of this study. Primary data was gathered to achieve this objective. The findings from the qualitative data analysis revealed several antecedents (as discussed in the previous sections), which should be addressed to achieve commercialised Merino sheep farming by emerging Merino sheep farmers. If innovative options could be formulated around the identified antecedents, inclusive agricultural growth could be achieved.

The resultant support framework for commercialisation of emerging Merino sheep farmers constituted the final objective of the study. In the previous chapter, the support framework (Figure 7.1) to facilitate commercialisation for inclusive agricultural growth in Lesotho was proposed and discussed. If implemented as suggested, it would help the transition of the emerging Merino sheep farmer to commercial Merino sheep farming.

8.5 LIMITATIONS OF FINDINGS

Given the geographic delimitations, a number of cases, and the dominant themes treated as antecedents for commercialisation of emerging Merino sheep farmers, the findings of this study may not necessarily be indicative of the entire Merino sheep industry in Lesotho, but rather, to a lesser extent, to commercialisation of Merino sheep and its environs. As such, findings from this study may only be limited to Lesotho.

8.6 IMPLICATIONS FOR POLICY AND PRACTICE

One key finding that arose from this study was that there is a huge appetite for emerging Merino sheep farmers to commercialise the farming activities. By utilising the proposed support framework to investigate the prevailing antecedents for commercialisation and diffusing appropriate innovations thereof, there is a huge demand for commercialised

Merino sheep for improved livelihoods. Commercialisation strategies designed to suit the research may indeed result in improved livelihoods for the farming households. From a commercial perspective, there is no doubt that commercialised Merino sheep farming is a profitable approach to farming. Evidence from this research and beyond, revealed that ongoing efforts for commercialisation of the local Merino sheep industry is required to lift emerging sheep farmers out of poverty and bring them broadly in line with their counterparts in developed countries.

Increasing Merino sheep productivity to meet commercial production aspirations may go a long way in addressing rural livelihoods as perceived in the research area. This is a key policy priority of the Lesotho government. The current avenue perused by the government is to have only one broker for the wool produce. However, this has proved to be discouraging for the majority of the emerging Merino sheep farmers and it has affected their welfare outcomes from participating actively in the market. To achieve high levels of market participation, it requires effort from key stakeholders in the Merino sheep industry, policy-makers, and academics to be committed to discovering an equitable balance that would benefit all. Noticeably, commercial Merino sheep farming is comprehended by most but the practical implementation of the concept within the Lesotho context appears to be lacking.

On the one hand, emerging Merino sheep farmers seem to think that there is limited support from the state and the market role players for commercialised Merino sheep operations. On the other hand, policy-makers do not completely comprehend the environment in which the industry operates. The local Merino sheep farming environment requires a major policy shift to redress the constraints facing the local farmers. This includes expansion of the domestic Merino sheep market. By investing in the type of manufacturing capacity that could create markets for Merino sheep products produced by those at the base of the income pyramid and promote their participation in the formal economy. This is where innovative academic research may prove most useful. Researchers should formulate and undertake local studies which is aimed at investigating Lesotho's commercialisation of Merino sheep farming from its perspective.

These envisaged researches should encompass the dominant themes that emerged in this study. With a critical mass of research into the industry and cooperation from the other quarters, that is, Merino sheep commercialisation practitioners and policy-makers –

appropriate solutions should eventually emerge. Such levels of co-operation and co-ordination has had a positive impact on commercialisation primarily in Australia, New Zealand and South Africa, which is the heart of commercial Merino sheep farming. The findings in this study justify policy reform of formal credit access by emerging Merino sheep farmers as an intervention to improve market participation. On a macro-economic level, the implication for the GoL is shaping the fiscal policy to effectively allow financing of emerging Merino sheep farmers. Other policy reforms justified by the research findings include: provision of subsidised inputs; increase of agricultural support services – farm-based training and extension services; infrastructure improvement for improved markets linkage, security of tenure and development of viable land markets and provision of adequate markets information.

8.7 IMPLICATIONS FOR THEORY – PROPOSED SUPPORT FRAMEWORK FOR COMMERCIALISATION

While commercialisation of emerging Merino sheep farmers has significant potential to transform their livelihoods in Lesotho as well as contribute towards the inclusive agricultural growth, according to Mariyono (2019); Ochieng *et al.* (2016); Ogutu *et al.* (2017); Ogutu and Qaim (2019); Radchenko and Corral (2018) this objective has not largely been achieved in developing countries due the prevailing constraints. The commercialisation of emerging farmers is unique to each farming environment. It is not one size fit all approach. In simple terms, a successful commercialisation programme should be facilitated by the application of the proposed framework to evaluate the antecedents at grassroots level. In a sustainable commercial Merino sheep farming market, the supply and demand for Merino sheep products are in equilibrium. In the context of emerging Merino sheep farmers in Lesotho, the demand for Merino sheep products supersedes the supply. Hence the need for commercialised Merino sheep farming. Recently, the *status quo*, has been characterised by a plethora of constraints for commercialisation: limited access to credit, unreliable infrastructure, limited agricultural support services, limited access to markets and markets information and other, has largely been maintained albeit the lucrativeness of commercialised farming benefits.

As such, the recommended strategies for commercialisation should be market-orientated and at the same time address the needs of the emerging Merino sheep farmers. If brokers in

the Merino sheep industry and key role players are conversant with Lesotho's emerging Merino sheep farmers' characteristics, win-win strategies that could benefit all parties in the entire value chain could be developed. It should be borne in mind that the proposed support framework for commercialisation of emerging Merino sheep farmers is not limited to the latter but also considers the Merino sheep market requirements that must meet good returns on investment. The proposed support framework for the commercialisation of emerging Merino sheep farmers has various advantages but not limited to:

- Flexible in terms of capturing the antecedents for commercialisation;
- Progressive in terms of providing a step-by-step approach for commercialisation of emerging Merino sheep farmers;
- It aligns the emerging Merino sheep farmers' needs with the market requirements; and
- Can be utilised as an efficient tool to facilitate commercialisation for improved livelihoods by those at the base of the income pyramid.

8.8 GENERAL RECOMMENDATIONS

Emanating from the research findings and conclusion, a number of recommendations are proposed which will enable emerging Merino sheep farmers in the research area and its environs to meet their objectives through commercialised farming operations. The recommendations are influenced by the taking cognisance of the economic and social benefits of commercialised Merino sheep farming.

