UNIVERSITY OF LUSAKA

SCHOOL OF POSTGRADUATE STUDIES

EVALUATING THE EFFECTIVENESS OF OUT-GROWER PROJECTS IN REDUCING POVERTY IN RURAL ZAMBIA: A CASE OF THE EASTERN PROVINCE

BY

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Submitted to the School of Postgraduate Studies in fulfilment of the requirement for the Doctor of Philosophy Degree in Project Management of the University of Lusaka

2019

DECLARATION

I, Sunday Silungwe, do hereby declare that this Thesis is my original work and has not been submitted for a Doctor of Philosophy (Ph.D.) degree to the University of Lusaka or any other University. All that is borrowed from other scholars have been acknowledged and well cited in the place where they appear.

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SUPERVISORS' RECOMMENDATION

I have read and checked the Thesis written by Mr. Sunday Silungwe and do hereby confirm that it meets the minimum set standards of the University of Lusaka. I, therefore, recommend for the purpose of award of Ph.D.

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UNIVERSITY APPROVAL

I…….....and on behalf of the University of Lusaka do hereby confirm that I have read and examined the Thesis written by Mr. Sunday Silungwe, co-supervised by Dr. Bernadette Mungai and Eng. Dr. Kasongo Mwale Richard. I, therefore, approve/not approve this research work.

Full Name……..

Signature…….....

Date……

DEDICATION

A special dedication to my beloved wife Florence and my sons Sunday (junior), Daniel, and Alfred

ACKNOWLEDGEMENTS

There were days when I was sad, thinking whether I would be able to complete the Thesis. Then, my supervisors, friends, family members, faculty at the University of Lusaka, and colleagues encouraged me to tread on the path. I am sure; I have forgotten many people who would have helped me. Overly, I express my gratitude to all those who encouraged and helped me directly or indirectly in this journey.

Most sincerely, I wish to thank my Supervisors Dr. Bernadette Mungai and Eng. Dr. Kasongo Mwale Richard for guiding me conscientiously in the writing of the Thesis. I will remain greatly indebted to them for their commitment and dedication to the academic work.

My sincere gratitude goes to the University of Lusaka management team and support staff for their tireless support. I, also thank my employer U.S Peace Corps Zambia for allowing me to take leave to attend residential school at the University of Lusaka.

The time I spent at the University of Lusaka would not have been so cheerful without my fellow students most of whom have now become also my friends, especially Mr. Dyson Galatia. I thank them all.

Special thanks go to my wife Florence, my sons Sunday Jr., Daniel, and Alfred for the support they gave me and indeed all my friends too numerous to mention who helped me with little things that I could not have done without in my studies.

MOTIVATION

The motivation for me to study for a Doctor of Philosophy (PhD) degree program is the desire to attain education at the highest level in order to support research and consultancy services and to create a reservoir through publications emanating from such activities. We are living in an environment where change is inevitable. To keep up with change, it is morally right to continuously seek knowledge and be more fully engaged in finding solutions to societal problems. Further, the motivation is drawn from understanding the ontological positioning of the reality surrounding both the internal and external worlds of the out-grower scheme arrangements with regards to poverty reduction in rural Zambia.

Subsequently, it is motivating to draw on the epistemological perspectives to understand the source, limitations, and nature of knowledge regarding the operations of the out-growers projects in reducing poverty in rural Zambia. Similar, it is a motivation to conduct a study on 'Evaluating the Effectiveness of the Out-grower Schemes on Reducing Poverty in Rural Zambia'. In this regard, the main objective of the out-grower schemes is poverty reduction. This is mainly aimed at improving the well-being of the people living in the rural area of Zambia. Overly, the motivation is coming from the **Holy Bible, Luke 12:2-3 which says, "But there is nothing covered up that will not be revealed, and hidden that will not be known".** To this effect, it is only through conducting research that the truth can be known and adding knowledge.

TABLE OF CONTENTS

DECLARATION……...i

DEDICATION……..iii

ACKNOWLEDGEMENT……...iv

MOTIVATION……..v

TABLE OF CONTENTS……vi

LIST OF FIGURES……...xxii

LIST OF TABLES……xxiii

ACRONYMS AND ABBREVIATIONS……xxix

DEFINITION OF OPERATIONAL TERMS……xxxiii

ABSTRACT…….....xxxvi

CHAPTER ONE – INTRODUCTION AND BACKGROUND……1

1.1 Introduction……..1

1.2 Background of the Study……1

1.2.1 Revised Zambia National Agriculture Policy 2012 - 2030…….....2

1.2.2 Out-grower Schemes in Zambia……2

1.2.2.1 Out-grower Companies in the Eastern Province…….....3

1.2.3 Types of Out-grower Models……...3

1.2.3.1 The Centralized Model……4

1.2.3.2 The Nucleus Model……..4

1.2.3.3 The Tripartite Model……5

1.2.3.4 The Informal Model…….....5

1.2.3.5 The Intermediary Model……..5

1.2.4 Poverty Profile in Zambia…….....5

1.2.4.1 Poverty Trends…….5

1.2.4.2 Shared Prosperity Trends…….6

1.2.4.3 Inequality Trends…….6

1.2.4.4 Population and Poverty by Province……6

1.3 Statement of the Problem…….....7

1.4 Objectives of the Study……....7

1.4.1 General Objective…….....7

1.4.1.1 Specific Objectives……..8

1.5 Research Questions of the Study……8

1.5.1 General Research Question……..8

1.5.1.1 Sub Research Questions……...8

1.6 Significance of the Study…….....9

1.7 Scope of the Study…….....9

1.7.1 Profile of the Eastern Province……....9

1.8 Thesis Structure…….....10

1.9 Conclusion…….....11

CHAPTER TWO – LITERATURE REVIEW…….....12

2.1 Introduction……12

2.2 History and Extent of Out-grower Schemes……12

2.3 Literature Review at World Level……13

2.3.1 The United States of America……13

2.3.1.1 Agriculture Sector Overview……13

2.3.1.2 Poverty Trends in the USA…….....14

2.3.1.3 Poverty Reduction Strategy……...14

2.3.1.4 Effect of Out-grower Scheme on Reducing Rural Poverty…….....15

2.3.1.5 Out-grower Scheme Support to the Community at Large…….....16

2.3.2. Brazil……...16

2.3.2.1 Agriculture Sector Overview…….....16

2.3.2.2 Poverty Trends in Brazil……17

2.3.2.3 Poverty Reduction Strategy……...18

2.3.2.4 Effect of Out-grower Scheme on Reducing Rural Poverty…….....18

2.3.2.5 Out-grower Scheme Support to the Community at Large…….....18

2.3.3 China……19

2.3.3.1 Agriculture Sector Overview……19

2.3.3.2 Poverty Trends in China……19

2.3.3.3 Poverty Reduction Strategy……...20

2.3.3.4 Effect of Out-grower Schemes on Reducing Rural Poverty…….....21

2.3.3.5Out-grower Scheme Support to the Community at Large…….....21

2.4 Literature Review at Africa Level……22

2.4.1 Nigeria……..22

2.4.1.1 Agriculture Sector Overview…….22

2.4.1.2 Poverty Trends in Nigeria……..23

2.4.1.3 Poverty Reduction Strategy……...23

2.4.1.4 Effect of Out-grower Scheme on Reducing Rural Poverty…….....24

2.4.1.5 Out-grower Scheme Support to the Community at Large…….....26

2.4.2 Kenya……...27

2.4.2.1 Agriculture Sector Overview…….27

2.4.2.2 Poverty Trends in Kenya……...28

2.4.2.3 Poverty Reduction Strategy……...28

2.4.2.4 Effect of Out-grower Scheme on Reducing Rural Poverty…….....28

2.4.2.5 Out-grower Scheme Support to the Community at Large…….....30

2.5 Literature Review at Southern Africa Development Community - SADC Level……30

2.5.1 Malawi……..31

2.5.1.1 Agriculture Sector Overview…….31

2.5.1.2 Poverty Trends in Malawi……..32

2.5.1.3 Poverty Reduction Strategy……...32

2.5.1.4 Effect of Out-grower Schemes on Reducing Rural Poverty…….....33

2.5.1.5 Out-grower Scheme Support to the Community at Large…….....34

2.5.2 South Africa…….34

2.5.2.1 Agriculture Sector Overview…….34

2.5.2.2 Poverty Trends in South Africa…….35

2.5.2.3 Poverty Reduction Strategy…….....36

2.5.2.4 Effect of Out-grower Schemes on Reducing Poverty Rural Poverty…….....37

2.5.2.5 Out-grower Scheme Support to the Community at Large…….....38

2.5.3 Zambia…….38

2.5.3.1 Agriculture Sector Overview…….38

2.5.3.2 Poverty Trends in Zambia……..39

2.5.3.3 Poverty Reduction Strategy……...40

2.5.3.4 Effect of Out-grower Schemes on Reducing Rural Poverty…….....42

2.5.3.5 Out-grower Scheme Support to the Community at Large…….....43

2.6 Knowledge Gap……..44

2.7 Conclusion……..44

CHAPTER THREE – THEORETICAL AND CONCEPTUAL FRAMEWORK……45

3.1 Introduction……45

3.2 Contract Enforcement Theory……..45

3.2.1 Theoretical Framework of the Contract Enforcement Theory……..46

3.3 Geographical Disparities Poverty Theory....……...47

3.3.1 Theoretical Framework of the Geographical Disparities Poverty Theory.....……...48

3.4 Failure Theory……49

3.4.1 Theoretical Framework of the Failure Theory……..50

3.5 Critical Review of the Theories……51

3.5.1 Contract Enforcement Theory……...51

3.5.2 Geographical Disparities Poverty Theory.....……51

3.5.3 Failure Theory…….....52

3.6 Conceptual Framework……52

3.6.1 Conceptual Framework through which the Study aims at explaining the Problem……..53

3.7 Operationalization of Variables……53

3.7.1 Independent Variables……...53

3.7.1.1 Market Price……...53

3.7.1.2 Extension Services…….....54

3.7.1.3 Loan Default…….....54

3.7.1.4 Unequal Power Relation…….....54

3.7.1.5 Exclusion of Marginal Groups……...55

3.7.1.6 Indebtedness……...55

3.7.1.7 Land Availability and Tenure…….....55

3.7.1.8 Income.....56

3.7.2 Intervening Variables…….....56

3.7.2.1 Risk Sharing Mechanism……...56

3.7.2.2 Contextual Factors…….....56

3.7.2.3 Institution Innovation…….....56

3.7.2.4 Political and Legal……....57

3.7.2.5 Contract……....57

3.7.2.6 Social Services……...57

3.7.3. Dependent Variables……..58

3.7.3.1 Poverty Reduction……....58

3.7.3.2 Economic Growth……....58

3.7.3.3 Employment Creation……...58

3.7.3.4 Improved Food Security……...58

3.8 Hypotheses and Operationalization.....59

3.9 Conclusion……..59

CHAPTER FOUR – RESEARCH METHODOLOGY……...60

4.1 Introduction……60

4.2 Philosophical Assumptions……60

4.2.1 Epistemology.....60

4.2.2 Ontology.....60

4.2.3 Axiology.....60

4.2.4 Phenomenology.....61

4.2.5 Methodology.....61

4.3 Research Design…….....61

4.4 Target Population.....62

4.4.1 Description of the Sample and Sampling Procedure……..62

4.4.1.1 Selection of Smallholder Out-grower Farmers……..63

4.4.1.2 Selection of Smallholder Independent Farmers…….....63

4.4.1.3 Selection of Key Informants……..63

4.5 Data Collection Techniques……..64

4.5.1 Personal Interviews……...64

4.5.2 Document Review……....64

4.5.3 Questionnaire……....64

4.6 Data Analysis Techniques…….....65

4.7 Pilot Study……..65

4.7.1 Pilot Study Data……...66

4.7.2 Pilot Study Data Analysis…….....62

4.7.3 Pilot Study Conclusion…….....66

4.8 Validity of the Study……..66

4.8.1 Criterion Validity……..67

4.8.2 Content Validity……..67

4.8.3 Construct Validity…….....67

4.9 Credibility/trustworthiness……...68

4.10 Reliability of the Study…….....68

4.10.1 Stability Reliability…….....68

4.10.2 Representative Reliability…….....69

4.10.3 Equivalence Reliability…….....69

4.11 Ethical Considerations……....69

4.11.1 Veracity……..70

4.11.2 Privacy……....70

4.11.3 Confidentiality…….....70

4.11.4 Fidelity……....70

4.12 Conclusion……....71

CHAPTER FIVE – DATA ANALYSIS, INTERPRETATION AND RESULTS…….....72

5.1 Introduction……....72

5.2 Demographic Data…….....72

5.2.1 Sex…….....72

5.2.2. Type of Respondent…….....73

5.2.2.1 Cross tabulation on Sex by Type of Respondent……..73

5.2.3 Age……....74

5.2.3.1 Cross tabulation on Age by Type of Respondent……..74

5.2.4 Level of Education……....75

5.2.4.1 Cross tabulation on the Education Level of Respondents…….....76

5.2.5 Marital Status……....76

5.2.6 Number of Children……..77

5.2.6.1 Cross tabulation on the Number of Children by Type of the Respondent…….....77

5.2.7 Household Size…….....78

5.2.8 Children Going to School…….....78

5.2.8.1 Cross tabulation on Children Going to School……..79

5.2.9 Children Completed Secondary School……....80

5.2.9.1 Cross tabulation on Children Completed Secondary School by Type of Respondent…..80

5.2.10 Children up to Tertiary Level of Education……....81

5.2.10.1 Cross tabulation on Children reached Tertiary education Level by Type of Respondent…….....81

5.3 Changes in Poverty Reduction to the Smallholder Out-Grower Farmers……...82

5.3.1 Meals taken per Day…….....82

5.3.2 Type of House Owned…….....84

5.3.3 Main Source of Income…….....85

5.3.4 Income per Year…….....86

5.3.4.1 Cross tabulation on Income by Type of Respondent…….....86

5.3.5 Source of Energy for Lighting……..89

5.3.6 Household Income and Assets……..90

5.3.6.1 Change in Income in the Last Five Years……..90

5.3.6.2 Assets Owned such as Cash at the Bank by Type of Respondent…….....91

5.3.6.2.1 Cross tabulation on the Change in the Assets Owned such as Cash at the Bank by Type of Respondent…….....92

5.3.6.3 Assets Owned such as Cattle by Type of Respondent……...93

5.3.6.3.1 Cross tabulation on the Change in the Assets Owned such as Cattle by Type of Respondent…….....93

5.3.6.4 Cross tabulation on change in the number of Goats by Type of Respondent…….....94

5.3.6.5 Cross tabulation on Asset Owned such as the Bicycle by Type of Respondent……....95

5.3.6.6 Cross tabulation on Asset Owned such as the Motor bike by Type of Respondent……..96

5.3.6.7 Cross tabulation on Asset Owned such as Car by Type of Respondent……....96

5.3.6.8 Asset Owned such as Phone Set……....97

5.3.6.9 Asset Owned such as Television Set……....97

5.3.6.10 Asset Owned such as Radio Set……..98

5.3.6.11 Cross tabulation on Asset Owned such as Ox-cart by Type of Respondent……....99

5.3.7 Sourcing of Farming Inputs……..99

5.3.8 Description of the Process to Source Inputs……...100

5.3.9 Crop Marketing……...102

5.3.9.1 Cross tabulation on the Accessibility of Crop Market by Respondent Type……...102

5.4 Knowledge by Out-grower Farmers on the Operation of the Out-grower Schemes….104

5.4.1 Years as an Out-grower Farmer……..104

5.4.2 Out-grower Farmers benefit in Comparison to Independent Farmers……105

5.4.3 Out-grower Farmers' Knowledge on the operation of out-grower schemes……..107

5.4.4 Information Dissemination by the Out-grower Scheme on its Operations ……108

5.4.5 Contracting with the Out-grower Schemes……109

5.4.6 Understanding the Contents of the Contract……...111

5.4.7 Understanding the Language in which the Contract is written……...112

5.4.8 Preference of the Language for the Contract to be written in……114

5.4.9 Announcement of Crop Price by the Out-grower Company……..114

5.4.10 Effect of Price Announcement on decision to do farming with the out-grower scheme……..115

5.4.11 Opinion of the Out-grower Farmers on the Agricultural Commodity Pricing system by the Out-grower Scheme…….116

5.4.12 Participation in the Pricing of Agricultural Commodities……118

5.4.13 Stakeholders Participating in the Agricultural Commodity Pricing…….120

5.4.14 Control on negotiations of setting Commodity Prices……..120

5.4.15 Effect of the Current Pricing Mechanism on Profit……..121

5.4.16 Opportunity for the Out-grower Farmers to sell the Commodity Elsewhere……...122

5.4.17 Loan Repayment Management by the Out-grower Firms……124

5.4.18 Disclosure of the Loan Amount by the Out-grower Firm at the time of Collecting Inputs……124

5.4.19 Equivalence of the Loan Amount to the prevailing value of Inputs on the Market……..125

5.4.20 Loan Insurance……..127

5.4.21 Loan Repayment……...128

5.4.22 Factors Making Loan Repayment difficulty…….129

5.4.23 Management of Loan Repayment Failure by the Out-grower firms…….130

5.4.24 Adequacy of Information dissemination by the Out-grower firms to assist the Out-grower Farmers in Decision Making…….....132