8.8.1 Recommendations for innovative strategies for commercialisation of emerging Merino sheep farmers

The proposed recommendations are grouped and discussed as follows:

8.8.1.1 Increase investment in research

The modern agricultural society is characterised by constantly evolving technology, which has been further enhanced by the Fourth Industrial Revolution (4IR) (Ahmed, Tadeusz & Piotr, 2015). The arrival of the 4IR era requires adequate investment in research,

development and Merino sheep farming technology innovation for the emerging farmers to remain competitive in the Merino sheep markets. As in other economic sectors, the Merino sheep farming sector is affected by the 4IR era, which indirectly forces emerging farmers to adopt new technology such as the distribution of medicinal requirements for the sheep by utilising drones in remote areas and other innovations to remain competitive (Ahmed, Tadeusz & Piotr, 2015). In general, the lack of spending in Merino sheep farming research will impact on the competitiveness of emerging Merino sheep farmers and also negatively impact on the potential positive contribution on the national socio-economic status of Lesotho. As such, increased investment on research is encouraged.

8.8.1.2 Proactive agricultural support services

Proactive vaccination of Merino sheep against vector-borne diseases, rather than being reactive to outbreaks is key for commercialisation of existing emerging farmers. The capacity of staff at strategically positioned veterinary facilities in Lesotho is vital for the successful health management of the Merino sheep in the research area. Agricultural support services may not solely be at the management of the state but also requires private sector intervention. Local business development should be geared towards the provision of agricultural support services, which must also include the provision of education and training to the emerging Merino sheep farmers. The primary focus of the GoL and participation in the Merino sheep industry should be aimed at promoting the growth of the emerging farmers. The intervention from the GoL should be creating of a friendly trading environment conducive for inclusive agricultural and rural economic growth within the Merino industry.

The added benefit of this recommendation is that it encourages increased market participation and creation of value for the emerging and most likely better off farmers. For example, reflection on the water network infrastructure in the rural Lesotho. The local agricultural sector should not only be at the mercy of irregular rain patterns as revealed in the findings chapter, but should rely on the regular supply of clean water for either irrigation and livestock. The school of thought immediately suggests that when water is compromised in any form, the entire agricultural sector suffers and most importantly it affects those at the base of the income pyramid because they commonly lack resources. Poor infrastructure inhibits the commercialisation of emerging Merino sheep farmers.

8.8.1.3 Inclusive credit funding

Emerging Merino sheep farming in Lesotho represents a significant segment of its economy, both in terms of contribution to the inclusive economic growth and creation of better employment opportunities. Lesotho remains one of the major exporters of wool in the SADC region. The analysed data and the review of scholarly publications revealed that credit funding is a significant antecedent for the commercialisation of emerging farmers in Lesotho. Given the significance of credit funding to stimulate commercialisation, adequate reforms by financial institutions are necessary. To ensure successful reforms, all key role players, including financial institutions, government, Merino sheep farming associations and other must be conversant with the dynamic environment of this sector in order to develop solutions that would provide emerging Merino sheep farmers with improved access to credit funding. Where reasonably applicable, the GoL in partnership with private institutions may also create subsidy schemes for Merino sheep farming. Such solutions will help the emerging farmers to participate effectively in the output markets.

8.8.1.4 Resuscitate Merino sheep breeding facilities

In Lesotho, Merino sheep breeding facilities known as sheep studs were strategically positioned to reduce the capital flight through importation of Merino sheep to improve the existing breed quality. However, some were abandoned and while others could not be utilised to their full potential. The findings from the gathered data revealed that the resuscitation of these facilities would contribute significantly towards the transformation of the emerging Merino sheep industry to a commercialised Merino sheep industry for the benefit of the country. The resuscitation should include the introduction of performance tested Merino sheep and modern breeding equipment. The introduction of performance tested Merino sheep will present various benefits to the Merino sheep growers.

Amongst other benefits, performance testing generates test data that can be utilised as a selection tool to identify efficient breeding stock that conforms to the market requirements and inefficient stock for culling. Such an approach may increase production the efficiency of emerging Merino sheep farmers through genetic improvement with minimal supplementary input, as well as raising production standards and maximising returns for emerging wool producers. Furthermore, it will enhance the profitability of commercialised emerging Merino sheep farming. This will also benefit the local Merino sheep market by

providing emerging farmers with valuable data to monitor Merino sheep management practices and thereby make necessary adjustments where reasonably applicable. In sum, performance data and pedigree information is vital in estimating productivity values. It is, therefore, recommended that existing breeding facilities be resuscitated.

8.8.1.5 Climate smart rangeland management

The rangeland management approach should be climate smart. Such an approach should be designed to establish a sustainable system of communal grazing and rangeland management with the objective of improving Merino sheep nutrition and maximising production and returns for emerging wool producers. The herding communities should be focused on building climate change resilience of stakeholders involved in the rangeland sector. To achieve this, it is necessary to establish the stakeholders' rights and responsibilities and to define the rangeland resource which they or individually have the right to use. A community based approach to delineating grazing areas, establishing stocking rates and developing grazing plans, following a participatory rangeland management methodology is recommended. Experienced practitioners specialising in community development and natural resource management should champion the implementation of this recommendation. If implemented well, it has a potential to reduce the rate and quantity of run-off from the rangeland, thereby reducing the gully erosion that has been a major contributor to the loss of agricultural land in recent decades.

8.8.1.6 Empower women in Merino sheep farming

In recent days, women in Lesotho and in other countries are amongst the most influential and powerful. Many have made significant contributions in Lesotho's agricultural economy, employment creation and ensuring better livelihoods for their families. However, as seen from the findings in this thesis, women have less access to resources than males. In the emerging Merino sheep industry in Lesotho, addressing this gender gap is recommended in order to accelerate the pace of growth through commercialisation of women in the emerging Merino sheep farming sphere. The role of female farmers should receive particular attention. The evidence suggests that emerging female farmers may lose decision-making power with increasing levels of commercialisation, but this may possibly be prevented through more gender-sensitive approaches and awareness-building initiatives.

If more emerging female farmers are afforded adequate and sufficient resources inclusive economic and agricultural growth in a sustainable and stable manner can be achieved. In the rural Lesotho, emerging female Merino sheep farmers' voices often go unheard due to their sex and patriarchal traditions. It is important for their voices to be heard at both policy and implementation levels in order to achieve commercial Merino sheep farming by emerging female Merino sheep farmers. This remains the responsibility of the GoL, private sector and civil society as a whole to include women in the commercialisation of emerging Merino sheep farmers to contribute in the inclusive agricultural and economic growth.

8.8.2 Recommendations for further research

While it could be true that commercialisation of emerging Merino sheep farmers in Lesotho entails market orientation and market participation, this research focused how successful transition towards commercial Merino sheep farming be facilitated in Lesotho only. The research can contribute to the debate of whether increased commercialisation of Merino sheep farming may help in reducing poverty and improving livelihoods of emerging Merino sheep farmers. Though the research went further by building on previous empirical researches on commercialisation of emerging Merino sheep farmers, future research could enrich the approach used in this research by also quantitatively validating the application of the proposed framework for commercialisation of Merino sheep farmers or other types of livestock farmers in a developing country to provide a holistic picture on the proposed framework. Other researchers may further interrogate the applicability of this proposed framework and if indeed, commercialised Merino sheep does result in the envisaged benefits.

Furthermore, the impact of commercialisation on the welfare of emerging Merino sheep farmers did not form part of the research inquiry, further research is necessary to come up with more convincing results to inform policy. Since there is a strong evidence showing there is a huge demand for commercialised Merino sheep farming and how commercialisation can be achieved, further timely (longitudinal) research into the impact of commercialised Merino sheep farming (whether positive or negative) is necessary. The findings of such a research could assist policymakers in designing feasible strategies to improve currently precarious farming livelihoods, while facilitating a smooth transition towards commercialised farming operations. However, future researches pursuing such a

research should take careful account of relevant geographical factors, characteristics of the farmers including available innovations to embrace commercialisation through the 4IR and other various potential commercialisation pathways for different categories of farmers.

8.9 PERSONAL REFLECTIONS

Embarking on postgraduate studies was quite a daunting experience. In the process, one experiences a variety of emotions – happiness, joy, frustration, anger, and anxiety, which serve as stark reminders that a postgraduate student is but human. At enrolment, the prospective postgraduate student does not have the faintest idea of what lies ahead, and cannot imagine the expectations of those who are close. More often than not, just when I thought that my intellectual capabilities had reached its maximum, my supervisor gently asked for more. I realised that that is when “learning” begins and that “undergraduate” is learning how to learn. I often solaced myself with the words of my Entrepreneurship lecturer, back in 2006. He once commented:

“By the time you finish your PhD, you will be a changed man. You will have a new brain, new attitude, and an entirely different outlook on the world. On the other hand, your own body will show the marks of wisdom and maturity – one or two medical procedures, perhaps an appendix, and a few missing wisdom teeth extracted.”

On that occasion, I did not believe him. Today, I understand. While the physical effort was largely mine, I could have not completed this study without the intellectual effort, encouragement, and guidance received from my supervisors, fellow postgraduate students, colleagues, family, and friends, to whom I owe tremendous gratitude.

8.10 CONCLUSION

The purpose of this study was to investigate “*How can successful transition towards commercial Merino sheep farming be facilitated in Lesotho*” to improve livelihoods and contribute towards the inclusive agricultural growth in Lesotho. The in-depth review of the literature revealed a gap within the body of knowledge pertaining to the commercialisation of emerging Merino sheep farmers in the Lesotho context. In line with the research gap

identified, the primary research question and several research objectives were identified and presented.

The gathered findings suggest interesting outcomes as observed in the previous sections of the study. Thus, in its current dispensation, commercialisation of emerging Merino sheep farmers in Lesotho appears to be a lucrative strategy to improve the livelihoods and inclusive agricultural growth if implemented in a sustainable manner. In order to achieve commercial Merino sheep production, several key antecedents for commercialisation plays a significant role: social status, income and culture; asset holdings; education and training; agricultural support services – public and private agricultural extension systems; funding; resources; markets, access and information; transaction costs; technology and innovation; policy environment; and functional infrastructure. On condition that the prevailing constraints are addressed, commercialisation of emerging Merino sheep farmers can be achieved.

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APPENDIX – A: ETHICAL CLEARANCE



Faculty of Economic and Management Sciences

21-Nov-2018

Dear Mr Wetsi Nkholise

Ethics Clearance: **Commercialisation of Merino sheep farming by emerging farmers in Lesotho**

Principal Investigator: **Mr Wetsi Nkholise**

Department: **Univ of the Free State: Business School Department (Bloemfontein Campus)**

APPLICATION APPROVED

With reference to your application for ethical clearance with the Faculty of Economic & Management Sciences, I am pleased to inform you on behalf of the Ethics Committee of the faculty that you have been granted ethical clearance for your research.

Your ethical clearance number, to be used in all correspondence is: **UFS-HSD2018/1410**

This ethical clearance number is valid from **21-Nov-2018** to **20-Nov-2023**. Should you require more time to complete this research, please apply for an extension.

We request that any changes that may take place during the course of your research project be submitted to the ethics office to ensure we are kept up to date with your progress and any ethical implications that may arise.

Thank you for submitting this proposal for ethical clearance and we wish you every success with your research.

Yours Sincerely

Dr. Petrus Nel

Chairperson: Ethics Committee Faculty of Economic & Management Sciences

Economics Ethics Committee

Office of the Dean: Economic and Management Sciences

T: +27 (0)51 401 2310 | T: +27(0)51 401 9111 | F: +27(0)51 444 5465

205 Nelson Mandela Drive/Ryalaan, Park West/Parkweg, Bloemfontein 9301, South Africa/Suid Afrika

P.O. Box/Posbus 339, Bloemfontein 9300, South Africa/Suid Afrika

www.ufs.ac.za



APPENDIX – B: PARTICIPANT CONSENT FORM



DATE

____/____/____

TITLE OF THE RESEARCH PROJECT

Commercialisation of Merino sheep farming by emerging farmers in Lesotho.

PRINCIPLE INVESTIGATOR:

Wetsi Nkholise

2017454162

+27 73 654 4480

FACULTY AND DEPARTMENT:

Faculty of Economic and Management Sciences

UFS Business School

STUDY LEADER(S) NAME AND CONTACT NUMBER:

Dr Dirkie Strydom

+27 51 4013172

Dr Jan Willem Swanepoel

+27 51 4013172

Dear Respondent,

My name is Wetsi Nkholise and I am a registered Philosophiae Doctor (PhD): Business Administration at the University of the Free State. For my research, I am examining how successful transition towards commercial Merino sheep farming can be facilitated in Lesotho. Because you are involved in the farming of Merino sheep, I am inviting you to participate in this research study by forming part of the semi-structure interviews developed.

The following interview questions will require approximately forty-five minutes to complete. There is no compensation for responding nor is there any known risk. In order to ensure that all information will remain confidential, please do not include your name. Copies of the final research report will be provided to University of the Free State, Faculty of Economic and Management Sciences. If you choose to participate in this research study, please answer all questions as honestly as possible. Participation is strictly voluntary and you may refuse to participate at any time.



Thank you for taking the time to assist me in my educational endeavours. The data collected will provide useful information regarding my research. If you require additional information or have questions, please contact me at the number above listed. If you are not satisfied with the manner in which this study is being conducted, you may report (anonymously if you so choose) any complaints to the Senior Officer: University of the Free State: Business School (Ms Edna Cox) on email: CoxEL@ufs.ac.za or telephonically on +27 51 4013172.