5.5 Benefits of the Out-grower Scheme to the Community……133

5.5.1 Extension Services provided by the Out-grower Firms……..134

5.5.2 Community Development by the Out-grower Schemes …….....134

5.5.3 Attributing Change in Community Development to the Out-grower Schemes……..136

5.5.4 Rating Performance of the Out-grower Schemes……...137

5.6 Findings from Key Informants……...139

5.6.1 Out-grower schemes operating in Eastern Province……...139

5.6.2 Success Recorded by Out-grower Schemes in Zambia……..140

5.6.3 Challenges faced by the Out-grower Farmers and Out-grower Firms……...141

5.7 Proposed changes that would result in both the out-grower farmers and out-grower firms to benefit from the out-grower schemes……142

5.8 Conclusion……142

CHAPTER SIX – DISCUSSION OF RESULTS……143

6.1 Introduction……..143

6.2 Change in Poverty Reduction to Smallholder Farmers Participating in Out-grower Schemes……...143

6.3 Smallholder Out-grower Farmers Understanding of the Operations of the Out-grower Schemes……...146

6.4 Benefits to the Communities where the Out-grower Schemes are implemented……...148

6.5 Results Relating to Tested Hypotheses.....149

6.6 Conclusion……150

CHAPTER SEVEN – FINDINGS…….....151

7.1 Introduction……..151

7.2 Discussion of the Main Findings……151

7.2.1 Answering the Research Questions…….....151

7.2.2 Gaps Identified in the Centralized Model Type of the Out-grower Scheme……...153

7.2.2.1 Bias in the Selection and Recruitment of the Out-grower Farmers……153

7.2.2.2 Unequal Power Sharing……...154

7.2.2.3 Lack of Transparency in the Pricing Mechanism……154

7.2.2.4 Exclusion of the Third Parties……..155

7.2.2.5 Unfair Contracts……...155

7.2.2.6 Lack of Insurance on the Loans……...156

7.2.3 Knowledge Advancement on Out-grower Schemes to Reduce Poverty……..156

7.2.3.1 The Framework of the Out-grower Scheme Management Model by the Author…….....157

7.2.4 Operationalization of the Out-grower Scheme Management Model.....157

7.2.4.1 Partnership……...157

7.2.4.1.1 Establishing Partnerships…….....158

7.2.4.1.2 The Out-grower Firm…….....158

7.2.4.1.3 The Smallholder Farmer…….....158

7.2.4.1.4 External Facilitators…….....158

7.2.4.2 Contract……159

7.2.4.3 Risk Sharing…….....159

7.2.4.4 The Enforcement…….....159

7.2.4.5 Equal Power Sharing Relationship…….....159

7.2.4.6 Sustainable Out-grower Performance…….....160

7.2.4.7 Household Income…….....160

7.2.4.7.1 Household Food Security……..161

7.2.4.7.2 Improved Wellbeing……161

7.2.4.7.3 Consumption Expenditure……162

7.2.4.8 Poverty Reduction…….....162

7.2.5 Outcome Areas that Result from the Out-grower Scheme Management Model.....162

7.2.5.1 Framework of the Concepts in the Outcome Areas.....163

7.2.6 Operationalization of the Concepts in the Outcome Areas.....164

7.2.6.1 Immediate Outcomes.....164

7.2.6.2 Intermediate Outcomes.....164

7.2.6.3 Ultimate Outcomes and Development Impact.....164

7.3 Conclusion……165

CHAPTER EIGHT – CONCLUSION AND RECOMMENDETIONS……166

8.1 Introduction……166

8.2 Conclusions……...166

8.3 Recommendations……....167

8.4 Areas for Further Research……169

8.5 Limitations of the Study.....169

REFERENCES……...172

APPENDICES……218

Appendix A: Questionnaire for the Smallholder Out-grower Farmers……...218

Appendix B: Questionnaire for the Smallholder Independent Farmers…….....235

Appendix C: Interview Guide for the Key Informants……..244

Appendix D: Map of the Eastern Province and the Districts……246

Appendix E: Map of Zambia and the Provinces……247

Appendix F: Similarities and Differences of Past Out-grower Schemes Studies between Zambia and Other Regions.....248

LIST OF FIGURES

Figure 1.1: Centralized Model Framework ……..……...4

Figure 3.1: Contract Enforcement Theory Framework…….....46

Figure 3.2: Geographical Disparities Poverty Theory Framework**.....**……..48

Figure 3.3: Failure Theory Framework…….....50

Figure 3.4 Conceptual Framework……53

Figure 7.1 Author's Out-grower Scheme Management Model……**..**155

Figure 7.2 Relationships of the Concepts in the Outcome Areas**.....**161

LIST OF TABLES

Table 4.1: Distribution of Respondents……....63

Table 5.1: Sex of Respondents……..72

Table 5.2: Type of Respondent…….....73

Table 5.3: Cross tabulation on Sex by Type of Respondent…….....73

Table 5.4: Age of the Respondents……...74

Table 5.5: Cross tabulation on Age by Type of Respondent……....75

Table 5.6: Level of Education……...76

Table 5.7: Cross tabulation on the Education Level by Type of Respondent.....76

Table 5.8: Marital Status……...77

Table 5.9: Number of Children of the Respondents…….....77

Table 5.10: Cross tabulation on the Number of Children by Type of Respondent…….....78

Table 5.11: Household Size……..78

Table 5.12: Children Going to School……..79

Table 5:13 Cross tabulation of Children Going to School by Type of Respondent…….....80

Table 5.14: Children Completed Secondary School…….....80

Table 5.15: Cross tabulation on Children Completed Secondary School by Type of Respondent…….....81

Table 5.16: Children up to Tertiary level of Education…….....81

Table 5.17: Cross tabulation on Children reached Tertiary education Level by Type of Respondent…….....82

Table 5.18: Cross tabulation on Meals taken per day by Type of Respondent……....83

Table 5.19: Cross tabulation on House Owned by Type of Respondent……..85

Table 5.20: Main Source of Income……..85

Table 5.21: Income per Year…….....86

Table 5.22: Cross tabulation on Income by Type of Respondent…….....87

Table 5.23: Cross tabulation on the Source of Lighting by Type of Respondent.....89

Table 5.24: Change in Income in the Last Five Years……..91

Table 5.25: Asset Owned such as Cash at Bank by Type of Respondent……....92

Table 5.26: Cross tabulation on the Change in the Assets Owned such as Cash at the Bank by Type of Respondent……...92

Table 5.27: Asset Owned such as Cattle by Type of Respondent……....93

Table 5.28 Cross tabulation on the Change in the Assets Owned such as cattle by Type of Respondent…….....94

Table 5.29: Cross tabulation on change in the number of Goats by Type of Respondent……...95

Table 5.30: Cross tabulation on Asset Owned such as the Bicycle by Type of Respondent…...95

Table 5.31: Cross tabulation on Asset Owned such as the Motor bike by Type of Respondent…….....96

Table 5.32: Cross tabulation on Asset Owned such as Car by Type of Respondent……....97

Table 5.33: Asset Owned such the Phone Set……...97

Table 5.34: Asset Owned such as Television Set…….....98

Table 5.35: Asset Owned such as Radio Set…….....98

Table 5.36: Cross tabulation on Asset Owned such as Ox-cart by Type of Respondent……..99

Table 5.37: Source of Farming Inputs……100

Table 5.38: Description of the Process to Source Inputs……100

Table 5:39: Interpretation of the Coefficient of Variation and Coefficient of Consensus on the Source of Farming Inputs by Type of Respondents……101

Table 5.40: Crop Marketing……102

Table 5.41: Cross tabulation on the Accessibility of Crop Market by Respondent Type……...103

Table 5:42: Interpretation of the Coefficient of Variation and Coefficient Consensus on Access to Market for Agricultural Produce by Type of Respondents……..104

Table 5.43: Years as an Out-grower Farmer……...105

Table 5.44: Out-grower Farmers benefit in Comparison to Independent Farmers…….106

Table 5.45: Interpretation of the Coefficient of Variation and Coefficient of Consensus on benefits of being an Out-grower Farmer……..106

Table 5.46: Out-grower Farmers' Knowledge on the operation of out-grower schemes……...107

Table 5.47: Interpretation of the Coefficient of Variation and Coefficient of Consensus on Understanding Out-grower Operations by Out-grower Farmers…….....108

Table 5.48: Information Dissemination on its Operations by the Out-grower Scheme……..108

Table 5.49: Interpretation of the Coefficient of Variation and Coefficient of Consensus on Dissemination of Information by the out-grower Scheme……...109

Table 5.50: Contracting with the Out-grower Schemes……..110

Table 5.51 Interpretation of the Coefficient of Variation and Coefficient of Consensus on Signing a Contract by the Out-grower Farmers with the Out-grower Scheme……111

Table 5.52: Understanding the Contents of the Contract……111

Table 5.53: Interpretation of the Coefficient of Variation and Coefficient of Consensus on Understanding the Contents of the Contract by the Out-grower Farmers……...112

Table 5.54: Understanding the Language in which Contract is written……..113

Table 5.55: Interpretation of the Coefficient of Variation and Coefficient Consensus on the Language of the Contract…….....113

Table 5.56: Preference of the Language for the Contract to be written in……..114

Table 5.57: Announcement of Agricultural Commodities Price by Out-grower Firm……...115

Table 5.58: Effect of Agricultural Commodities Price Announcement on decision to do farming with the out-grower scheme…….115

Table 5.59: Interpretation of the Coefficient of Variation and Coefficient of Consensus on the Effect of Price announcement on Farming Activities……..116

Table 5.60: Out-grower Farmers' Opinion on the Agricultural Commodities Pricing System..117

Table 5.61: Interpretation of the Coefficient of Variation and Coefficient of Consensus on the Out-grower farmers' opinion on the Agricultural Commodity Pricing System……..118

Table 5.62: Participation in Determining the Price of Agricultural Commodities…….119

Table 5.63: Interpretation of the Coefficient of Variation and Coefficient of Consensus on Out-grower Farmers Participation in Determining the Price of Agricultural Commodities……...119

Table 5.64: Stakeholders participating in Determining Price of Agricultural Commodities…..120

Table 5.65: Control on Negotiations for Determining Price of Agricultural Commodities…...121

Table 5.66: Effect of the Current Pricing Mechanism on the Out-grower Framers' Profit……121

Table 5.67: Interpretation of the Coefficient of Variation and Coefficient of Consensus on the Effect of the Pricing mechanism on the Out-growers Farmers' Profit……122

Table 5.68: Opportunity to sell the Agricultural Commodities Elsewhere by the Out-grower Farmers……123

Table 5.69: Interpretation of the Coefficient of Variation and Coefficient of Consensus on Selling the Agricultural Commodities elsewhere by the Out-grower Farmers……123

Table 5.70: Loan Repayment Management by the Out-grower Firms……...124

Table 5.71: Disclosure of Loan Amount by the Out-grower Firms at the time of Collecting Inputs……124

Table 5.72: Interpretation of the Coefficient of Variation and Coefficient of Consensus on the Disclosure of Loan Amount…….125

Table 5.73: Equivalence of the Loan Amount to the Prevailing Value of Inputs on the Market……..126

Table: 5.74: Interpretation of the Coefficient of Variation and Coefficient of Consensus on the Equivalence of Farming Inputs to the market value……127

Table 5.75: Loan Insurance……127

Table 5.76: Interpretation of the Coefficient of Variation and Coefficient of Consensus on Loan Insurance……..128

Table 5.77: Loan Repayment……..129

Table 5.78: Interpretation of Coefficient of Variation and Coefficient of Consensus on the difficulty of Loan repayment……...129

Table 5.79: Factors making Loan Repayment difficulty……130

Table 5.80: Management of Loan Repayment Failure by the Out-grower firms……...131

Table 5.81: Interpretation of the Coefficient of Variation and Coefficient of Consensus on Loan Default Management by the Out-grower firm…….132

Table 5.82: Adequacy of Information by the Out-grower firms in Farmer's decision making…….132

Table: 5.83: Interpretation of the Coefficient of Variation and Coefficient of Consensus on Information by the Out-grower Firms to help Out-grower Farmers in Decision making……..133

Table 5.84: Benefits of the Out-grower Schemes to the Community…….134

Table 5.85: Extension Services provided by Out-grower firms…….…….134

Table 5.86: Community Development by the Out-grower Schemes…….....135

Table 5.87: Interpretation of the Coefficient of Variation and Coefficient of Consensus on Community Development by Out-grower Schemes……136

Table 5.88: Attributing Change in Community Development to Out-grower Schemes…….136

Table 5.89: Interpretation of the Coefficient of Variation and Coefficient of Consensus on Attributing Community Development to Out-grower Schemes……..137

Table 5.90: Rating Performance of the Out-grower Schemes……138

Table 5.91: Interpretation of the Coefficient of Variation and Coefficient of Consensus on Rating the Performance of the Out-grower Scheme…….....**.....**139

ACRONYMS AND ABBREVATIONS

ADMARC – Agricultural Development and Marketing Corporation

ADP – Agricultural Development Program

AGOA – African Growth and Opportunity Act

AGRA – Alliance for a Green Revolution in Africa

APP – Agricultural Promotion Policy

ARC – Agriculture Risk Coverage

ARISE – Achieving Reduction of child labor in Supporting Education

ASWAp – Agriculture Sector Wide Approach

ATA – Agricultural Transformational Agenda

AU – African Union

BLP – Better Life Program

CAADP – Comprehensive African Agricultural Development Program

CAZ – Cotton Association of Zambia

CB – Community Banks

CC – Coefficient of Consensus

CmiA – Cotton made in Africa

COMACO – Community Market for Agricultural Commodities

CPF – Country Partnership Framework

CPRC – Chronic Poverty Research Centre

CSO – Central Statistics Office

CSR – Cargill Social Responsibility

CV – Coefficient of Variation

DAS – Department of Agriculture Statistics

DFID – Department for International Development

DFRRI – Directorate for Food, Roads, and Rural Infrastructure

ERP – Economic Recovery Program

ERS – Economic Research Survey

FAO – Food and Agriculture Organization

FCPE – Free Compulsory Education

FEAP – Family Economic Advancement Program

FELDA – Federal Land Development Agency

FISP – Farm Input Subsidy Program

FSP – Family Support Program

GBI – Green Belt Initiative

GDP – Gross Domestic Product

GTA – Global Trade Atlas

IAPRI – Indaba Agricultural Policy Research Institute

IFAD – International Fund for Agricultural Development

IFC – International Finance Corporation

IIRR – International Institution for Rural Reconstruction

ILO – International Labor Organization

JTI – Japan Tobacco International

KIT – Royal International Institute

K-LEAP – Kutch Livelihood and Education Enhancement Program

LCMS – Living Conditions Monitoring Survey

MACO – Ministry of Agriculture and Cooperatives

MDG – Millennium Development Goal

MGGS – Malawi Growth and Development Strategy

NAP – National Agriculture Policy

NBS – National Bureau of Statistics

NDE – National Directorate of Employment

NGO – Non Governmental Organization

NS – National Survey

NWK – North-West Kooperatives

OECD – Organization for Economic Development and Cooperation

OFN – Operation Feed the Nation

PACRA – Patents and Companies Registration Agency

PBN – Peoples Bank of Nigeria

PFS – Partners in Food Solutions

PLC – Price Loss Coverage

PMBOK – Project Management Body of Knowledge

PPP – Purchasing Power Parity

RBDA – River Basin Development Program

RBP – Rural Banking Program

SADC – Southern Africa Development Community

SAP – Structural Adjustment Program

SCD – Systemic Country Diagnostic

SNDP – Sixth National Development Plan

SNDP – Seventh National Development Plan

SOE – State Owned Enterprise

SPSS – Statistical Package for Social Sciences

STEM – Science, Technology, Engineering, and Math

TNC – The Nature Conservancy

TVET – Technical Vocational Education and Training

UBPL – Upper Bound Poverty Line

UK – United Kingdom

UN Contrade – United Nations Commodity Trade

UNCTAD – United Nations Conference on Trade and Development

UNDP – United Nations Development Program

UNIDROTI – Institute for the Unification of Private Law

U.S.A – United Sates of America

USAID – United State Agency for International Development

USDA – United States Department of Agriculture

DEFINITION OF OPERATIONAL TERMS

For the purpose of this study, the following terms are used.