Sincerely,

Wetsi Nkholise

E-mail address: 2017454162@ufs4life.ac.za

Promoters: Dr Dirk Bauwer Strydom; and
Dr Jan Willem Swanepoel.

Thank you for taking time to read this information sheet and for participating in this study.

CONSENT TO PARTICIPATE IN THIS STUDY

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet. I have had sufficient opportunity to ask questions and am prepared to participate in the study. I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable). I am aware that the findings of this study will be anonymously processed into a research report, journal publications and/or conference proceedings.

I have received a signed copy of the informed consent agreement.

Full Name of Participant: _____

Signature of Participant: _____ Date: _____

Full Name(s) of Researcher(s): _____

Signature of Researcher: _____ Date: _____

APPENDIX – C: PARTICIPANT CONSENT FORM (SESOTHO TRANSLATED)



NAKO

_____/_____/_____

SEHLOHO SA LIPATLISISO

Kholiso ea linku tsa boea tse ntlafalitsoeng tsa lihoai tse ncha Lesotho (Commercialisation of Merino sheep farming by emerging farmers in Lesotho.)

MOFUPUTSI EA KA SEHLOHONG:

Wetsi Nkholise

2017454162

+27 73 654 4480

LEFAPHA LE LEKALA LA YUNIVESITHI:

Lefapheng la moruo le tsamaiso

Sekolong sa Likhoebo sa UFS

MABITSO A BOEAEPELE BA LIPATLISISO LE LIMORO TSA MEHALA:

Dr Dirkie Strydom

+27 51 4013172

Dr Jan Willem Swanepoel

+27 51 4013172

Moithaupi ea ratehang,

Lebitso laka ke Wetsi Nkholise ea ngolisitseng lengolo le phahameng la lithuto la tsamaiso ea khoebo (PhD) Yunivesithing ea Foreistata. Malebana le lipatlisiso tse amanang le lengolo lena la PhD, ke batlisisa hore na ebe mekhoe ea manthla e ka sebelisoang ke lihoai tsa linku tse ntlafalitsoeng tsa boea hore li hole thekong ea boea ke efe. Lipatlisisong tsena, o thontsoe hoba u le sehoai se secha sa linku tsa boea tsa limerino tse ntlafalitsoeng. Ka boikokobetso, ke u memela ho nka karolo lipatlisisong tsena malebana le sehloho sa lipatlisiso tsena.

Ke tla u botsa lipotso tse ipapisitseng le sehloho sa lipatlisiso fela. Lipotso tsena li tla nka metsotso e mashome a mana a metso e mehlano fela. Ka ho nka karolo lipotsong tsena tsa lipatlisiso tsena, ha hona moputso otlal fumaneha kapa kotsi eo u tla lebana le eona ka ho hlaisa maikutlo a hao. Ho netefatsa hore maikutlo a hao a sereletsehile, bopaki ba hao ha bo hlokahele 'me u ka khetha ho fana ka lebitso la hao kapa hose fane ka lona. Ha lipatlisiso tsena li se lifelile, khatiso ea tsona e tla fumaneha



Yunivesithing ea Foreistata lefapheng la meruo le tsamaiso. Ha u khetha ho nka karolo lipatlisising tsena, ke kopa u arebele lipotso ka bo nnete bohle. Ho nka karolo ke boikethelo ba hao.

Ke ea u leboha ka ho fana ka nako ea hau ho nthusa leetong la lithuto tsaka. Maikutlo ohle a lipatlisiso atla fana ka lintlha tsa bohlokoa liphuputsong tsena tsaka. Ha u hloka tlhahisoleseling ho feta ena, kapa u na le lipotso life kapa life, u ka ntetsetsa nomorong ea mohala eeo ke faneng ka eona qalong ea lengolo lena. Ha u sa khotsofala ka tsela eeo lipatlisiso tsena li etsoang ka eona, u ka tsibisa Ofisiri e kholo ea Yunivesithi ea Foreistata lefapheng la meruo le tsamaiso (Ms Edna Cox), eena a ka fumaneha ho email: CoxEL@ufs.ac.za kapa nomorong ea mohala eleng +27 51 4013172.

Ka boikokobetso,

Wetsi Nkholise

E-mail address: 2017454162@ufs4life.ac.za

Boetapele ba liphuputso: Dr Dirk Bauwer Strydom; and

Dr Jan Willem Swanepoel.

Kea leboha ka ho nka nako ea ho bala litaba tsa lenolo lena le ho nka karolo lipatlisising tsena.

TUMELLO EA HO NKA KAROLO LIPATLISISONG TSENA

'Na, _____ (lebitso la motho ea nkang karolo lipatlisisong), ke lumela hore motho ea kopang tumello eaka hoba karolo ea phuputso ena u ntlhaloselitse semelo, tsela eo lipatlisiso litla ho e nka esita le litlamorao tsa ho nka karolo lipatlisisong.

Ke balile (kapa ke hlalositsoe) ebile ke utloisisa motheo oa lipatlisiso tse na ka mokhoa oo lihlalositsoeng ka ona lengolong le ka holimo. Ke utloisisa hore karolo eaka e tsoa honna 'me nka ikhula ho eona neng kapa neng ho sena melato eo e tlang ho ntjamelana. Kea hlokomela hore lintlha tsohle tse tla fumaha li tla ngoloa tlalehong ea lipatlisiso, likhatisong tsa lipampiri tsa mahlale le/kapa liphuthehong tsa machaba.

Ke e fumane pampiri ena ea litumellano e tekennoeng.

Mabitso ohle a motho a nkang karolo: _____

Tekeno ea a motho a nkang karolo: _____ Nako: _____

Mabitso a mofuputsi: _____

Tekeno ea mofuputsi: _____ Nako: _____

APPENDIX – D: INTERVIEW SCHEDULE

Introduction / Opening

- **Building rapport with research participants and introductory background questions**
 - ✓ The researcher established rapport with the participant by using a warm welcome to introduce oneself as well as a firm handshake.
 - ✓ The aim of establishing rapport with the research participants was to essentially secure buy-in for participants in a respectful manner to participate in the study. Most importantly, building rapport with the research participants allowed the researcher to capture the background of each research participant within the context of the research. The researcher was guided by asking the research participants the questions in Section A – B of Appendix E or Appendix F depending on their preferred language.
 - ✓ Most of the research participants preferred answering the semi-structured interview question in their vernacular, Sesotho.
 - ✓ The researcher assured the research participants that their identities would remain anonymous during and after data collection.
- **Discussion of purpose of the data collection**
 - ✓ Once rapport was created with the research participants and in-line with the participant consent form, the researcher explained to the research participants that questioning was in line with the overarching aim set-out for this research which is: *“to investigate the how successful transition to commercialised Merino sheep farming by emerging farmers in Lesotho can be facilitated in an inclusive innovation context for inclusive growth”*.
 - ✓ The participants were reassured that there was no right or wrong answer to the interview questions as the aim was to gain insight on perceptions regarding the topic and that their answers to the semi-structured interview questions shall be reported honestly. All participants were re-assured that this standard shall be

applicable throughout even if their view are unfavourable or different from the researcher's expectations.