- **Evaluation**

  The United Nations Development Program – UNDP (2017) defines evaluation as a rigorous and independent assessment of either completed or ongoing activities to determine the extent to which they are achieving stated objectives and contributing to decision making. Evaluations, like monitoring, can apply to many things, including an activity, project, program, strategy, policy, topic, theme, sector or organization (Svensson *et al.,* 2018; Alkin & King, 2017). In this study, it entails to evaluating the effectiveness of out-grower schemes in reducing poverty in rural Zambia.

- **Out-grower Scheme**

  An out-grower scheme is defined as a business organization or a model that provides production and marketing services to farmers on their own land (Poku *et al.,* 2018). In this study, an out-grower scheme is a project that is managed on contract farming arrangement between the out-grower smallholder farmers and the out-grower firms.

- **Project**

  A project is a temporary endeavor undertaken to create a unique product, service, or result (Huemann & Silvius, 2017; Williams, 2016; Project Management Body of Knowledge – PMBOK Guide, 2013). In this study, the project is known as the out-grower scheme.

- **Smallholder Farmer**

  In Zambia, a smallholder is defined as a farmer that cultivates less than 5 hectares of crop farming (Ministry of Agriculture and Cooperatives – MACO, 2017). In this study, smallholder farmers are both out-grower farmers and independent farmers.

- **Income**

  Income is money that an individual or business receives in exchange for providing a good or service or through investing capital (Sambuo, 2018; Dube & Mugwagwa, 2017; Nishikawa, *et al.,* 2016). In this study, income is money realized from the sale of products and services by both the out-grower farmers and independent farmers

- **Consumption Expenditure**

  Consumption expenditure is the purchase of goods and services for use by households (Bonsu, 2017). In this study, consumption expenditure is the total expenditure on the purchase of goods and services for use by the out-grower and independent households

- **Assets**

  An asset is a resource controlled by the enterprise as a result of past events and from which future economic benefits are expected to flow to the enterprise (Mawih, 2014). For this study, assets entail money, infrastructure, livestock, and other household equipment and machinery owned by both the out-grower and independent farmers.

- **Poverty**

  Poverty is multidimensional and complex in nature and manifests itself in various forms making its definition difficult. No single definition can exhaustively capture all aspects of poverty. Poverty is perceived differently by different people, some limiting the term to mean a lack of material wellbeing (Gallardo, 2018; World Bank, 2018; Watkins & Quattri, 2016; Central Statistics Office and Living Conditions Monitoring Survey – CSO & LCMS, 2015). In this study poverty is not being able to afford minimum basic human needs, comprising of food and non-food items.

- **Poverty Reduction**

  It is the comprehensive transformational change needed to address the root causes of poverty through public policy interventions (Fosu, 2018; Aluko, 2017; Cruz *et al.,* 2015; Edward & Summer, 2015; Jollies & Prydz, 2015; Kakwan & Son, 2015). In this study, poverty reduction entails the measures and/or strategies that the Governments put in place to reduce poverty.

- **Poverty Line**

  The poverty line for a given individual can be defined as the money the individual needs to achieve the minimum level of welfare to not be deemed poor (World Bank, 2018; CSO & LCMS, 2015; Afrose, 2012; Duvendac *et al.,* 2011; Stewart *et al.*, 2010; Hermes & Lensink, 2009). In this study, the poverty line entails the sum of food and non-food poverty lines.

- **Gini coefficient**

  The Gini coefficient is the measure of inequality (Davydov & Creseli, 2018; Fellman, 2018; World Bank, 2018; CSO & LCMS, 2015). In this study, the Gini coefficient entails the measure of consumption expenditure and income inequality trends in Zambia.

- **Household**

  A household is defined as a group of persons who live and eat together (United Nations, 2017; CSO & LCMS, 2015). In this study, a household is referred to as family members of the smallholder out-grower and independent farmers.

- **Household Well-Being**

  Wellbeing is defined as the balance point between an individual's resource pool and the challenges faced (Mogilner, *et al.,* 2018; Oskrochi *et al.,* 2018; CSO & LCMS, 2015). In this study, the household well-being is the status brought about by change in the income, assets, and consumption expenditure of the out-grower farmers and independent farmers.

- **Rural Area**

  According to the CSO and LCMS (2015) a rural area is a geographic area that is located outside towns and cities. This study defines a rural area as a settlement consisting of villages that are sparsely located with a low population and that agriculture is the main economic activity.

- **Rural Development**

  It is sustained improvement of the population's standards of living or welfare (Anriquez & Stamoulis, 2017; Aparico *et al.,* 2016; Meier *et al.,* 2016; Popkova *et al.,* 2016; Urbano & Aparicio, 2016; Vasin & Gamidullaeva, 2015; Ellis, 2000; Carney, 1998). In this study, rural development entails wealth creation for the rural community.

- **Urban Area**

  It is an area that comprises cities, towns or conurbations (Moreno, 2017; Glaser & Henderson, 2017). In this study, an urban area entails a location of the city or town.

ABSTRACT

In 1991, the Zambian economy was liberalized and the agricultural sector was not spared. The out-grower private sector interest in outgrowing grew and has been on an increase ever since. In 1991, rural poverty stood at 88 percent and 46.8 percent for urban poverty respectively. The Living Conditions Monitoring Survey (LCMS) conducted in 2015 revealed that rural poverty stood at 76.6 percent and 23.4 percent for urban poverty respectively. To this effect, rural poverty still remains high and predominantly a rural phenomenon. This study, therefore, sought to evaluate the effectiveness of the out-grower schemes on reducing poverty and answer the general research question on how effective were the out-grower schemes in reducing poverty in rural Zambia.

Pragmatism is the philosophical view that underpins the study and it applies to the mixed research method approach for this study. The convergent parallel strategy of the mixed research method approach was used. The target population was 50,000 smallholder farmers and a questionnaire with open ended questions (qualitative) and closed questions (quantitative) was administered to a sample size of 396 smallholders farmers, broken down as 196 out-grower farmers that were selected from the out-grower firms' registers and 200 independent farmers that were selected from the village registers. The registers were used as the sampling frame. Simple random sampling was used to select smallholder farmers. An interview guide was used for 20 key informants that were chosen through purposive sampling method. A total of 416 respondents participated in this study. Qualitative data was analyzed by using the inductive process of building from the data to broad themes and then to a generalized model or theory. Quantitative data was analysed by using the Chi-square tests to ascertain association between critical variables measured by categories of out-grower farmers and independent farmers. The T-tests compared the treatment and control groups on variables of interest. The coefficient of variation (CV) was used to gauge the level of respondents' disagreement (dissention) in responses while coefficient of consensus (CC) was used to gauge the level of respondents' agreement (consensus) in responses, applied to the Likert scale and any other ordinal responses.

The findings from the study revealed that the out-grower schemes implementation has contributed to a positive change in poverty reduction to smallholder farmers participating in the out-grower scheme. Further, out-grower farmers have improved their knowledge in understanding the operation of the out-grower scheme. Subsequently, the out-grower schemes have benefited the communities. In this regard, the study concluded that the out-grower schemes have been effective in reducing poverty in the rural areas of Zambia. The study recommended that there was need to address the issue of power imbalance between the out-grower farmers and the out-grower firms. The out-grower firm has more power in terms of controlling out-grower schemes arrangements. Further, the high illiteracy levels among the rural farmers require that all documents, including contracts should be translated in the local language for ease of understanding. Subsequently, both the out-grower farmers and out-grower firms must adhere to their contractual obligations for the purpose of transparency and honesty. Finally, the out-grower farmers should be working towards an exit strategy of self-reliance to avoid perpetual dependence on the out-grower scheme on long-term.

KEYWORDS: Out-grower scheme, Out-grower firm, Out-grower farmer, Independent farmer

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 Introduction

"Out-grower schemes" and "contract farming" are often interchanged. In this study, however, the term "out-grower schemes" is used. Further, in this study, out-grower projects are known as out-grower schemes. The Government of the Republic of Zambia has in the past tried many development models in order to improve the standard of living of the rural populace. One of the rural development approaches adopted by the Government of Zambia has been the out-grower scheme. As such, this study sought to evaluate the effectiveness of the out-grower schemes on reducing poverty in rural Zambia. Chapter one presents the introduction and background of the study and related subtopics thereof. Further, it outlines the statement of the problem, the objectives, and research questions. Subsequently, it discusses the significance, scope and delimitations, and structure of the thesis. Chapter One ends in a conclusion and precedes Chapter Two.

1.2 Background of the Study

Globally, agriculture plays an important role in supporting economic development. However, this requires the right policies and supportive investments in projects such as the out-grower scheme arrangement. Out-grower schemes offer opportunities to the rural populace to move out of poverty. Out-grower schemes have the potential to help reduce poverty in the rural area by creating employment, increased food security, and rural development (World Bank, 2018; Christiaensen & Martin, 2018; Manda *et al.,* 2018). Alliance for a Green Revolution in Africa – AGRA (2018), indicates that using the out-grower scheme arrangement as the basis to grow the economy, requires a productivity revolution. In Zambia, agriculture is vital to economic development.

The population in Zambia was mainly concentrated in rural areas at 58.2 percent as compared to 41.8 percent in urban areas and about 1,700,000 households were in rural areas while about 1,300,000 were in urban areas (CSO & LCMS, 2015). Therefore, improving the lives of people in the rural areas can enhance national development. The Seventh National development plan (SNDP, 2017, p. 25) states that the enhancement of the out-grower scheme arrangements can

improve the standard of living of the rural populace in Zambia. The study done by the World Bank on the general economic performance for Zambia indicated that smart agriculture policies that support out-grower schemes arrangement could have a wide spread positive impact (World Bank, 2017, p. 17)

In general, successful out-grower projects require good governance with accountability, effective and efficient government policies, and the rule of law. Governments need to build confidence and trust, which demand transparency. In this regard, the success of the out-grower scheme arrangements requires mutual trust, which in turn depends on accountability, transparency and contract enforcement. To be sustainable, the out-grower scheme must be economically viable, socially acceptable and environmentally neutral. To reduce the risks to smallholder farmers, the out-grower scheme should provide technical assistance and markets. This requires due diligence on the part of all partners and stakeholders.

1.2.1 Revised Zambia National Agriculture Policy 2012 - 2030

With the view of improving the agricultural sector, the National Agriculture Policy - NAP (2012, p. 14) has been revised. The implementation period was from 2012 up to 2030. During the implementation period, the Ministry of Agriculture intends to maximize the effort to meet macro targets indicated in the national vision. The vision of the agriculture sector is "A competing and diverse agricultural sector, propelled by equally and sustained development in agriculture" (2012, p. v). Subsequently, its mission is "To facilitate the development of a competing, diverse, equally and sustained agriculture sector". The objectives of NAP that frontier support to the out-grower schemes are: to enhance acquisition of productive resources and services for smallholder farmers, especially marginalized groups such as the women and youth; and, to improve on public and private partnerships to enhance implementation of the agricultural policy, acquisition of resources, research and development, regulatory services, market development, and technology transfer.

1.2.2 Out-grower Schemes in Zambia

There were about thirty (30) out-grower schemes operators, operating Fifty-three (53) out-grower schemes in Zambia (MACO 2017). However, despite the liberalization of the economy and implementation of the out-grower schemes, the poverty level in the rural areas has remained

high and poverty is still a rural phenomenon. Out-growers private sector interest in outgrowing has been on an increase since 1991. This was due to liberalization of the economy. Many out-grower schemes are involved in traditional agricultural commodities and on the top of the list are tobacco and cotton. Other crops are soybeans, cowpeas, groundnuts and sorghum. Out-grower farmers are driven by the comparative advantage that accrue to smallholder farmers and out-grower firms. Studies by Ton *et al.,* (2018), Hichaambwa and Matenga (2016), and FAO, (2012a, 2012b, 2011, 2010a) have revealed that both the smallholder farmers and out-grower firms benefited from the out-grower schemes. For both parties, the ultimate goal is to reduce market uncertainty and realize profit.

The smallholder out-grower farmers, however, must have the knowledge on the operations of the out-grower schemes because out-grower schemes are in various forms and it is important to understand what is at stake for both the out-grower farmers and out-grower firm to reap the benefits, and the challenges of the partnership that arise thereof (Bellemare, 2018; Mishira *et al.,* 2018; Poku *et al.,* 2018; Ton *et al.,* 2018; Schupback, 2014).

1.2.2.1 Out-grower Companies in the Eastern Province.

The out-grower companies that support the out-grower schemes in the Eastern Province are North-western Kooperatives (NWK), China Africa Cotton, Japan Tobacco International (JTI), Good Nature Agro, Alliance Ginneries, Continental Ginneries, and Community Markets for Conservation Ltd (COMACO). The agricultural commodities financed by the out-grower companies are: cotton, maize, soybeans, groundnuts, pigeon peas, green grams, tobacco, sunflower, rice, and honey production as indicated by the Patents and Companies Registration Agency – PACRA (2018).

1.2.3 Types of Out-grower Models

Out-grower schemes can be classified into five basic models namely Centralized, Nucleus, Tripartite, Informal, and Intermediary (Ton *et al,* 2018; Bruntrup *et al.,* 2018; Ahungwa *et al.,* 2017; Torvikey *et al.,* 2017; Razak *et al.,* 2015; Bijman, 2008; Da Silva, 2005; Eaton & Shepherd, 2001). To this effect, the out-grower schemes in the Eastern Province have adopted and use the Centralized Model. However, the study outlines and discusses other models that are applicable in the out-grower scheme arrangements.

1.2.3.1 The Centralized Model

The centralized model entails a firm contracting with farmers, to produce agricultural commodities and sell to the contractor (Torvikey *et al.*, 2017; Eaton & Shepherd, 2001). The study focused on the centralized model because the out-grower scheme supporting out-grower farmers in the Eastern Province used the centralized model concept shown in Figure 1.1. Critics of the centralized model were of the view that out-grower firms often offered unattractive packages to farmers (Ramprasad, 2018; Navarra, 2018; Kaur & Kaur, 2018; Ton *et al*, 2018; Kunte *et al.*, 2017; Vicol, 2017; Actionaid, 2015). In this situation, farmers were often seen as laborers on their own farms for the out-grower firms.

Figure 1.1 showing the Framework of the Centralized Model

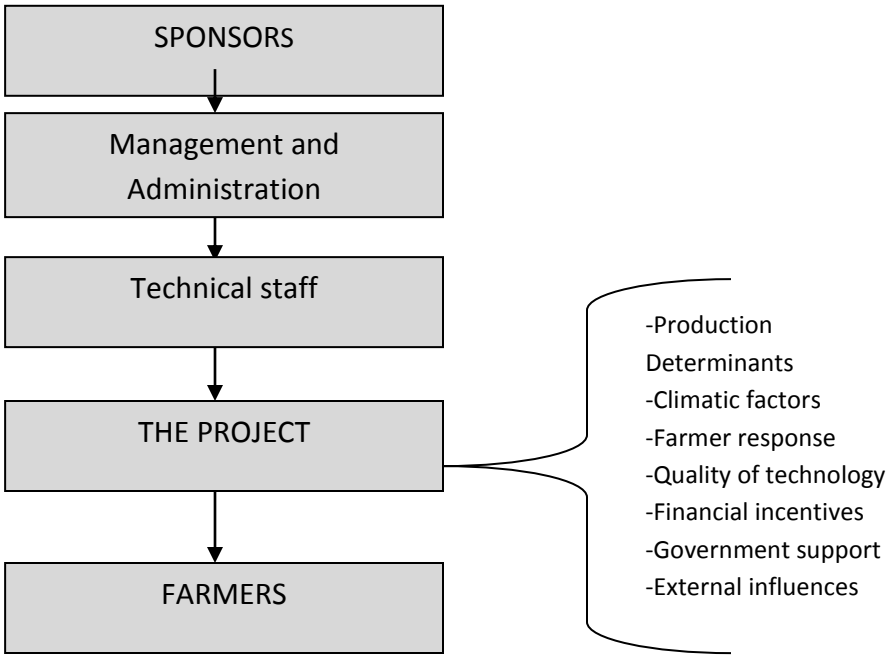

Figure 1.1: The Centralized Model Source: based on Eaton (1998)

1.2.3.2 The Nucleus Model

The nucleus-estate model is where the out-grower firm contracts out-grower farmers for farming on its land but also contract with independent farmers that farm on their own land. This model is suitable for perennial crops such sugar cane and tea production (Bruntrup *et al.*, 2018; Ton *et al.*, 2018; Eaton & Shepherd, 2001).

1.2.3.3 The Tripartite Model

The tripartite model is where a partnership of a public entity and a private firm, contracts with smallholder farmers (Ton *et al.,* 2018; Ahungwa *et al.,* 2017; Bijman, 2008; Eaton & Shepherd, 2001.

1.2.3.4 The Informal Model

The informal model is an arrangement between traders and farmers, often on a verbal basis (Ton *et al.,* 2018; Eaton & Shepherd, 2001).

1.2.3.5 The Intermediary Model

The intermediary model is where the firm contracts with a middle person or organization who, then, deals with the farmers (Ton *et al.,* 2018; Razak *et al.,* 2015; Eaton & Shepherd, 2001).

1.2.4 Poverty Profile in Zambia

All estimates of poverty, shared prosperity and inequalities were based on the 2010 and 2015 Living Conditions Monitoring Surveys conducted by Zambia's Central Statistics Office. The poverty line was the sum of food and non-food poverty lines. The food poverty line was obtained by updating the cost of the food basket. Non-food poverty line was the average nonfood expenditures of households whose total expenditure was close to the food poverty line. The national poverty line for 2015 was estimated to be Zambian Kwacha 214.26 per adult equivalent per month. This was slightly lower than the value of $1.9 (2011 Purchasing Power Parity - PPP), in 2015. Hence the $1.9 (2011 PPP) at 57.5 percent, was slightly higher than the national poverty level, 54.4 percent (World Bank Group, 2018; Mphuka *et al.,* 2017)

1.2.4.1 Poverty Trends

The country-wide poverty rate, using the nation poverty line per adult of K214 (214 Kwacha – Zambian currency) per adult equivalent per month, remained largely unchanged over 2010 – 2015 period. However, there was a marked difference between rural and urban areas. The poverty rate increased in rural areas from 73.6 percent in 2010 to 76.7 percent in 2015, and rural areas accounted for 82 percent of the poor. In urban areas, by contrast, poverty fell marginally from 25.7 percent in 2010 to 23.4 percent in 2015. While the increase in poverty in rural areas stemmed largely from low and deteriorating levels of agricultural productivity, the slight decline

in poverty in urban was driven mostly by improvements in the mining, construction, and financial sectors all of which favorably impacted informal trade and self-employment (World Bank Group, 2018; Mphuka *et al.*, 2017)

1.2.4.2 Shared Prosperity Trends

Over the 2010 – 2015 periods, consumption growth of the bottom 40 percent of the population was negative, at -0.6 percent. The shared prosperity premium was negative, at -3.5, implying that in contrast to the bottom 40 percent, the top 60 percent made some consumption gains. The contrast was mainly due to the divergence of consumption growth rates between urban and rural areas. Poor market access, increasingly erratic weather, and poorly developed rural institution were primarily responsible for the observed negative growth in the rural sector (World Bank Group, 2018; Mphuka *et al.*, 2017).

1.2.4.3 Inequality Trends

Inequality rose in Zambia over 2010 – 2015 periods, largely because of a larger rural-urban divide in consumption levels. The Gini index rose from 55.6 to 57.1 in 2015. Consumption per person dropped for the bottom 40 percent in rural areas whereas it rose in the urban areas. The top deciles experienced gains throughout the country (ibid)

1.2.4.4 Population and Poverty Percentage by Province

Lusaka Province had the highest population at 2,777,439 and its poverty rate was the lowest at 20.2 percent while the Copper-belt Province was second in ranking with a population of 2,362,207 and its poverty rate stood at 30.8 percent. The Western Province had a population of 991,500 and its poverty rate was the highest at 82.2 percent. Luapula Province had a population of 1,127,453 and its poverty rate was 81.1 percent while the Northern Province had a population of 1,304,435 and its poverty rate was 79.7 percent. The Eastern Province had a population of 1,813,445 and its poverty rate was 70 percent while Muchinga Province had a population of 895,058 and its poverty rate was 69.3 percent. The North-Western Province population stood at 833,818 and its poverty rate was 66.4 percent while the Southern Province population stood at 1,853,464 and its poverty rate was 57.6 percent. The Central Province population was 1,515,086 and the poverty rate was 56.2 percent (CSO & LCMS, 2015)

1.3 Statement of the Problem

The main objective of the out-grower schemes was poverty reduction. This was mainly aimed at improving the well-being of the people living in the rural area of Zambia. However, the trend shows that the poverty level still remains high in the rural area of Zambia and predominantly a rural phenomenon. In 1991, rural poverty stood at 88 percent and 46.8 percent for urban poverty respectively (NS, 1991). The results of a survey conducted by CSO and LCMS (2015) show that the poverty level increased in the rural areas from 73.6 in 2010 to 76.7 percent in 2015. In urban areas, by contrast, the poverty level reduced marginally from 25.7 percent in 2010 to 23.4 percent in 2015. It is not clear whether the out-grower scheme has been effective as a model in contributing to reducing poverty in rural Zambia. It is against this background that the study sought to evaluate the effectiveness of out-grower schemes in reducing poverty in rural Zambia

1.4 Objectives of the Study

According to Creswell (2014) objectives do not provide answers to research but help to select the ontology, epistemology, human nature assumptions and methodology. However, the use of objectives in research are: to guide decisions about the kind of research design to apply; guide decisions about the kind of data to collect and from whom; guide decisions about the kind of method to use in the data analysis; guide decisions about the way to write the report; and objectives stop the researcher from going off in unnecessary directions and tangents. It is argued that the best objectives in a research report are those assertions that detail what steps need to be taken and at what stage and in what sequence in order to meet the research aim(s) (Rahi, 2017; Cohen *et al.,* 2013; Collis & Hussen, 2013; Easterby *et al.,* 2012; Saunders, 2011). It is research prudence that objectives need not to describe in broad terms what is to be done. They must state only one thought containing only one action (ibid). For the purpose of this study, the general and specific objectives are outlined as follows:

1.4.1 General Objective

The general objective of the study is evaluating the effectiveness of out-grower schemes in reducing poverty in rural Zambia.

1.4.1.1 Specific Objectives

In order to achieve the general objective, the study seeks to concentrate on the following specific objectives.

i. To establish changes in poverty reduction to smallholder farmers participating in out-grower schemes in Eastern Province.
ii. To determine smallholder out-grower farmers understanding of the operations of out-grower schemes Eastern Province.
iii. To establish the benefits to the communities where the out-grower schemes are implemented in Eastern Province.

1.5 Research Questions

A research question is a statement that seeks an answer within the phenomenon to be studied. In a study, there may be one overarching research question and subsidiary questions. The best way to ground research is to have a few questions. It is important that research is organized around a set of questions that provide guidance to achieve the desired research outcomes (Skovdal & Cornish, 2015; Green *et al.,* 2015; Flick, 2014; Kilburn *et al.,* 2014; Early, 2014). Further, the significance of the research questions lies in their ability to bring direction and specificity to research work (Creswell, 2014; Markussen *et al.,* 2012; Sevaldson, 2010; Zimmerman *et al.,* 2010; Tashakkori & Creswell, 2007; Ethridge, 2004). For this study, the general research question and sub research questions are outlined as follows:

1.5.1 General Research Question

The general research question provided the focus and direction of the research. The question is: How effective were the out-grower schemes in reducing poverty in rural Zambia?

1.5.1.1 Sub Research Questions

The following sub research questions seek to disaggregate the main research question by providing a holistic approach and an in-depth evaluation on relevant variables in order to realize research outcomes and draw relevant conclusions of the study.

i. What changes have out-grower schemes brought to poverty reduction to the smallholder out-grower farmers in Eastern Province?
ii. What is smallholder out-grower farmers understanding of the operations of the out-grower schemes in Eastern Province?

iii. How have the out-grower schemes benefitted the communities in Eastern Province?

1.6 Significance of the Study

The knowledge gained from the study may also help in enhancing the development of the out-grower schemes as a poverty intervention tool in Zambia. Further, the findings could be used in poverty reduction interventions to improve the standard of living of the rural populace. Subsequently, it is envisaged that the study may bring out economic theories that may be helpful in analyzing the impact of out-grower schemes on farmers, agribusiness firms and host Government. According to Actionaid (2015), little attempt has so far been made to consider the basic economic theories relevant to contract farming and out-grower schemes that can provide insight in controversies surrounding such programs. Additionally, the results of the study could contribute towards filling the information gap on the title of the study. Finally, the study may provide an opportunity for further research.

1.7 Scope of the Study

The study was conducted in the Eastern Province of Zambia. The Eastern Province has nine districts namely Chipata, Chadiza, Vubwi, Katete, Sinda, Petauke Nyimba, Mambwe, and Lundazi (see appendix D). The study covered eight of the nine districts. Vubwi district was left out due to bad roads that made accessibility difficult. These districts were chosen on the basis that they had out-grower farmers. The units of the study were smallholder out-grower farmers as the treatment group, and smallholder independent farmers as the control group. Success was measured by comparing the groups and the variables measured were income, assets and consumption expenditure.

1.7.1 Profile of the Eastern Province

The Eastern Province covers an area of 69,106 square Kilometers (6.9 million hectares) and is located in the eastern part of the country between longitude 30 and 33 degrees east of the Greenwich Meridian, and latitude 10 and 15 degrees, south of the Equator (see appendices D & E). Malawi in the east and Mozambique in the south are its immediate international neighbors. Internally, the Luangwa Valley makes the boundary in the north-west, sharing the border with Lusaka Province to the west and Northern Province to the north. The major part of the province is located on the Central African plateau, which rises to an altitude of 900 to 1200 meters while a

smaller part of it lies in the Luangwa Valley at 300 to 600 meters above sea level (CSO & LCMS, 2015).

Out of the 6.9 million hectares of land, 2 million is suitable for cultivation and 1.1 million for animal grazing. Generally, the climatic conditions in the Province are favorable to most crops under rain fed conditions, with a rainfall of 800 to 1200 mm per year, and crop growing period of 125 to 140 days. The Province has an estimated population of 1,813,445 inhabitants with a growth rate of 2.6 percent per annum, slightly below the national average which is estimated at 3 percent. The average population density is estimated at 18.8 inhabitants per square Kilometer. The Province has approximately 372,298 households and 87.8 percent of these households are rural and the majority of them are engaged in farming while 12.2 percent of household are urban. The female population was the majority with 50.62 percent (917,603), while the male population accounts for the remaining 49.38 percent of the total population (CSO & LCMS, 2015)

1.8 Thesis Structure.

The study is organized in Eight Chapters. Chapter One is the Introduction. It comprises introduction, background of the study, the statement of the problem, the research questions and research objectives. Further, it outlines the significance of the study, scope and delimitations, and the organization of the thesis structure. The conclusion ends chapter one that precedes Chapter Two.

Chapter Two is the Literature Review. It provides an opportunity for the researcher to stand on the shoulders of the "Giants" to review similar and/or related work done by other scholars in order to identify gaps and be able to add knowledge and/or create new knowledge altogether. In this study, the literature review takes the funnel model that reviews literature from the World, Africa, Southern Africa Development Community - SADC and local (Zambia) perspectives. Chapter Two ends with the conclusion and precedes Chapter Three.

Chapter Three is the Theoretical and Conceptual Framework. It provides a related theoretical and conceptual framework by identifying and discussing relevant theories and concepts to the study. Furthermore, it sets the platform for the discussion of the operationalization of the concepts in

order to show how the problem at hand may be resolved. Chapter Three ends with the conclusion and precedes Chapter Four.

Chapter Four is the Research Methodology of the study. It sets and rolls out a road map on how the study is conducted. Chapter Four is the core of the study. It comprises the introduction, philosophical assumptions; the philosophical view brought the study, the research approach, research strategy, target population, sample size and sampling procedures, data collection techniques, data analysis techniques, pilot study, validity, credibility, reliability, and ethical considerations. Chapter Four ends with the conclusion and precedes Chapter Five.

Chapter Five is the Data analysis, Presentation and Results of the study. It deals with in-depth data analysis interpretation and the results. Chapter Five ends with a conclusion and precedes Chapter Six. Chapter Six presents is the Discussion of Results. It ends with a conclusion and precedes Chapter Seven. Chapter Seven presents the findings. Chapter Seven ends with a conclusion and precedes Chapter eight which outlines the conclusions and recommendations, areas for further research, including limitations to the study

1.9 Conclusion

Chapter one discussed important aspects in project management, specifically focusing on the evaluation of the effectiveness of the out-grower projects on reducing poverty in rural Zambia. The out-grower model was recommended through authentic research as a viable tool for poverty reduction to the rural populace. It was in this regard that the Zambian government encouraged the private sector to venture in out-grower schemes. The trend showed that rural poverty levels had remained high. The population that was poor in rural areas had almost remained at the 2010 level of about 76 percent. In 2015 rural poverty was estimated at 76.6 percent, which was three times higher than what was obtaining in urban areas, at 23.4 percent. Chapter One established the introductory ground to the study and precedes Chapter Two which is Literature review.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

An attempt has been made to carry out extensive literature review dating from 1967 to 2018, taking into consideration the extent and/or volume of the literature that is relevant to the study. This chapter starts by giving a brief history and extent of the out-grower schemes. Furthermore, the chapter looks at some of the literature available that is related and/or similar to this study at three levels namely: the World, Africa, and Southern African Development Community – SADC, including Zambia in particular. In this regard, therefore, the funnel approach of reviewing literature was used. For each specific country selected, the outline of the literature review included: overview of the agriculture sector; poverty trends; poverty reduction strategy; the effect of the out-grower scheme on reducing rural poverty; and out-grower scheme support to the independent farmers and community at large. Chapter two ends with a conclusion.

Studies have revealed that the out-grower scheme diversity was not only with regard to the product grown but also to its structure and management (Ton *et al.,* 2018; Ton *et al.,* 2017; Andersson *et al.,* 2015; Wainaina *et al.,* 2014; Da Silva & Shepherd, 2013; Peltger & Rottger, 2013; Tschirley & Kabwe, 2010). Regardless of its design, the out-grower scheme shared characteristics such as inputs provision, extension services, contracts management, farmer management, production and processing; and marketing (Euler *et al.,* 2016; Kalinda & Bwalya, 2014; Kingu, 2014; Michelson, 2013; Kassie, 2011). The way in which each of these characteristics was addressed, defined the nature of the scheme and its long-term viability (Poku *et al.,* 2018; Institute for the Unification of Private Law - UNIDROIT-FAO, 2016); Mwansakilwa *et al.,* 2013; Muhammad *et al.,* 2013; International Finance Corporation (IFC), 2012; International Fund for Agricultural Development (IFAD), 2014)

2.2 History and Extent of Out-grower Schemes.

The out-grower scheme arrangement has been a feature of agricultural economics for millennia. Eaton and Shepherd (2001) highlight that contract farming appeared to be an innovation of the last 100 years or so. Little and Watt (1994) posit that out-grower schemes have been utilized

since the nineteenth century in Asia, Central America, and the United States of America. Further, the out-grower scheme arrangement was used in Europe as well (Rehber, 2007). Since then, the out-grower scheme has been used to organize agricultural value chains.

Within transitional economies, the out-grower scheme also played an important role. The out-grower scheme arrangement has also played a significant role within transition economies of Eastern Europe countries such as Czech Republic, Slovakia, Hungary, Armenia, Georgia, Moldiva, Ukraine and Russia (Swinnen and Maretens, 2007). Similarly, there has been an increase in the out-grower scheme arrangements in South America since the 1950s. Honduras adapted it for bananas while Peru applied it on barley and Mexico incorporated it in growing vegetables and grain. Brazil has taken it to the levels over 70 percent for poultry production and 30 percent for soya production respectively (United Nations on Commerce, Trade and Development - UNCTAD, 2009)

In Sub-Saharan Africa, the out-grower scheme has been on the increase. In the past, the Government had full or partial ownership of the out-grower schemes but now most of projects were in private hands (Bolwig *et al.*, 2009). In the third world, the private sector has dominated in the establishment and management of out-grower schemes.

2.3 Literature Review at World level

With regards to evaluating the effectiveness of out-grower schemes in reducing poverty in rural areas, it was necessary to explore widely by reviewing literature on selected countries at world level. The countries selected were the U.S.A, Brazil and China. The criterion used on the selection of the countries was a representation of North America, South America and Asia.

2.3.1. The United States of America

The United State of America (U.S.A) was one of the countries selected for literature review at the world level. The selection of the countries was done without bias but to triangulate and try to explore and review the literature extensively in North America.