- **Discussion of the motives of the study**

- ✓ The overall aim of the research was further explained to the research participant from time to time to ensure that the research participants clearly understood it and how the findings of from the interviews will be reported.
- ✓ During the interviews, the research participants were allowed to ask questions related to the interview question asked as and when required. The research would then clarify the question further.
- ✓ Furthermore, before the interviews commenced, the researcher obtained the consent form before he could proceed with main discussions and the further asked if the research participants whether the interview data could be used for the purpose of the study.
- ✓ The research participants were further informed that the researcher will from time to time be manually capturing some notes during the semi-structured interviews, observations and the focus groups. The research participants must not feel disrespected during the sessions if eye contact is not maintained.

- **Timeline for data collection sessions**

- ✓ As a protocol to the researcher, the estimated timeline the interview would take was indicated prior to the research participant.

- **Conclusion and closing the data collection sessions**

- ✓ An overall perspective of the general theme was ascertained.
- ✓ The research participants were given an opportunity to pose any questions if they had any.
- ✓ The research participants were thanked for their time and wiliness to participate in the study.

APPENDIX – E: SEMI-STRUCTURED INTERVIEW QUESTIONS

SEMI-STRUCTURED INTERVIEW QUESTIONS

SECTION A: GENERAL INFORMATION

- A.1. Date: ____/____/____
- A.2. Survey district in Lesotho: Quthing []; Mokhotlong []; or Mokhotlong []
- A.3. Name of the village: _____
- A.4. Local chief's name: _____

SECTION B: SOCIO – DEMOGRAPHIC DATA

- B.1. Who is the head of the household, i.e. decision maker? _____
- B.2. Age of the household head: _____
0 – 20 []; 21 – 40 []; 41 – 60 []; 61 – 80 []; 81 – 100 []
- B.3. Sex of the household head:
Male []; Female []
- B.4. Marital status of the household head:
a) Single [] b) Married [] c) Divorced [] d) Widowed [] e) Polygamous []
- B.5. Education level of the household head:
None []; Primary []; Secondary/High school []; Certificate []; Diploma []; Degree []
- B.6. Number of family including respondent: _____

SECTION C: RESEARCH QUESTIONS

Livelihood trajectories:

- C.1. What is your purpose of farming Merino sheep?
- C.2. For how long in years have you been farming Merino sheep?
- 0 – 5 []; 6 – 10 []; 11 – 15 []; 16 – 20 []; 21 – 25 []; 26 – 30 []; 31+ []
- C.3. In terms of numbers, please indicate your Merino sheep herd size. Additionally, please explain how you acquired your Merino sheep stock.
- C.4. Where are your Merino sheep sheared? Are these shearing sheds privately owned or state owned? Please elaborate.
- C.5. Have you ever received Merino sheep farming training? Please elaborate.
- C.6. What are your reasons for farming Merino sheep and not other livestock?
- C.7. What are the challenges you have faced with farming Merino sheep in your area? Elaborate.
- C.8. What are the big risk concerns in your family when you are still involved in subsistence Merino sheep farming?
- C.9. How has your household improved through Merino sheep farming?
- C.10. How have these changes in your household condition affected your household livelihood?
- C.11. What do you understand about commercialisation in general?
- C.12. Which resources have contributed to the success of your Merino sheep farming? Please explain.

- C.13. Which resources, in your opinion, do you think will enable you to access the wool market for better rewards? Please explain.
- C.14. What has contributed to you not participating in the market-orientated Merino sheep farming?
- C.15. What marketing channels are you using to market your Merino sheep wool?
- C.16. Do you have access to market information prior to sale of your sheared wool? Please explain.
- C.17. What kind of support related to your Merino sheep farming do you get and from whom?
- C.18. What do you think contributes to the failure/success of your Merino sheep farming activities as an emerging farmer?
- C.19. What factors limit trade of wool of wool in this area and how can trade of wool produce be enhanced in this area?
- C.20. In your opinion, what approaches should be used to develop emerging Merino sheep farmers in this area for commercialisation?

Hint:

- a) Improvement approach: involves improvement of existing Merino sheep. For example, use of genetically improved rams and ewes which can cope with conditions in this area.
- b) Transformation approach: involves complete change (technical and social) to foster modernisation, such as, adopting use of artificial insemination,

Please explain how the approach should be implemented.

- C.21. What do you think are the solutions for improving Merino sheep farming activities of emerging farmers in your area? Please explain.
- C.22. The government of Lesotho has been supporting emerging Merino sheep farmers through BKB, Lesotho Wool and Mohair Growers Association and other organisations, providing: advisory/extension services, agribusiness and market linkages, Merino sheep farmer's institutional development, and monitoring and evaluation. What are the benefits, limitations, and possible ways of improving these services in your area?
- C.23. Which initiatives have been offered to the farmers?
- C.24. How the reaction by the farmers were they in support? (Resistance/ acceptance)
- C.25. What were the challenges or successes with the initiatives?
- C.26. Is there continuous monitoring activities with of participants after initiatives programs? Elaborate.
- C.27. What barriers have been identified which contribute to lack of interest in commercialising?
- C.28. How can these barriers be eliminated?
- C.29. What are the learnings from those who are into commercialisation?
- C.30. What is the frequency of shearing in this area?
- C.31. What do you understand about wool classification?
- C.32. Where do you sell your wool after shearing your sheep?
- C.33. Are there any alternatives whereby you can sell your wool? If yes please elaborate.
- C.34. Have you ever considered them and why?

- C.35. How much is or was your total production of wool in the past shearing season? Also, how much revenue did you record for that produce?
- C.36. Does your production generate sufficient returns from your investment?
- a) If No, what are the reasons?
- C.37. How do you think emerging Merino sheep farmers can increase returns from investing in Merino sheep farming?
- C.38. What challenges would you face entering into commercial Merino sheep farming? Elaborate.

APPENDIX – F: SEMI-STRUCTURED INTERVIEW QUESTIONS (*SESOTHO TRANSLATED*)



LIPOTSO TSA PUISANO E SA HLOPHISOANG KA BOTLALO

KAROLO EA A: TLHAHISOLESILING E AKARETSANG

- A.1. Mohla: _____/_____/_____
- A.2. Setereke sa letšolo la lipotso Lesotho: Quthing []; Mokhotlong []; kapa Mokhotlong []
- A.3. Lebitso la motse: _____
- A.4. Lebitso la morena oa sebaka: _____

KAROLO EA B: LINTLHA TSA LIPALOPALO TSA SECHABA

- B.1. Hlooho ea lelapa ke mang, k.h.r. moetsi oa liqeto? _____
- B.2. Lilemo tsa hlooho ea lelapa: _____
0 – 20 []; 21 – 40 []; 41 – 60 []; 61 – 80 []; 81 – 100 []
- B.3. Bong ba hlooho ea lelapa:
Motona []; Motšehali []
- B.4. Boemo ba tsa lenyalo ba hlooho ea lelapa:
a) Lesoha [] b) u nyetse/tsoe [] c) Hlalile [] l) Mohlolo/hali [] e) Nyetse sethepu []
- B.5. Boemo ba thuto ba hlooho ea lelapa:
Ha ho thuto []; Ea mathomo []; Sekondari/Sekolo se Phahameng []; Setifikeiti []; Lipoloma []; Likerii []
- B.6. Palo ea litho tsa lelapa ho kenyeletsoa moarabi: _____



KAROLO EA C: LIPOTSO TSA PATLISISO

Mecha ea bophelo:

- C.1. Morero oa hau ka ho ba sehoai sa linku tsa Merino ke ofe?
- C.2. O na le lilemo tse kae u le sehoai sa linku tsa Merino?
- 0 – 5 []; 6 – 10 []; 11 – 15 []; 16 – 20 []; 21 – 25 []; 26 – 30 []; 31+ []
- C.3. Ka ho fana ka palo ea mohlape, ka kopo bontša hore u na le mohlape u mokae oa linku tsa Merino. Ho tlatsetsa mona, ka kopo hlalosa hore u fumane linku tsa hau tsa Merino joang.
- C.4. Linku tsa hau tsa Merino li kutoa hokae? Na likiri tsee tsa ho kuta ke tsa poraefete kapa ke tsa mmuso? Ka kopo hlakisa.
- C.5. Na u kile oa fumana thupello ea bohoai ba linku tsa Merino? Ka kopo hlakisa.
- C.6. Mabaka a hau a ho ba sehoai sa linku tsa Merino, ho fapana le liphoofole tse ling, ke afe?
- C.7. Liphephetso tseo u tobaneng le tsona ke life mabapi le ho ba sehoai sa linku tsa Merino sebakeng sa heno? Hlakisa.
- C.8. Lingongoreho tsa mathata a maholo lelapeng la hau ke life ha u ntse u sebetsa joalo ka sehoai sa linku tsa Merino?
- C.9. Lelapa la hau le hatetse pele joang ka lebaka la bohoai ba linku tsa Merino?
- C.10. Liphetohe tsee tsa boemo ba lelapa la hau li amme bophelo ba lapeng la hau joang?
- C.11. Ke eng seo u se utloisisang ka tšebetso ea khoebisano ka kakaretso?
- C.12. Ke lisebelisoa life tse tlatseletseng katlehong ea bohoai ba hau ba linku tsa Merino? Ka kopo hlalosa.

- C.13. Ke lisebelisoa life, maikutlong a hau, tseo u nahanang hore li tla khonahatsa hore u fihlelle mmaraka oa boea bakeng sa meputso e ntlafetseng? Ka kopo hlalosa.
- C.14. Ke eng se tlatseletseng ho hore u se nke karolo bohooing bo ikamahantseng le mebaraka ba linku tsa Merino?
- C.15. Ke mecha efe ea tsa mebaraka eo u e sebelisang ho bapatsa boea ba hau ba linku tsa Merino?
- C.16. Na u na le phihlello ho tlhahisoleseling ea tsa mebaraka pele ho thekiso ea boea ba hau bo kutiloeng? Ka kopo hlalosa.
- C.17. Ke mofuta ofe oa tšehetso e amanang le bohooi ba hau ba linku tsa Merino oo u fumanang mme e tsoa ho mang?
- C.18. Ke eng seo u nahanang hore se tlatsetsa ho hloleheng/katlehong ea litšebetso tsa hau tsa bohooi tsa linku tsa Merino joalo ka sehoai se holang?
- C.19. Ke lintlha life tse khinang khoebo ea boea karolong ee ea khoebo mme khoebo ea tlhahiso ea boea e ka matlafatsoa joang sebakeng see?
- C.20. Maikutlong a hau, hore ke mekhoha efe e lokelang ho sebelisoa ho ntlafatsa lihoai tse holang tsa linku tsa Merino bakeng sa khoebisano?

Leqheka:

- a) Mokhoa oa ntlafatso: o mabapi le ntlafatso ea linku tsa Merino tse se ntse li le teng. Ho etsa mohlala, sebelisa linku tsa peo (lijini) e ntlafalitsoeng mme tse ka mamellang maemo a sebakeng sena.
- b) Mokhoa oa phetolo: o amang phetoho e feletseng (ea bothekeniki le ea sechabeng) ho phethahatsa ntšetsopele ea sejoalejoale, joalo ka, ho qala tšebeliso ea kemariso ea linku ka tsela ea ente,

Ka kopo hlalosa ka moo mokhoa ona o lokelang ho kenngoa tšebetsong.

- C.21. O nahana hore litharollo bakeng sa ho ntlafatsa litšebetso tsa bohoai ba linku tsa Merino ke life bakeng sa lihoai tse holang sebakeng sa heno? Ka kopo hlalosa.
- C.22. Mmuso oa Lesotho o ntse o tšehetsa lihoai tse holang tsa linku tsa Merino ka BKB, Mokhatlo oa Lihoai tsa Boea (*Lesotho Wool and Mohair Growers Association*) le mekhatlo e meng, e leng se fanang ka: litšebeletso tsa boeletsu/katoloso, khoebo ea temo le mahokela a tsa mebarakeng, ntšetsopele ea litsi bakeng sa lihoai, le bolisa le tekolo. Melemo, meeli, le litsela tse ka khonahalang tsa ho ntlafatsa litšebeletso tsee ke life sebakeng sa heno?
- C.23. Ke mehato efe e fanoeng ho lihoai?
- C.24. Lihoai tse anngoeng ke mehato ee li fumane tšebetso ee e le joang? (Khanyetso/ kamohelo)
- C.25. Ke liphephetso kapa likatleho life tse bileng teng mabapi le mehato ee?
- C.26. Na ho na le litšebetso tsa tshalomora bakeng sa bankakarolo ka mora mananeo a mehato e nkuoeng? Hlakisa.
- C.27. Ke litšitiso life tseo u li hlokometseng tse tlatsetsang bosiyong ba thahasello khoebisano?
- C.28. Litšitiso tsee li ka felisoa joang?
- C.29. Ke lithuto life tseo batho ba latelang khoebisano ba tobanang le tsona?
- C.30. Linku li kutoa khafetsa hakae sebakeng see?
- C.31. O utloisisang ka mahlopho/mekhahlelo ya boea?
- C.32. U rekisa boea ba hau hokae ka mora ho kuta linku?