2.3.1.1 Agriculture Sector Overview

According to United States Department of Agriculture – USDA and the Economic Research Service – ERS (2017), the U.S.A. agricultural sector was diverse and varied. It comprised crop production as well as livestock production. Crop production consisted of traditional crops such as maize, soybeans, wheat and cotton. There was also farming for horticultural products such as fruits and vegetables. The contribution to the economy and scale of each of these activities as well as the nature of the market and production parameters varied geographically, depending on the agro ecological zones, prevailing marketing conditions and other determining factors. To this effect, return on investments in agriculture and econometrics of rural economics can differ significantly across the U.S.A (USDA & ERS, 2017)

The annual national net farm income determined the performance of the farm sector because it was a significant indicator to show the whole economic standing among an array of production processes, input cost, and prevailing marketing conditions at a certain time. When national net farm income is reflected together with a measure of the national farm debt-to-asset ratio, the two summary measurements show a quick and extensively referral indicator of the economic performance of the national farm economy (Schnepf, 2018).

2.3.1.2 Poverty Trends in the USA

Official poverty level reduced in the 1960s. Since the 1960s, it has been in the range of 11 - 15 percent. It increased in difficulty times of the economy and reduced during times of economic boom. In 2015, about 43.1 million individuals (13.5%) were in poverty, as determined by the official poverty line. This was a reduction from the climax of the Great Recession in 2010 at 15.1 percent (Chaudry *et al.,* 2016; Proctor *et al.,* 2016). According to supplementary poverty rate, 45.7 million people were poor in 2015, a rate slightly higher than the official measure by 14.3 percent. This showed that supplementary poverty measure levels were higher in general than the official poverty levels (Christopher *et al.,* 2018; Christopher *et al.,* 2016; Robert, 2015; Lippold, 2015; Ratcliffe & McKernan 2013).

2.3.1.3 Poverty Reduction Strategy

The effect of respective Government policies and programs on the poverty level can be specifically shown using the supplementary poverty statistic available only in latest years

(Chaundry *et al,* 2016). Overly, Social Security had the most significant effect on reducing poverty (Meyer & Wu, 2018). Supplementary poverty level would have been 8.2 percentage points higher, or 23.5 percent, if individuals and families did not get any Social Security benefits in 2016 (Christopher *et al.,* 2018). Refundable tax credits were second ranked in terms of the most significant effect. Poverty would have been 2.1 percentage points higher in the absence of the Earned Income Tax Credit (EITC) alone (Christopher *et al.,* 2016). Excluding EITC and the additional child tax credit would have risen to the poverty level by 3.1 percentage points in 2016. About 9.8 million people would have been poor in 2016 without refundable tax credits. Nutrition assistance to individuals and families ranked third as most significant anti-poverty effect, after tax credits (Indivar *et al.,* 2018; Craig *et al.,* 2018; Pamella, *et al.,* 2018; Maria & Meyer, 2018; Sara, *et al.,* 2018; Mark, *et al.,* 2018; Eckrich *et al.,* 2018; Jenifer & Hill, 2018; Diana *et al.,* 2018; Charles *et al.,* 2017; Chaundry *et al,* 2016).

2.3.1.4 The Effect of Out-grower Schemes on Reducing Rural Poverty

The out-grower scheme arrangement has expanded in the USA. Thirty-one percent (31%) of the total agricultural production derive from the out-grower scheme (Ton *et al.,* 2018; Young & Hobbs, 2002). As far back as 1950, out-grower schemes have become widespread because of improved technology, globalized markets and continuous demand for farm produce. However, smallholder farmers can only benefit from such agricultural enterprises by participating in the out-grower scheme arrangements. Out-grower schemes provided to smallholder farmers an array of benefits such as credit for farming inputs and extension services. It provided training in farming techniques that improved farming practices to increase crop yield and income, and improved the quality of agricultural commodities (William, *et al.,* 2012; Summer, *et al.,* 2012; European Parliament, 2012).

Government must put in place a regulatory frame work that supports the implementation and operations of the out-grower scheme. To this effect, both the out-grower farmers and the out-grower firm must ensure adherence to their contractual obligations. In this regard, smallholder farmers were able to reduce poverty. Despite benefits that came from the out-grower schemes to the smallholder farmers and the out-grower firms, there were challenges faced by both parties such as not honoring contractual obligation, loan default, low prices, mistrust, lack of

transparency, and imbalanced power relationship between the out-grower firm and smallholder farmers (Schnepf, 2018; Lorenzo & Leonard, 2010; Vermeulen, 2010).

2.3.1.5 Out-grower Scheme Support to the Community at Large.

The out-grower firms that managed the out-grower schemes did not only support out-grower smallholder farmers but extended the support to the independent smallholder farmers and the community at larger. For example, in the United State, Cargill used its program known as Smart precision agriculture system that utilized satellite pictures and soil sampling to collect data on variables that affected yields for a specific field. Farmers made use of the data to plant seed and apply fertilizer exactly where it was needed in order optimize performance. This in turn increased yields with less waste and reduced effect on the environment (Cargill Corporate Social Responsibility – CSR Report, 2014).

2.3.2 Brazil

Brazil was another country selected for literature review at the world level. The selection of the countries was done without bias but to triangulate, explore and review the literature extensively in South America.

2.3.2.1 Agriculture Sector Overview

The agricultural sector was the anchor of the economic performance of Brazil. Although the agriculture's share of GDP was not more that expectation, going by the country's rate of development, at 5.4 percent in 2010-13, Brazilian agriculture has grown strongly and steadily for a period of more than three decades (Food and Agriculture Organization - FAO, 2018). Total agricultural output has increased by fifty percent in volume in comparison to its rate in 1990 and livestock production has almost quadrupled. This was due to enhancement of primarily productivity related to the out-grower scheme arrangements. The sector made a tremendous contribution to the country's trade balance. Exports by agriculture and agro-food industries realized a total of over 86 billion U.S dollars in 2013, reflecting 36 percent of total exports (FAO, 2018; Instituto Brasileiro de Geografia e Estatistica, (Brazilian Institute of Geography and Statistics - IGBE), 2016; Moreira, 2009; Valdes, 2006).

These exports significantly reduced deficits in other sectors and have been increasing in importance, enhancing the sector's role as the source of foreign currency. Brazil's agricultural

exports made it a major contributor to international markets. Globally, Brazil ranked second as largest agricultural exporter and the biggest supplier of sugar, orange juice and coffee. In 2013 it over passed the United States as the largest source of soybeans and it was a major exporter of tobacco and poultry. It was also a major producer of maize, rice and beef, the majority of which were supplied to large domestic market (Filho, 2017; Nassar & Ures, 2015; World Bank, 2015; Organization for Economic Cooperation and Development - OECD, 2014). Finally, agriculture in Brazil was a significant supplier to the country's energy supply. Renewable energy from agriculture consisted of sugarcane biomass (42%), hydraulic energy (28%), firewood (20%) and other sources (10%). These accounted for almost fifty percent of the total energy supply (Ministério de Minas e Energia, Empresa de Pesquisa Energética - MME/EPE, 2013b).

2.3.2.2 Poverty Trends in Brazil.

Contraction of the economy in 2015 led to a sharp increase in poverty, which reached 22.1 percent at $5.5/day (2011 PPP), after ten (10) consecutive years of poverty reduction (World Bank, 2017). The increase in poverty was observed in most regions but was highest in Northwest and in urban non-metropolitan areas. The rise in poverty was due to the decline in labor income.

Given the Gross Domestic Product – GDP contraction in 2016, poverty rates were estimated to have increased further to 23.5 percent at $5.5/day (2011 PPP) in that year (ibid). In 2015, growth in incomes was much lower than in previous years. Mean income annualized growth was 2.2 percent, compared to 4.1 percent between 2009 and 2014 and 4.8 percent between 2009 and 2012. However, incomes among the bottom 40 percent rose more rapidly than the general population (3.9 percent compared to 2 percent). In 2015, mean income decreased by 6.5 percent for the bottom 40 and 6.4 percent for the top 60 (World Bank, 2017). Brazil had accomplished impressive reductions in inequality between 2000 and 2014 as a result of rapid growing formal employment, and high real wages redistributive social assistance programs. The Gini-coeffient decreased by 8.5 points between 2001 and 2014, going down from 59.4 to 51.5. In 2015, it leveled at 51.4 (ibid)

2.3.2.3 Poverty Reduction Strategy

One of the most significant achievements of the economy of Brazilian over the past ten years has been the outstanding reduction in poverty and hunger. A new strategy to finding solutions to these challenges was implemented in 2003 with the launching of the Zero Hunger Program. The

model adopted in Brazil instigated a break through; by waging war on poverty and hunger, a central policy priority. The model took into consideration that the multi-sectoral context of the challenges needed concerted efforts in all government departments, and partnership with civil society. This strategy has aroused interest globally, and efforts to implement the Brazilian strategy are being channeled in numerous countries of Latin America and also in certain countries of Africa and Asia (FAO, 2014).

2.3.2.4 The Effect of Out-grower Schemes on Reducing Rural Poverty

In Brazil, out-grower schemes increased in number during the 1960s and through the 1980s, yielding 1.4 percent per year (FAO, 2014). Much of the crops grown, using the out-grower scheme model, rose from 2.3 million hectares in 1960 to almost 3 million hectares during the late 1960s and early 1970s. However, lower prices given by out-grower firms had a negative effect on out-grower scheme (Vorley, *et al,* 2012; Seville *et al.* 2011).

Critics have argued that the effect of out-grower scheme on reducing rural poverty has not been significant in Brazil (Actionaid, 2015). Transactional and overhead costs were a colossal amount when dealing with smallholder farmers on contract farming ventures such as the out-grower scheme. To this effect, agribusiness firms preferred to engage with medium or large-scale farmers (De Schutter, 2011). A recent World Bank/UNCTAD analysis of investments in large-scale land acquisitions, noted that out-grower schemes tended only to be accessible to larger, better-off small-holders. A rice contract farming in Cambodia, was found to be not inclusive of the poorest farmers and required public sector support to lower the transaction costs of working with them (World Bank/UNCTAD, 2014; Junning *et al,* 2008)

2.3.2.5 Out-grower Scheme Support to the Community at Large

As an out-grower firm, Cargill extended its service to independent farmers and community at large in South America. For example, in Brazil, Cargill engaged with The Nature Conservancy - TNC which supported farmers to grow soybeans in order to reap economic benefits in a sustainable manner since 2004. Cargill assisted to put on map 11 million hectares of private Brazilian land in Mato Grosso and Pará by utilizing satellite-based monitoring that enabled for a precise evaluation of producers' compliance with the Brazilian Forest Code of Conduct, helping

to prevent deforestation (Cargill – CSR Report, 2014). This strategy is currently being used as part of the Brazilian government's rural environmental frame on record keeping. Brazilian Farmers benefited from the program to improve on agricultural practices and increase cocoa yields sponsored by Gargill.

2.3.3 China

China was another country selected for literature review at the world level. The selection of the countries was done without bias but to triangulate, explore and review the literature extensively in Asia.

2.3.3.1 Agriculture Sector Overview

At 1.3 billion, China had the largest population, relating to about twenty-two percent (22%) of the world. Statistics indicated that two thirds (871 million) of the population lives in the rural area (Yu & Wu, 2018). Despite China having the world third largest area of 960 million square kilometers, the arable area was only 107 million hectare, equivalent to seven percent (7%) of the global arable land. Therefore, agriculture was a significant sector that did not only guarantee the supply of food and other agricultural commodities for the largest population but also the source of household income for the rural populace. The long-term objective that frontiers China's agriculture development was to meet the increasing demand of food and other agricultural commodities in order to enhance rural development. This could increase income and lift the living standards of the people in the rural area, which overly, translated to sustained and enhanced development of agriculture, rural areas, as well as farmers (ibid).

2.3.3.2. Poverty Trends in China

China experienced a sustainable reduction in poverty rates under all poverty lines considered. This was the result of continued economic growth above 6 percent since 2010. This economic growth had also brought shared prosperity and in turn brought fast welfare gains. This was measured by household consumption, to all members of society and particularly those at the bottom 40 percent of the distribution. In addition, there was evidence of falling income inequality. Official data indicated a decline in income inequality as measured by the Gini coeffienct falling from 0.491 in 2008 to 0.462 in 2015 (a trend also observed by independent

researchers using different data and methods). The causes for this decline in income inequality was presumed to be related to a narrowing of the rural-urban income gap (World Bank, 2017)

2.3.3.3 Poverty Reduction Strategy

Relating to post-1978 reform period, China reduced poverty through specific government reform policies and rapid economic growth. According to the official poverty rate, the number of poor people estimated was about 200 million in 1981 to 28 million in 2002. Alternatively, using the World Bank's $1/day income measure, the number of the poor was estimated to have reduced from about 490 million to 88 million over the same period, a reduction in poverty incidence from 49 percent in 1981 to 6.9 percent in 2002 (Namise & Zhuang, 2018; Li *et al.,* 2016; World Bank, 2003; Zhang *et al.,* 2003; Fan *et al.,* 2002; Gao, 2001; Sangui, 2001).

China's poverty reduction has been accomplished mainly through quick economic growth. Real GDP progressed at an average of 9.4 percent per year in the period 1979 to 2003. The increment was obtained through continuous reform and structural changes. These included changing from central planning to markets and from agriculture to manufacturing and services. Further, government opened its doors to international trade and knowledge transfer. Poverty in China is a rural phenomenon. At the beginning of the 1980s, absolute poverty in the urban population was 0.3 percent as compared to 28 percent of the rural population (Du & King, 2018; Li *et al.,* 2016; Zhang *et al.,* 2003).

Since the limitation of rural-urban migration, growth in rural areas was significant in reducing poverty. In the early 1980s, when fast rural growth emerged from institutional reforms, including institutional changes in land tenure, production, distribution and procurement prices, the poverty rate in China rapidly reduced by fifty percent (50%) from 49 to 24 percent at the $1/day income rate. The number of rural poor dropped from 250 million in 1978 to 125 million in 1985 as measured by the official poverty line (Li *et al.,* 2016; National Bureau of Statistic – NBS, 2002; Park *et al.,* 2002; World Bank, 2001; Li, 2001a; Wang *et al.,* 1999).

2.3.3.4 The Effect of Out-grower Schemes on Reducing Rural Poverty

Various studies have revealed that the proportion of the out-grower farmers were smallholder in nature but smallholder farmers were less likely to participate in the out-grower schemes than larger farmers (Huang *et al.,* 2018; Cieślik, 2016; Gou *et al.,* 2006). Nonetheless, Little and Watt (1994) indicated that ‘‘incomes from the out-grower scheme increased from a moderate (30–40%) to a high (50–60%) proportion of participants.” In a study on the out-grower scheme in China in the early 1990s, Porter and Phillips-Howard (1997) highlighted that farmers were generally better off as a result of their participation in the out-grower scheme, in spite of a number of social problems that arose in the communities. Singh (2002) identified a series of challenges associated with the out-grower scheme arrangement in China. These included imbalanced power between farmers and companies, violation of the terms of the agreements, social differentiation, and environmental sustainability problems. Nonetheless, other studies revealed that smallholder farmers that participated in the out-grower scheme had seen incomes raise and were satisfied with the out-grower scheme arrangements (Yang *et al.,* 2018; Huang *et al.,* 2018; Bernard *et al.,* 2010; Bolwing *et al*., 2009).

2.3.3.5 Out-grower Scheme Support to the Community at Large

In partnership with the rural communities, Cargill was implementing a project called Natural Resource Conservation for Profit (NRCP). The project built capacity of the smallholder farmers in conservation and economic utilization of the natural resources in order to increase their household income. The project had picked and concentrated its efforts on three key areas of the natural resources conservation namely land, forestry and water. With regards to land conservation, farmers were receiving training in conservation farming which was an improved farming practice that conserved the soil and provided for efficient and/or economic use of farming inputs in order to realize a higher return on investment. Smallholder farmer were organized in groups and each group was supervised by a lead farmer.

The mode of teaching was adult learning through practical work and the learning took place in the Farmer Field Schools (FFS) which were an open air set up as opposed to a closed up classroom arrangement. The learning was enhanced by organizing field day where the project show cased the improved farming practices through conservation farming. Concerning the

conservation of water, smallholder farmers were receiving training in water harvesting techniques and economic utilization. To this effect, the project has engage smallholder farmers in gardening, citrus fruits production and fish farming. Further, in the area of forestry, smallholder farmers were engaged in woodlots establishment, bee keeping and carpentry (Cargill – CSR Report, 2014)

2.4 Literature Review at Africa Level

The countries selected for literature review were Nigeria to represent West Africa, Kenya to represent East Africa and Malawi, South Africa and Zambia to represent the Southern Africa Development Community - SADC. Out-grower schemes have become widespread in Africa.

2.4.1 Nigeria

At the African level, Nigeria was one of the countries selected for literature review. The selection was randomly done without bias but to triangulate and cover West Africa evenly. None of countries were chosen from North Africa because much of that region is covered by the desert and unsuitable for agricultural projects such as the out-grower schemes.