- C.33. Na ho na le khetho tse ling tse fapaneng tsa libaka tseo u ka rekisang boea ho tsona? Haeba ho le joalo, ka kopo hlakisa.
- C.34. Na u kile oa nahana ka tsona mme ke hobaneng?
- C.35. Kakaretso ea tlhahiso ea hau ea boea sehle se fetileng sa ho kuta ke bokae kapa e bile e kae? Hape, ke chelete e kae eo u e rekotileng bakeng sa tlhahiso eo ea boea?
- C.36. Na tlhahiso ea hau e u buseletsa lipoello tse lekaneng bakeng sa matsete a hau?
- a) Haeba karabo ke Che, mabaka ke afe?
- C.37. U nahana hore lihoai tse holang tsa linku tsa Merino li ka eketsa lipoello tsa bona joang matseteng ao ba a jetseng ka linku tsa Merino?
- C.38. Ke liphephetso life tseo u tobanang le tsona hore u be sehoai sa linku tsa Merino? Hlakisa.

APPENDIX – G: CODE LIST

Source	Link Type	Target
Commercialisation of Merino sheep farming		
Transaction costs	is associated with	Commercialisation of Merino sheep farming
Market, Access and Information	is associated with	Education and Training
Technology and Innovation	is associated with	Commercialisation of Merino sheep farming
Funding	is associated with	Resources
Agricultural Support Services	is associated with	Commercialisation of Merino sheep farming
Education and Training	is associated with	Technology and Innovation
Infrastructure	is associated with	Commercialisation of Merino sheep farming
Funding	is associated with	Commercialisation of Merino sheep farming
Market, Access and Information	is associated with	Policy Environment
Market, Access and Information	is associated with	Commercialisation of Merino sheep farming
Infrastructure	is part of	Asset Holding
Policy Environment	is associated with	Commercialisation of Merino sheep farming
Social Status, Income and Culture	is property of	Education and Training
Technology and Innovation	is associated with	Infrastructure
Social Status, Income and Culture	is associated with	Commercialisation of Merino sheep farming
Policy Environment	is associated with	Asset Holding
Infrastructure	is associated with	Transaction costs
Technology and Innovation	is associated with	Agricultural Support Services
Education and Training	is associated with	Commercialisation of Merino sheep farming
Asset Holding	is associated with	Commercialisation of Merino sheep farming
Market, Access and Information	is associated with	Infrastructure
Resources	is associated with	Commercialisation of Merino sheep farming
Technology and Innovation	is part of	Agricultural Support Services
Agricultural Support Services	is associated with	Resources
Market, Access and Information	is associated with	Education and Training
Wool Sale	is part of	Social Status, Income and Culture
Herd Size	is property of	is property of
Bride Price	is associated with	Social Status, Income and Culture
Sheep Sale	is part of	Social Status, Income and Culture
Herd Size	is associated with	Social Status, Income and Culture
Financial Security	is associated with	Social Status, Income and Culture
Rituals	is associated with	Social Status, Income and Culture
Bride Price	is associated with	Herd Size
Herd Size of Merinos	is part of	Asset Holding
Sheep Studs	is part of	Asset Holding
Dip Tanks	is part of	Asset Holding
Purchasing	is a cause of	Herd Size of Merinos
Shearing Sheds	is part of	Asset Holding
Inheritance	is property of	Herd Size of Merinos
Education and Training	is associated with	Competitive Advantage
Lesotho National Wool and Mohair Growers Association	is associated with	Education and Training

Source	Link Type	Target
Department of Livestock Services	is associated with	Education and Training
Wool Categorisation	is part of	Education and Training
Breeding Practices	is associated with	Competitive Advantage
Medicinal Requirements - dosing, vaccinations, other	is part of	Education and Training
Medicinal Requirements - dosing, vaccinations, other	is associated with	Department of Livestock Services
Lesotho Wool Market	is part of	Lesotho National Wool and Mohair Growers Association
Lesotho Wool Market	is associated with	Competitive Advantage
Department of Livestock Services	is part of	Lesotho Wool Market
Breeding Practices	is associated with	Department of Livestock Services
Wool Categorisation	is part of	Lesotho National Wool and Mohair Growers Association
Veterinary Services	is part of	Department of Livestock Services
Extension Services	is associated with	Agricultural Support Services
Lesotho Mounted Police Services	is associated with	Agricultural Support Services
Lesotho National Wool and Mohair Growers Association	is part of	Agricultural Support Services
Local Chiefs	is associated with	Agricultural Support Services
Government of Lesotho	is associated with	Payments
Standard Lesotho	is associated with	Private Donors
Private Donors	is associated with	Water Tanks Construction
Private Donors	is associated with	Small Dams Construction
Local Chiefs	is associated with	Small Dams Construction
Local Chiefs	is associated with	Water Tanks Construction
Community Policing Forums	is part of	Lesotho Mounted Police Services
Ministry of Forestry, Range and Soil Conservation	is associated with	Local Chiefs
Ministry of Forestry, Range and Soil Conservation	is associated with	Private Donors
Lesotho National Wool and Mohair Growers Association	is associated with	Government of Lesotho
Short-term Credit	is property of	Commercial Banks
Commercial Banks	is associated with	Funding
Private Donors	is associated with	Funding
Input Materials	is associated with	Private Donors
Supplementary Feeds	is part of	Input Materials
Fertility Equipment	is part of	Input Materials
Input Materials	is property of	Operational Capital
Medicinal Supply	is part of	Input Materials
Resources	is associated with	Natural Resources
Rainfall	is cause of	Grazing Pastures
Grazing Pastures	is part of	Land
Clean Water	is part of	Natural Resources
Technology	is associated with	Resources
Department of Livestock Services	is associated with	Resources
Lesotho National Wool and Mohair Growers Association	is associated with	Shearing Sheds
Veterinary Technicians	is associated with	Skilled Human Capital