2.4.1.1 Agriculture Sector Overview

Agriculture was Nigeria's single largest economic sector. In 2016, agriculture accounted for 24.4% Gross Domestic Product – GDP. The sector was highly concentrated on crop production, which accounted for 90 percent of output. Fisheries, forestry, and livestock, accounted for the remaining 10 percent. Though agriculture made up a sizeable portion of economic activities in Nigeria, the sector's impact on Government and export revenues was relatively small, accounting for only 4.8 percent of total foreign earning in 2016. In spite of this, Nigeria's agricultural potential was high because Nigeria has 82 million hectares of land that could be cultivated but so far, only 34 million hectares were cultivated. With Government's focus on diversification through import substitution, as well as Nigeria's large and growing population, agriculture was increasingly becoming important as a source of industrial raw material (Abubakar, *et al.,* 2018; World Bank, 2017; Carana Corporation, 2017; National Bureau of Statistics, 2016; Marin, 2016; Mgbeka & Mbah, 2016; The Federal Ministry of Agriculture and Rural Development, 2016; Verter & Becvarova, 2016; Ajani & Igbokwe, 2014; Chigunta *et al.,* 2007; UNCTAD, 2005;

Baffes, 2004). Nigeria's value chain was characterized by 80 percent of smallholder farmers and a few commercial processors, plagued by inadequate inputs, obsolete technology, and poor financing

2.4.1.2 Poverty Trends in Nigeria

Nigeria's economy was characterized by a large proportion of rural agriculture-based traditional sector with about two-thirds of the rural populace living in poverty. A small urban, capital-intensive sector has benefited from the country's resources and the provision of services that the Government has made available (Abubakar, *et al.*, 2018; Ahungwa *et al*., 2017; Olomola, 2007; Olomola, 2006; World Bank, 2006; Keyser, 2006). As was the trend in many of the African countries, the agricultural sector was characterized by smallholder poor farmers and informal traders who lived in the rural area. The formal, capital-intensive sector was characterized by few multinational firms, a chain of small local industries, and a complex of Government parastatals, propelling largest area of economic activity.

Only a relative narrow stratum of the population has befitted from Government and foreign investment. The majority of the people was yet to benefit from high productivity or increased real wages (Ahungwa *et al.*, 2017; Walkenhost, 2006; Manyong *et al.*, 2005; Yee & Paludetto, 2005; World Bank, 1996a). Ogwumike (2002) indicates that the number of those in poverty increased from twenty-seven percent (27%) in 1980 to forty-six percent (46%) in 1985. It dropped slightly to forty-two percent (42%) in 1992, and increased sharply to sixty-seven (67%) percent in 1996. By 1999, the estimated poverty rate was more than seventy percent, (70%) which prompted the federal government to strategize on the intensification of approach to tackle the increase in the poverty rate (Abubakar, *et al.*, 2018).

2.4.1.3 Poverty Reduction Strategy

It was on record that programs have been implemented to tackle poverty in Nigeria (Ifeoma *et al.*, 2018). A myriad of schemes have been used to reduce rural-urban migration; encouraging agricultural production; increasing human resource to enhance raw material utilization; and increasing real income. Some of the notable schemes were River Basin Development Authorities (RBDA); the Rural Electrification Scheme (RES); the Agricultural Development Programs

(ADP); the Rural Banking Program (RBP); Operation Feed the Nation (OFN); and Free Compulsory Education (FCPE) of 1977. Although the schemes were meant for good will, they could not meet the aim to reduce poverty because of incompetence in management. The Government invested a colossal amount of money but all in vain (Abubakar, *et al.,* 2018; Uma & Ebo, 2013; Agwu *et al.,* 2011; Ibeh, 2011; Ebo & Uma, 2010; Igbuzo, 2004).

Nevertheless, from 1986 to 1993, there was tremendous effort towards poverty reduction. This gave rise to the Structural Adjustment Program (SAP) that initiated poverty reduction programs such as Directorate for Food; Development for Roads and Rural Infrastructures (DFRRI); National Directorate of Employment (NDE); Better Life Program (BLP); Community Banks (CB); People's Bank of Nigeria (PBN); Family Support Program (FSP); and Family Economic Advancement Program (FEAP). These programs meant well, considering the hurry in addressing poverty issues in Nigeria. The programs sprawled directly to various categories of Nigerians affected by poverty. At inception, the programs worked towards the intended aim of poverty reduction. However, sustainability could not hold because of a distortion in macroeconomic tenets, unfavorable policies, nepotism, and corruption (Abubakar, *et al.,* 2018; Ahungwa *et al.,* 2017; Uma *et al.,* 2013; Ozoh, 2012; Ozoh, 2010; Uma, 2009; Obadan, 2002)

2.4.1.4 The Effect of Out-grower Schemes on Reducing Rural Poverty

The out-grower scheme model in Nigeria has spanned its importance over the years, as a tool in the agribusiness that provides a framework to contract farming. To this effect, the out-grower scheme offered an opportunity to the resource poor farmers to engage on contract to get credit for farming inputs and other accessories thereof. In this regard, the institutional linkage between agribusiness firms and smallholder farmers should be beneficial to both the out-grower farmers and out-grower firm (Campbell *et al.,* 2012; Gou & Jolly, 2008; Bijman, *et al.,* 2007; Penrose-Buckley, 2007; Gou *et al.,* 2006; Mercoiret *et al.,* 2006; Coulter *et al*., 1999).

The out-grower scheme can respond to a myriad challenges faced by smallholder farmers. (Otsuka *et al*., 2016; Birthal, 2008; Birthal, *et al*., 2008; Cai *et al.,* 2008; KIT & IIRRA, 2008; MP4, 2005; Warning & Key, 2002). The out-grower scheme operated on the theory of contract farming; therefore, both the out-grower farmers and out-grower firm must respect and adhere to

their contractual obligations. Studies have revealed that breach of contractual obligations can cause serious problems that the affect the operations of the out-grower scheme (Ofuoko & Agbamu, 2016; Setboonsarng & Leung, 2014; Reardon, *et al.*, 2009; Shepherd, 2008).

By using appropriate Government frameworks and enhanced strategies to reduce risk, there was a possibility to manage challenges to the agreeable rate (Wendimu *et al.,* 2016; Minot & Loraine, 2015; Bellemare & Novak, 2015; Wang *et al.,* 2014; Barrett *et al.,* 2010; Minten *et al.,* 2009; Hamilton, 2008; WU, 2006; Masakure & Henson, 2005). Studies have revealed that out-grower schemes were multi-task in operation. They can be used for a range of agriculture based value chains that require specific budgets and market orientation. Out-grower schemes can operate in different types such as centralized, formal, tripartite, nucleus, and intermediary. Therefore, their adaptability to application was universal (Bellemare *et al,* 2017; Ofuoko & Agbamu, 2016; Kolavalli *et al.,* 2015; World Bank, 2014; Delareu & Cochet, 2008).

From the out-grower scheme arrangements, smallholder farmers accrued benefits such as improved farming practices that increase crop yields and improve household income; better markets that were easily accessed; improved quality of agricultural commodities; and access to an array of extension services (Bellemare & Novak, 2017; Yasin, 2014; Kistern & Sartorious, 2002). As for the out-grower firms, benefits were in the form of readily available raw materials when need arises, access to international markets; and risk averse at production level because risk was passed to the out-grower farmers. (Ton *et al.,* 2017; Jones & Gibbon, 2011; .Kudadjie-Freeman *et al.,* 2008; Birthal *et al.,* 2005; Glover & Kusterer, 1990).

Ton *et al.,* (2018) highlight that out-grower schemes faced challenges such as side selling by out-grower farmers who sold the crop to other buyers rather than the out-grower firm; loan default by out-grower farmers; high transactional cost in the value chain; adulteration of agricultural commodities by out-grower farmers; and failure to supply adequate farming inputs and extension services by the out-grower firm. Despite, the challenges that engulfed the out-grower scheme arrangements, out-grower farmers operated profitably and rose profitably over and above the independent farmers who were not participants of the out-grower scheme (Okuofu &Agbamu, 2016). Social and cultural challenges that out-grower schemes face required the intervention of traditional readers. Production and marketing challenges required capacity building for out-

grower farmers and out-grower scheme staff. Moreover, the Government should put in place a regulatory framework that must protect both the out-grower farmers and out-grower firm in cases of breaching the contract.

2.4.1.5 Out-grower Scheme Support to the Community at Large.

Cargill's engagement with CARE assisted children to go to school in their respective communities. This included building new schools, renovating old schools and sinking bores in order to provide clean water. Further, schools received a consignment of supplies and books that benefited more than 30,000 school going children in Nigeria. The partnership put up infrastructure comprising 11 new schools that benefited 1,500 children and 3 clinics to enhance community healthcare for 25,000 people. From CARE's rural schools project as part of the Kutch Livelihoods and Education Enhancement Program (K-LEAP), more than 73,500 students benefited in Nigeria (Cargill – CSR Report, 2014).

Further, by implementing K-LEAP, there was improvement in the living standard of more than 9,000 households across 225 villages. Subsequently, more benefits were recorded such as fifty percent (50%) increase in agricultural productivity and annual increment of a $134 in household income for 500 farmers; readily available markets for more than 4,000 dairy farmers in 185 villages, thereby increasing income by one hundred eighty-five percent (185%); access to veterinary service thereby reducing livestock mortality; vaccinating livestock in 225 villages; and ten to twenty percent (10% to 20%) increment in productivity for 1,500 farmers by accessing better quality seed (ibid).

2.4.2 Kenya

At the African level, Kenya was another country selected for literature review. The selection was randomly done without bias but to triangulate and try to cover the region of East Africa evenly.

2.4.2.1 Agriculture Sector Overview

Agriculture has continued to play a significant role as the pillar of the economy among the rural populace. At the inception of the County governing system in Kenya, the agriculture sector was

the first to be established at County governing level, thereby signifying the importance of ensuring food security and poverty reduction. Further, at national level, agriculture was the engine that drove the economy of Kenya. Its contribution rate to the Gross Domestic Product (GDP) was twenty-six percent (26%). It also contributed twenty-seven percent (27%) to others sectors through indirect linkage (Economic Survey, 2017)

More than forty percent (40%) of the total population of Kenya were employed by the agriculture sector. It also provided employment to more than seventy percent (70%) of the rural populace (Economic Survey, 2017; GTA, 2016, FAO, 2014). In Kenya, agriculture was diverse and huge, comprising a complex array of public, parastatal, non-governmental and private clientele. Agriculture contribution to export earnings stood at the rate of sixty-five percent (65%). Subsequently, it supported eighty percent (80%) of Kenya's population in terms of livelihoods such employment, income, and food security requirements (ibid).

Further, it was accountable for improving nutrition by contributing to nutritional diversity. Subsequently, the agriculture sector also propelled the non-agriculture economy with a multiplier effect of 1.64. The non-agriculture economy consisted of manufacturing; providing inputs and outputs for non-agricultural operations such as construction; transportation; tourism; education; and other social services. The rule of the thumb is that when the sector performs well, the entire economy is lifted up and the performance is well too. Agricultural value addition was identified as having the potential to act as a catalyst for the take-off of Kenya's industrial sector. Agribusiness initiatives have received support from Government. The Government was keen on targeting the youth who were increasingly considered as a viable commercial venture (WITS, 2016; UN Comtrade, 2016; FAO, 2014).

2.4.2.2 Poverty Trends in Kenya

In Kenya, the incidence of poverty was regional specific. This meant that there were different factors that frontiered poverty according to the regions. In the 1990 and 2000s, about fifty percent (50%) of the rural population and at the rates of twenty-nine to fifty percent (29% – 50%) of urban population were poor. Rural poverty was characterized by its linkage to agriculture and availability of land while urban poverty had the character of heterogeneity in the way income was generated (Wambungu & Munga, 2009). In general terms, fifty percent (50%)

of the Kenyan population struggled to have basic needs, thereby living in poverty. It was on record that the estimates of the Gini coefficient have been on the increase in Kenya. Information from the available household surveys was that Kenya's Gini coefficient measure was done on household income and it was estimated at 0.419 in 1997, as compared to 0.459 in 2005-06 (World Bank, 2008). The Gini coefficient measures inequality and it is usually based on income and consumption.

2.4.2.3 Poverty Reduction Strategy

Studies have revealed that the Government of Kenya has made tremendous efforts to reduce poverty since independence (World Bank, 2008; Omiti *et al.*, 2002). The Government has recognized impediments to human development such as disease, illiteracy, and poverty. Strategies to fight poverty were outlined in programs such as Poverty Reduction Strategy Papers (1999, 2003, 2005, and 2013); Participatory Poverty Assessment Reports, 1990, 1994, 1996; National Poverty Eradication Plan, 1999; Economic Recovery Strategy, 2003; & Vision 2030). Policies, have spelt out the strategies to fight poverty (ibid). Despite implementing various programs on poverty reduction, poverty rates continued to increase. Nevertheless, Government has not relented in the search for enhanced strategies to reduce poverty. Notable cause of failure to reduce poverty was poor economic performance. It was against this background that many Kenyans are not able to meet the required basic needs such as education, food, shelter, and medical (World Bank, 2008; Omiti *et al.*, 2002)

2.4.2.4 The Effect of Out-grower Schemes on Reducing Rural Poverty

Studies have revealed that smallholder farmers were subjected to many challenges in their farming business (Murekezi *et al.*, 2018; Maertens & Vande-Velde, 2017). The challenges were eminent at production and marketing of the agricultural commodities. They sold their agricultural commodities at a lower price, thereby becoming price takers despite the cost incurred in the production and marketing value chains respectively. To this effect, it was difficult to bargain for a better price because they sold individually. Selling in an organized group built synergy and a strong voice to bargain for economical prices. Further, they struggled to find farming inputs because of the weak financial base and lacked collateral to enable them get loans from financial institutions. Subsequently, they also lacked capacity building in improved

farming practices to increase crop yield and household income as well as improving quality of agricultural commodities. In this regard, out-grower schemes have contributed to providing solutions to most of challenges faced by smallholder farmers (Murekezi *et al.*, 2018; Maertens & Vande-Velde, 2017; Bellemare, 2015; Wang *et al.*, 2014; Bellemare, 2012; Miyata *et al.*, 2009; Bijman, 2008). Out-grower smallholder farmers got in a contract with out-grower firms in order to access production and marketing requirements on loan. In return, loan repayment was deducted at marketing time.

Despite, having the contract in place, there were challenges faced by both the smallholder farmers and the out-grower firms (Schrade *et al.*, 2015; Morrison *et al.*, 2006; Vorley & Fox, 2004; Eaton & Shepherd, 2001). The challenges were loan default by smallholder farmers; low market prices; unequal power sharing between smallholder farmers and out-grower firms; and exclusion of marginal group such as women and the youth, from participation in the out-grower schemes arrangements (Awotide *et al.*, 2015; Jain, 2008; Sriboonchitta & Wiboonpoongse, 2008; Singh, 2008; Da Silva, 2005; MP4, 2005; Woodend, 2003). The contractual arrangements are product specific in relation to enforceability (Jia & Bijman, 2013; Setbroonsarng, 2008; Catelo & Costales, 2008; Minot, 2007; Kvaloy, 2006; Young & Hobbs, 2002).

Studies have revealed that there was a variation in the effectiveness of the out-grower schemes in reducing poverty in rural Kenya. Despite the variation, out-grower schemes have contributed positively to reducing poverty of out-grower farmers (Murekezi *et al.*, 2018; Mwambi *et al.*, 2016; Da Silva *et al*., 2013; Setbroonsarng *et al.*, 2008; Bijman *et al* 2007; Barrents, 2007; WU, 2006; Simmons, 2002). It was highlighted that out-grower schemes provided inputs, credits, technology, income market and other benefits to out-grower farmers. Even though the above can be true, other studies indicate otherwise. Studies by ActionAid (2015), and Bernard *et al.*, (2006) argue that benefits were in the short term than long term. Other studies by Sokchea and Culas, (2015), DFID, (2014), Saigenji, (2012), and Singh, (2002) reveal that out-grower schemes excluded women from accessing credits. Similar studies such as Lindhom, (2014), Narayanan, (2014), Ito *et al.*, (2012), and Rao and Martin, (2011) argue that well to do farmers tended to benefit more from out-grower schemes than poor farmers.

2.4.2.5 Out-grower Scheme Support to the Community at Large

Cargill was an out-grower firm that supported out-grower schemes in Kenya. It was helping independent farmers and the community at large, by partnering with CARE International to fight malnutrition. The project provided an intervention to reduce malnutrition in children and one million (1,000, 000) benefited. Further, the project trained pregnant women in the importance of nutritional diversity in order to reduce malnutrition in pregnant women and breast feeding mother. Subsequently, the project supported the broadening of outreach areas in order to reach out to as many malnutrition cases as possible (Cargill – CSR Report, 2014)

Cargill employees did an assignment to improve forest cover on a vast bare land by planting three thousand (3000) trees. Further, they dedicated 220hrs to renovating a local garbage separation mill. Subsequently, three thousand (3000) bamboo trees were planted under ten hectares (10ha) as a reforestation program. Cargill also supported education and careers in science, technology, engineering and math (STEM). With an investment of $100,000,000, Cargill opened a Science Center in January 2014, in order to support marginalized children understand the concepts of math and science. To this effect, more than five thousand (5,000) students from more than 35 schools have benefited from STEM activities (ibid)

2.5 Literature Review at Southern African Development Community – SADC Level

The countries selected for literature review are Malawi, Zambia, and South Africa. The selection criterion was based on the representation of the Southern African Development Community – SADC. The SADC comprised fifteen (15) member states namely Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe. Therefore, the SADC covered the Southern and Central Africa.

2.5.1 Malawi

Malawi was one of the countries selected for literature review at SADC level. The selection of the countries was done randomly without bias but to triangulate and try to cover the SADC evenly.

2.5.1.1 Agriculture Sector Overview

In Malawi, agriculture was the pillar of the economy. Agriculture contributed one third of the GDP and provided almost Eighty percent (80%) of the employment (Malawi National Statistics Office, 2016). For decades, the growth strategy in the agricultural sector was built upon a dualistic structure with a class of estate owners/leaseholders on one side and the smallholder sub-sector on the other hand. These groups have been differentiated in terms of a variety of socio-economic conditions as well as by regulations concerning production, marketing, pricing and land tenure. Estates were defined as those occupying leasehold or freehold land and the minimum requirement to register as an estate was 10 hectares. On the other hand, smallholders had customary rights to the land they cultivate. An estimated 2.8 million smallholder farm families, farmed under customary tenure cultivating about 4.4 million hectares and producing about 80 per cent of Malawi's total food and 10 per cent of its exports (Ministry of Agriculture and Irrigation, 2017; Ministry of Agriculture and Irrigation, 2015),

About 20 per cent of the smallholder households cultivated less than 0.5 hectares, 40 per cent less than 1 hectare; 26 per cent between 1 and 2 hectares and 14 per cent more than 2 hectares. The estate sub-sector has enjoyed preferred access to land, finance and markets. Government's investment in support services for smallholder farmers was overburdened by a set of discriminatory agricultural and labor policies and marketing arrangements. This contributed to a deepening of rural poverty and to a squeezing of a rapidly growing rural population onto a shrinking land base (ibid). This resulted in low income earning opportunities and increased land pressure in smallholder agriculture. It also resulted in availability of cheap labor for estates and little incentive to invest to improve smallholder labor productivity. This also weakened demand for consumer goods, thus restricting the domestic market for manufacturers (ibid).

2.5.1.2 Poverty Trends in Malawi

In Malawi, poverty was considerably a significant problem. It was extensively sprawled and still a phenomenon in rural as well as urban areas. More than fifty percent (50%) of the population lived in poverty. Statistics showed that sixty percent (60%) of the smallholder population were not able to achieve basic needs, thereby living below the poverty line. The inhabitants of the estate area were estate tenants and estate workers and two thirds of their population lived below

the poverty line. The female headed households were the most hit by poverty because they were the majority at thirty percent (30%) of the resource poor living in the smallholder sub-sector. In addition to the rural poverty, urban poverty was also a growing phenomenon affecting about sixty-five percent (65%) of the urban dwellers (Malawi National Statistics Office, 2016; IFAD, 2016; Alkire & Santos, 2010). The World Bank's Economic Monitor Report (2017) estimated the county's GDP at US$523 per capita. Vulnerability was highest in the segments of the population that included smallholder farmers that owned not more than one hectare (1ha) of land; those who worked for the estate; those who occupied the estate as tenants; the poor who lived in the urban area; female headed households; and the children

2.5.1.3 Poverty Reduction Strategy

In 1998, the Government envisioned and implemented the Malawi 2020 vision that provided for the framework to anchor the implementation of sector development plans in the short and medium terms. On top of the agenda were agriculture and food security which were important areas for fostering economic growth and development. Due to its longevity to fruition in terms of results, the Malawi 2020 vision has been operationalized into a medium-term policy framework for social and economic development called the Malawi Growth and Development Strategy (MGDC). The primary objectives of MGDS I (2006 – 2011) and MGDS II (2012 – 2016) were the reduction of poverty by way of sustainable growth in the economy; development of infrastructure; focus on agriculture; and food security. It was envisaged that the strategy pointed to an increment in agricultural productivity and diversity in sustainable development (FAO, 2015).

The implementation of poverty reduction strategies was an ongoing program. Ranking first on the list of strategies being implemented was the Economic Recovery Plan – ERP (2012) that aimed at enhancing economic stability based on improvement of significant sectors such as agriculture, tourism, energy, mining and infrastructure development. Running parallel and in complementation of the ERP, was the National Export Strategy – NES (2013 – 2018) that was rolled out in 2012 with the aim of boosting domestic and international trade. Also, NES focused on enhancing competition of Malawian products as well as building capacity of farmers economically, taking into consideration the poorest and most vulnerable (FAO, 2015). With reference to achieving agricultural development goals and meeting Comprehensive African

Agricultural Development Program (CAADP) targets, the Government coined the Agriculture sector Approach, ASWAp (2011 – 2015). The aim of ASWAp was to advocate for and drive strategic investment programs and initiatives namely food security; risk management; commercial agriculture; agro-processing; market development; sustainable agricultural land; and water management (ibid).

ASWAp was managed based on significant development programs namely the Farm Input Subsidy Program (FISP) and the Green Belt Initiative (GBI). These programs gobbled seventy percent (70%) of the total ASWAp budget, channeled to food security and risk management. The GBI worked towards achieving the goal of maximizing the available water resources for irrigation in order to realize increments in production, productivity, income, and food security, at household and national levels respectively (FAO, 2015)

2.5.1.4 The Effect of Out-grower Schemes on Reducing Rural Poverty

Studies have revealed that despite the potential of the out-grower scheme to support different agricultural value chains, it was used only on the value chains for the production of sugar, tea and tobacco in Malawi (Nthara, 2004). Of late, there has been an increase in out-grower schemes arrangement that frontier tobacco production value chain. Similarly, out-grower schemes arrangements were being used for the production of cotton and paprika. Agro processor have used out-grower schemes arrangements to produce soybeans, cassava, and birds eye chilies but on a small scale. The results varied, depending on a range of influencing factors. Recently, Bakhresha Grain and Milling has shown interest to contract farmers to grower wheat (Repar *et al.,* 2018; Malawi Government, 2017)

2.5.1.5 Out-grower Scheme Support to the Community at Large.

The independent farmers and community at large have benefited from the services offered by an out-grower firm known as Japan Tobacco International – JTI that supported out-grower tobacco schemes. In Malawi, JTI has implemented projects as a call to achieving its Corporate Social Responsibility (CRS) goal. JTI has been providing financial support to the communities in order to advance sustainable community development in the spheres of social welfare; arts and culture; environmental management; and disaster relief (JTI Annual Report, 2015)

Child labor was a serious challenge in the out-grower scheme arrangements for tobacco production. To this effect, JTI has responded to the call of eliminating child labor from tobacco farms by establishing a project known as the Achieving Reduction of Child Labor in Supporting Education (ARISE). The project was implemented in partnership with Winrock International, and the International Labor Organization (Ross *et al.*, 2017). Cargill has also implemented developmental projects among the rural populace of Malawi. As way back as 2011, Cargill has been providing training in economic conservation of indigenous foods and enhanced nutritional diversity. The project was rolled out beyond the national boundary of Malawi to other rural communities in Ethiopia, Kenya, Tanzania, and Zambia The total investing for the project was US$1 Million (US$1,000,000) (Cargill – CSR Report, 2014)

2.5.2 South Africa

South Africa was another country selected for literature review at SADC level. The selection of the countries was done randomly without bias but to triangulate and try to cover the SADC evenly.

2.5.2.1 Agriculture Sector Overview

According to the Department of Agriculture Statistics - DAS, 2016, gross farming income from all agricultural products for the year ended 31st December, 2015 was estimated at R226, 727 million, which was 4.1 percent higher than the previous year. The gross farming income from field crops decreased by 9.9 percent and amounted to R51,091 million because of the decrease in income from grain sorghum by 58.9 percent, groundnuts by 28.6 percent dry beans by 20.8 percent, sunflower seed by 17.9 percent, maize by 13.9 percent, soya beans by 4.7 percent and wheat slightly by 0.3 percent. The income derived from tobacco increased by 21 percent. Prices received by farmers for agricultural products increased on average by 6.0 percent, while prices paid by farmers for farming requisites rose by 3.5 percent, resulting in the strengthening of the terms of trade from 1.01 to 1.04 during the period under review. The weighted average price of field crops increased by 9.8 percent as a result of the increase in prices of hay by 13.2 percent, summer grains by 12.5 percent, tobacco by 10.6 percent, sugar cane by 10.1 percent, winter

grains by 6,7 percent, cotton by 5,3 percent and oilseeds by 0,6 percent. The price of dry beans decreased by 12.7 percent (DAS, 2016)

The prices of horticultural products increased by 2.1 percent because of the increase in prices of fruit by 8.4 percent while the prices of vegetables and viticulture decreased by 6.1 percent and 2.6 percent respectively. Prices of animal products increased by 6 percent as a result of the increase in prices of pastoral products by 12.9 percent, poultry meat by 7.7 percent and slaughtered stock by 6.4 percent. The price of milk decreased by 1.8 percent while the prices paid for farming requisites rose by 3.5 percent, compared to 6.2 percent in the previous year. Prices paid for tractors and building material increased by 8.4 percent each, trucks by 5.7 percent, fencing material by 5.2 percent, maintenance and repairs by 4.8 percent, seeds and feeds by 4.3 percent each, animal health and crop protection by 4 percent, packing material by 3.8 percent and fertilizers by 2.3 percent. Net farming income decreased by 3.1 percent and amounted to R73.414 million for the 12 months up to 31st December, 2015 (ibid)

2.5.2.2 Poverty Trends in South Africa

According to the Statistics of South Africa – STATS SA (2017), there were significant differences in the level of household poverty between urban and rural areas. The incidence of poverty decreased from 2006 to 2011 before it increased in 2015 for both settlement types. For households in rural areas, the incidence of poverty decreased to 74.9 percent in 2009 before dropping by 13.8 percentage points to 61.1 percent in 2011. The proportion of poor households in urban areas decreased to 34.9 percent in 2009 and then to 28.1 percent in 2011. In 2015, the incidence of poverty increased for both urban and rural areas. However, urban areas experienced a small increase of 1.1 percentage points, rising to 29.2 percent while rural areas saw an increase in the incidence of poverty to 65.6 percent, a 4.5 percentage point increase. While the incidence of poverty decreased overall between 2006 and 2015 in both settlement types. However, despite the rise in 2015, households in urban areas benefited more noticeably (STATS SA, 2017).

There was a 24.5 percent reduction, a 9.5 percentage point drop in the poverty levels for households in urban areas between 2006 and 2015 compared to just a 14.9 percent reduction in rural areas, an 11.5 percentage point change over the same period. Furthermore, the gap between rural and urban areas slightly narrowed over this period, decreasing from a 38.4 percentage point

difference in 2006 to a 36.4 percentage point difference by 2015, although this was still higher than the 33,0 percentage point gap that existed in 2011. Rural households accounted for a greater share of poverty in 2006, 51.6 percent as opposed to the 48.4 percent for urban households. By 2009, urban areas had accumulated the larger share of poor households, 51.2 percent as opposed to 48.8 percent for rural areas. Urban areas have since maintained this higher share in both 2011 and 2015 (ibid)

2.5.2.3 Poverty Reduction Strategy

According to OECD (2015a) Government has made frantic efforts towards reducing poverty in South Africa. It has rolled out strategies to reduce poverty such as the introduction of the minimum wage at the rate of ZAR 20 per hour. By nodding to this initiative, an endorsement has been done by the business representatives; unions; social partners within the National Economic Development; and Labor Council (NEDLC). The endorsement has to enacted by Parliament and scheduled to take effect in May, 2018. Every year, the national minimum wage will undergo a review by the National Minimum Wage Commission (NMWC). The commission was a composition of independent experts that advised on the adjustment of the national minimum wage that was dependent on the economic conditions, inflation, productivity, growth and employment effects. Also, recommendations by previous surveys were taken into consideration.

Another strategy has been implemented in the sector of Technical Vocational Education and Training (TVET). This strategy complemented skills vacuum and offered the opportunity to the youths to go back to school. Statistics showed that as low as twelve percent (12%) of South African students in upper secondary took part in vocational programs in 2013. Further, the TVET can grow in strength through staff development programs such as training and qualifications; availability of resources; and enhanced curriculum content (Field *et al.,* 2014). Championing entrepreneurship to be taught in vocational education, college and university levels, favored the entry of the youth into the labor market. Adult education should be encourage through related programs in order to give the opportunity to the elderly to re-enter the school system (Field *et al.,* 2014)

Results of the OECD survey (2013, 2015a) indicated that the economy was engulfed in an array of structural challenges. To this effect, there was no room to maneuver for monetary policy support due to high inflation. Further, public spending has been constrained by high public debt. Subsequently, investment and confidence have been affected by a high cost of doing business from weak competition and political uncertainty. The Government needed to strategize by implementing programs that could drive the economy to its full potential. Government should create an enabling environment that attracted participation of the private sector in order to broaden competition in the economy. In addition, the Governments should privatize State-Owned Enterprises to reduce on expenditure. Further, the Government should improve the education system (ibid).

2.5.2.4 The Effect of Out-grower Schemes on Reducing Rural Poverty

In South Africa, out-grower schemes have spanned over many years as means of contract farming arrangements and a channel that frontier support to a range of agricultural value chains for the production of various agricultural commodities (ActionAid, 2015). In this regard, it was used by both smallholder and commercial farmers. However, it was most advantageous to smallholder farmers because they were able to get farming inputs on credit and an array of extension services. Studies have revealed that there was a danger that smallholder farmers can find it difficult to participate fully in the market economy because of market liberalization, globalization and expanding agri-business (ibid)

In the advent of globalization, the out-grower scheme arrangement was the effective way to manage production and marketing in agriculture (Bellemare *et al*., 2013; Escobal & Cavero, 2012; Oya, 2012; Herath and Weersink, 2009; OECD, 2015). Due to change in the agriculture based food systems, value chains at both the production and supply levels were strategically arranged to link with the out-grower scheme arrangements in order to deal with specifics and uncertainties. To this effect, all the stakeholders should subscribe to good planning, trust, and transparency in the implementation of the out-grower scheme arrangements. The Governments played a role of creating an enabling environment to support the out-grower schemes through a regulated legal framework

2.5.2.5 Out-grower Scheme Support to the Community at Large

Independent farmers, who were not participants of the out-grower scheme and community at large, were also benefiting from the out-grower schemes. Through its Corporate Social Responsibility (CSR) program, Cargill embarked on a project of providing infrastructure that enhanced community development. In this regard, Cargill built new school and clinics to improve on community education and health. Existing school and clinics that needed to be renovated received a new facelift. Further, Cargill sunk boreholes for the provision of clean water for the community. Subsequently, Cargill was giving education scholarships to children who were financially challenged. Traditional ceremonies and sports clubs also received support from Cargill. Cargill was also working with farmers by implementing a project called YIELD. The YIELD project trained farmers in improved farming techniques that increased yields; increased income, improved quality of the produce, and conservation of the natural resources. Further, farmers were received training in managing small businesses (Cargill – CSR Report, 2014).

2.5.3 Zambia

Zambia was one of the countries selected for literature review at SADC level. The selection of the countries was done randomly without bias but to triangulate and try to cover the SADC evenly.

2.5.3.1 Agriculture Sector Overview

The agriculture sector was the main pillar of the economy and a major contributor to enhancing economic growth. Since much of the agricultural activities were driven by the rural populace, agriculture frontiers the rural economy of Zambia. Statistics showed that forty-nine percent (49%) of the population in Zambia was linked to agriculture as the main source of income. Agriculture contributed to the Gross Domestic Product and in 2017, the contribution rate stood at 5 percent (World Bank, 2016; CSO, 2015). Agriculture provided forty-eight (48%) of employment to the population of Zambia. The Government has prioritized agriculture as a significant sector in meeting its goal of sustainable economic development and reducing poverty as indicated in the Second Agricultural Policy (SNAP) and the Seventh National Development

Plan (7NDP). Zambia was endowed with resources rich for agricultural development and favorable for an array of agricultural production value chains (Chapoto *et al.*, 2018; CSO, 2014).