Source	Link Type	Target
Lesotho Mounted Police Services	is associated with	Skilled Human Capital
Skilled Emerging Farmers	is associated with	Skilled Human Capital
Department of Livestock Services	is associated with	Market, Access and Information
Roads Network	is part of	Infrastructure
Shearing Sheds	is associated with	Infrastructure
Lesotho National Wool and Mohair Growers Association	is associated with	Market, Access and Information
Searching and processing information	is associated with	Transaction costs
Contracts Negotiations	is associated with	Transaction costs
Distance from markets	is associated with	Transaction costs
Payments	is associated with	Transaction costs
Wool Centre	is associated with	Warehousing
Wool Centre	is associated with	Transaction costs
Quality Tests	is associated with	Transaction costs
Wool Centre	is part of	Infrastructure
Genetic Technology	is part of	Technology and Innovation
Wool Sale	is associated with	Wool Trade Policy
Wool Trade Policy	is associated with	Wool Centre
Wool Trade Policy	is associated with	Policy Environment
Government of Lesotho	is associated with	Policy Environment
Soil Conservation Policy	is associated with	Policy Environment
Local Chiefs	is associated with	Policy Environment
Market, Access and Information	is associated with	Wool Trade Policy
Dip Tanks	is associated with	Infrastructure
Roads Network	is associated with	Infrastructure
Communication Infrastructure	is associated with	Infrastructure

APPENDIX – H: RESEARCH DIARY

Date	Activity	Outcomes / Comments
March – May 2017	Development of the research topic	➤ Read a number of scholarly publications across the disciplines and yet could not decide on which discipline to focus on. The areas whose literature I read included management, agricultural economics, renewable energy, transformation and leadership. ➤ At this point, I was still confused as to what is expected in research, how it should be done, or why. But my goal was completing this research project to the best of my abilities. The more I thought about, the more it confused me. ➤ Started reading books about conducting research and dissertations ➤ I even approached some of my colleagues who were pursuing PhD for direction. I unfortunately was not really convinced with the research topics they suggested. ➤ My mind came to a standstill.
June 2017	Discussions on academic research commence	➤ Together with my colleagues Martha Nkholise and Dr Sam Mahlaba we brainstormed and I eventually got an idea. ➤ All the articles I have been reading came to fruition and resulted into a research topic. The research topic changed from time-to-time in an attempt to make it suitable for the University of the Free State – Business School.
June - 2017	Development of the research proposal	➤ Reading literature, consulting completed research and goggling became a norm. ➤ The more I explained it to my peers and colleagues, the more it made sense to me. ➤ However, the writing part was the difficult one.
July - 2017	Research Proposal	➤ I started constructing a mind map of the topic, aim, objectives and problem statement. ➤ Literature was then consulted and Martha Nkholise proof read for me. ➤ On completion of the proofreading of the proposal, the application for admission was completed and submitted to University of the Free State – Business School.
January – 2018	University of the Free State – Business	➤ With all my uncertainties and anxiety whether I will secure admission, I eventually received

Date	Activity	Outcomes / Comments
	School.	admission into the PhD programme.
February – 2018	Research proposal refinement and Promoter allocation	➤ Dr Dirkie Strydom was allocated as my research Promoter. ➤ Dr Strydom reviewed the draft research proposal and suggested some changes. The suggested changes were made. This was an iterative back to back process until the research proposal was ready to be presented for topic registration. ➤ Attended the PhD research colloquium at the Business School. ➤ On provisional approval of the research, commenced with seeking approval to conduct research with key informants for the research. ➤ Attended workshop on use of RIMS platform.
March – 2018	Research proposal approval by the Business School committee	➤ Presented my proposed research to the Business School Research Committee. ➤ Received approval to proceed to the next phase – Presentation to Faculty Committee for title registration. ➤ Made all necessary changes that were recommended during the first presentation. ➤ Made all arrangements with Edna to present to the Faculty Research Committee. ➤ Developed literature review chapters for the theses.
July – 2018	Presentation to the Faculty Research Committee and Title registration	➤ Finally presented to the Faculty Research Committee, which was very scary. ➤ Received approval for title registration. Learned that Dr Jan Swanepoel was allocated to me as my Co-Promoter for my research. ➤ Submitted first drafts of literature review chapters to Dr Strydom for review and guidance. ➤ Made all changes as recommended by Dr Strydom. ➤ Learned how to go about Ethic Clearance application. ➤ On approval of the literature review chapters, the development of semi-structured questions for the research commenced.
August – 2018	Ethics Clearance Application	➤ Prepared all documentation for Ethics Clearance application. ➤ Submitted Ethics Clearance application on RIMS.

Date	Activity	Outcomes / Comments
		➤ Awaited feedback for the application.
November – 2018	Ethics Clearance Application	➤ Received Ethical Clearance approval.
December – 2018	Data collection – Pilot study	➤ Piloting of the data collection instruments commenced. ➤ All applicable changes to the data collection instruments were made. ➤ Development of research methodology chapter.
March – 2019	Data collection – Primary data collection	➤ Refinement of the research methodology chapter. ➤ Commencement of field work. Field work commenced at various departments in the value chain of Wool and Mohair – Department of Livestock Services in Maseru, Lesotho National Wool and Mohair Growers Association, Wool and Mohair Project offices. ➤ Travelled back to South Africa to prepare to travel to the selected three districts. Partially analysed data at hand using ATLAS.ti™.
April – 2019	Data collection – Primary data collection (Quthing, Qacha's Nek and Mokhotlong)	➤ Commenced with data collection in Quthing ➤ Began drafting a skeleton for the Results Chapter. ➤ Travelled to Qacha's Nek for data collection. ➤ Travelled to Qacha's Nek for data collection. ➤ Concluded the last phase of data collection in Mokhotlong. ➤ Travelled to Smithfield to Mnr Riaan Prinsloo's commercial Merino sheep farm for additional data collection. ➤ In order not to capture findings as accurately as possible, the findings were captured and transcribed in to Microsoft Word as soon as possible. ➤ Consolidated data collected into one database.
June – 2019	Data analysis and writing of Chapter 6	➤ Making use of qualitative data analysis software ATLAS.ti™ data analysis commenced. ➤ Network diagrams of dominant themes that emerged were generated. ➤ The writing of Chapter 6 - Data analysis, results and presentation of findings commenced. ➤ The completed draft version of Chapter 6 was

Date	Activity	Outcomes / Comments
		submitted to Dr Strydom for review. ➤ All recommendations made by Dr Strydom were effected.
July – 2019	Writing of Chapter 7 and Chapter 8	➤ Wrote draft version of Chapter 7 and Chapter 8. ➤ Submitted chapters for review and guidance. ➤ Effected all recommendations made.
August – 2019	Consolidation of thesis chapters into one	➤ Commenced with consolidation of all chapters into one document. ➤ Send thesis for proof reading.
September – 2019	Plagiarism check	➤ Submitted thesis on Turnitin for plagiarism check with the intent to submit.
October – 2019	Final submission of thesis	➤ Final submission of thesis for examination.