Zambian agriculture has three broad categories of farmers: smallholders, medium, and large-scale. The smallholder farmers were the majority and were classified into three categories (Category A, B, C). Category A of the smallholder farmers were the smallest and they cultivated between 0 and 2 hectares. They were mainly producers of staple crops especially maize with an occasional marketable surplus. Category B of the smallholder farmers were those cultivating between 2 and 5 hectares; whilst Category C was those cultivating between 5 and 20 hectares. The medium and large-scale farmers were just a small fraction of the farming community but these farmers produced various crops for both the local and export market (CAZ, 2017; World Bank, 2016).

The current estimate of two hundred thirty-three (233) medium and large scale farmers may be understated because there was evidence to suggest that a lot more home-grown emergent medium and large-scale farmers have established themselves in the past few years. To this effect, the Ministry of Agriculture in collaboration with Indaba Agricultural Policy Research Institute - IAPRI and Michigan State University were planning an exercise to update these estimates (Chapoto *et al.*, 2018).

2.5.3.2 Poverty Trends in Zambia

LCMS report of 2015, indicated that in Zambia, incidences of poverty varied and were grouped into four (4) main categories namely incidence of poverty by residence; incidence of poverty by the province; incidence of poverty by stratum; and incidence of extreme and moderate poverty. Relating to incidence of poverty by residence, the results showed that, at national level, the rate was estimated at 54.4 percent. The implication was that in every group of 100 Zambians, 54 were poor. The geographical disparities results between the rural and urban areas indicated that poverty in Zambia was still a rural phenomenon. The percentage of the rural poor has stagnated at 2010 level of 76 percent as reflected by 76.7 percent in 2015, which worked out to be three times more than urban poverty at 23.4 percent (LCMS, 2015)

With regards to incidence of poverty by the province, Western Province topped the provinces at 82.2 percent followed by Luapula Province at 81.1 percent and Northern Province ranked third at 79.7 percent. The implication was that, at the utmost, 80 out of every 100 people in Western, Luapula, and Northern Provinces were poor in comparison with approximately 20 and 31 Zambians in Lusaka and Copper belt Provinces respectively. In this regard, Lusaka and Copper belt Provinces recorded the lowest number of the poor of the population of Zambia (ibid).

Associated with incidence of poverty by stratum, the rural areas recorded the highest among the smallholder farmers at 78.9 percent while the medium smallholder farmers were second at 64.5 percent. Ranking third were the non-agriculture households at 46.6 percent. The lowest in the stratum were the large scale farmers at 30.4 percent. In the urban area setup, households living in the low cost housing were the highest at 28.3 percent while their counterparts living in high cost areas were the lowest at 4.9 percent (LCMS, 2015)

Connected to the incidence of extreme and moderate poverty, the overview was that 40.8 percent of the Zambian population was extremely poor as compared to 13.6 percent of the moderate poor. To this effect, the non-poor stood at 45.6 percent of the population. In totality, the poverty rate equaled the sum of the extreme poor and moderate poor (ibid)

2.5.3.3 Poverty Reduction Strategy

Poverty reduction strategies were outlined in the Seventh National Development plan (SNDP, 2017) and the revised National Agricultural Policy (NAP, 2012). The Government remained resolute to fighting poverty with the aim of improving the standard of living of the people, especially those living in the rural areas of Zambia. The Government strategized to reduce poverty through the implementation of the Sustainable Development Goals (SDGs). The SDGs derived from the 2030 Agenda for Sustainable Development which upholds, among an array of other things, to reducing poverty and vulnerability by 2030 (SNDP, 2017).

The Government was implementing a massive program that provided support to the citizenry against the shocks of poverty and vulnerability. This program was being implemented through the national social protection systems with the objective of achieving a wider coverage of the

poor and the vulnerable. To this effect, the assurance was that all the citizenry were potential beneficiaries and had equal rights to economic resources such as access to basic services; land tenure and other types of property; natural resources; technology transfer; and financial services that included micro finance as well (ibid).

This aimed at increasing social inclusion and improving capabilities of being able to produce. Further, the social protection strategy enhanced household food security, thereby promoting nutritional diversity. Specific emphasis was on reducing poverty among the marginalized groups such as the women, youths, elderly, and physically challenged persons. Other strategies pointed to reducing income inequalities by promoting livelihoods capability among the poor and vulnerable populace. To this effect, emphasis was on providing finance, farming inputs, and capacity building. Subsequently, the strategies frontier income redistribution through social cash transfers and ensured that the poor but viable populations become productive and contributed to national development. Finally, the Government was working towards building a strong economy (SNDP, 2017).

With regards to reducing poverty of the smallholder farmers, the government has shown frantic efforts to reducing poverty among the rural populace of Zambia. It was against this background that the Government has outlined and implemented an array of strategies on poverty reduction. By sustainably increasing agricultural productivity through projects such as the out-grower schemes, smallholder farmers can increase yields for agricultural commodities; increase household income; and improve on the quality of agricultural commodities. Further, the Government was implementing programs that facilitated timely accessibility of farming inputs by smallholders, especially women and the youth in order to plant major crops on time and reduce on production costs (NAP, 2012, p. 17)

There were strategies that promoted diversification and smallholder farmers were encouraged to take up this call. In this regard, Government has identified aquaculture (fish farming) as the priority area. The Government has set aside money for giving out interest free loans to the beneficiaries. The Government has invested in research and development in order to introduce new crops that were high yielding and adapted to various agro ecological zones in Zambia. This will also provide phytosanitary measures to control crop diseases and pests. Generally, the

Government has implemented strategies towards meeting the goal of reducing poverty, especially, among the rural populace (NAP, 2012)

2.5.3.4 The Effect of Out-grower Schemes on Reducing Rural Poverty

The out-grower scheme arrangement operated on the concept of contract management. To this effect, smallholder farmers benefited from credit for farming inputs and a range of extension services (Da Silva & Rankin 2013; Bijman 2008). In this regard, Government and other developmental organizations supported the out-grower arrangements as a project to reduce poverty, especially among the rural populace (Mubanga *et al.,* 2015). Studies have revealed that the role of the Government was to create an enabling environment through a regulatory and legal framework so that both the out-grower farmers and the out-grower firms were protected (Oya, 2012; von Hagen & Alvarez 2011). Therefore, both the out-grower and the out-grower firm must adhere to their contractual obligations.

The out-grower firm has been selective in contracting smallholder farmer to participate in the out-grower scheme arrangement. The basic qualification was land availability and those who intended to participate in the out-grower scheme arrangements must have their own land where they farm. In this regard, the women and youths were usually excluded from participating in the out-grower scheme arrangements because it was difficult for them to own land, Studies have revealed that the culture and traditions prevented the women and youths from owning land because the owner of the land was both the husband to the wife and the father to the children who were the youth (Mubanga *et al.,* 2015; Jia & Bijman 2013; Minot & Loraine 2015; Barrett *et al*. 2012).

Independent farmers, who were not participants of the out-grower scheme arrangements and the community at large, also benefited from the operations of the out-grower scheme. They benefited from spill –over effects such as attending field days where the out-grower scheme show cased improved farming practices that increased yields of agricultural commodities; increased household income; and improved the quality of agricultural commodities. Further, they benefited from the out-grower scheme's Corporate Social Responsibility program (CSR). Through the implementation of the CSR program, the out-grower scheme built new schools and clinics and

renovated the old schools and clinics that needed a new facelift. This was done in order to improve community education and health. Further the out-grower schemes sunk boreholes to provide clean water for the community. Studies have revealed that the out-grower schemes assisted in community development and communities took them as partners in development (Sivramkrishna & Jyotishi 2008; Poulton *et al.*, 2007; Eaton & Shepherd 2001; Little & Watts 1994; Glover & Kusterer 1990; Minot 1986).

However, there were challenges faced by smallholder farmers participating in the out-grower scheme arrangements. A study by Likulunga, (2005) indicates that the challenges faced by the smallholder farmers were many but the main ones were quality, yield and the cost of transaction. Poor yields were as the result of poor quality of the crop. In addition to these, the cost of transaction was very high. Consequently, the smallholder farmers were not able to benefit from the sale of the crop. Further, the other challenge was poor service delivery, notably extension services.

2.5.3.5 Out-grower Scheme Support to Community at Large

The Zambian community has benefited in terms of corporate social responsibility from Japan Tobacco International – JTI, an out-grower firm that supported out-grower tobacco schemes. In Zambia, JTI projects included on-going financial support for communities in the fields of social welfare, arts and culture, and environmental protection. JTI established the Achieving Reduction of Child Labor in Supporting Education (ARISE), in partnership with the International Labor Organization – ILO, with the aim of eliminating child labor where it did business (Ross *et al.*, 2017).

Similarly, PLAN International was working together with the communities by implementing a savings scheme called savings and lending option for the poor. PLAN International was building capacity of the households in traditional financial systems such as village banking. The scheme operated on the concept of self-financing. The clientele of the savings scheme were those who were financially challenged and had no access to financial services. The members of the community were encouraged to form groups and each member donated a certain amount of money that was agreeable to all the members in the group and the money was kept in a secure

and safe place. In this regard, the members could borrow from the savings scheme and paid back with interest that was agreed upon by the group. As such, members were able to mobilize their own startup capital for income generating activities and protect the households and community at large from the shocks of poverty and vulnerability (Ross *et al.*, 2017).

2.6 Knowledge Gap

Although studies have been conducted on out-grower schemes, gaps still exist. In Zambia, past studies were mainly on factors that influenced performance of the out-grower schemes, out-growers and livelihoods, and economic well-being (Manda *et al.*, 2018; Matenga, 2017, Schupbach, 2014; Kunda, 2008; Likulunga, 2005; Stringfellow, 1996). Available literature reveals that not much study has been done on evaluating the effects of out-grower schemes in reducing poverty in rural Zambia (ibid). This study, therefore, fills the missing gap and provides empirical evidence on the title of the study. The similarities and differences of selected past studies in the area of out-grower schemes between Zambia and other regions are in Appendix F.

2.7 Conclusion

The body of literature on the out-grower scheme arrangements is extensive. To this effect, it was necessary to synthesize the details of studies on out-grower schemes relating to poverty reduction among the rural populace. Influencing the gain of significant benefits derived from out-grower schemes arrangements, is the longer period of existence of the out-grower schemes. History shows that out-grower schemes have been in existence for centuries. This confirms that out-grower schemes were a development partner to the rural community. Chapter two established the literature review of the study and follows chapter three which covers the theoretical and conceptual framework

CHAPTER THREE

THEORETICAL AND CONCEPTUAL FRAMEWORK

3.1 Introduction

This chapter has four parts. The first part discusses the theories and their respective theoretical frameworks. To this effect, the theories are: contract enforcement theory; geographical disparities poverty theory; and failure theory. The second part explains the conceptual framework and the operationalization of the variables thereof. The third part focuses on the hypotheses and their operationalization to the study. The fourth part is the conclusion.

3.2 Contract Enforcement Theory

The out-grower projects are operated on the concept of contract farming, therefore, the theory that underpins the study is contract enforcement. The theory provides the framework and requirements that relate to planning and management of the out-grower scheme as an effective tool to reduce poverty in the rural area. In contract farming, a contract is prone to unexpected shortcomings. Should this happen and the outcome is that the contract is affected in anyway; both the out-farmers and out-grower firm must resolve the challenges amicably, to the satisfaction of the parties. If there is a stalemate and both parties do not agree, then the parties to the contract must declare a hold up on the contract so that it is null and void or change the terms and conditions of the contract in order to adapt to the prevailing conditions and/or environment.

However, if the unexpected shortcomings are not affecting the contract in anyway, the contract must be upheld. Subsequently, if the contract is breached deliberately because of not adhering to the stipulated contractual obligations, then the law must take its course. Stakeholders should be wary of the consequences for non-adherence to contract (Dube and Mugwagwa, 2017). As regards to this study, the out-grower firms and out-grower smallholder farmers should honor their contractual obligations. Figure 3.1 shows a framework of the contract enforcement theory. It sets out those aspects that must be considered when planning and implementing the out-grower scheme.

3.2.1 Theoretical Framework of the Contract Enforcement Theory.

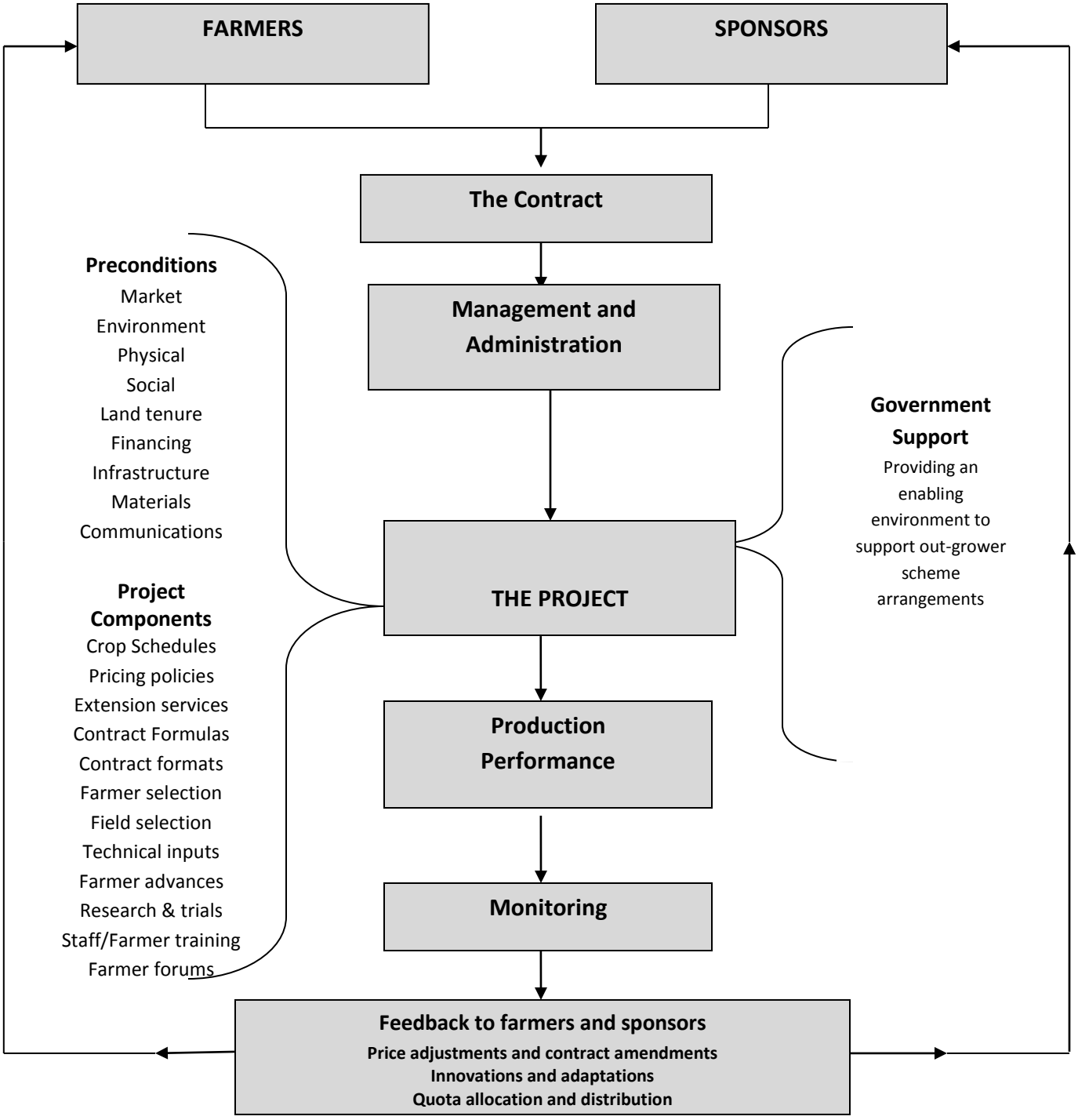

Figure 3.1: Contract Enforcement Theory Framework. Source: Based on Eaton (1998, p. 274)

The out-grower farmers benefit from access to agricultural inputs and knowledge on new farming practices that increase the yield of agricultural commodities; increase household income; and improve the quality of agricultural commodities. Readily available market can reduce risk and uncertainty. However, offsetting these benefits is the risk that the out-grower firm fails to honor its contractual obligation (Musa *et al.*, 2018).

Similarly, the out-grower firm benefits by contracting production to out-grower farmers and avoid the risk and cost that relate to production. Further, it benefits from access to land that would not otherwise be available and regular supply of agricultural commodities the desired quality which could be difficult to get from the open market. However, out-grower firms also experience difficulties in contracting with out-grower farmers. Out-grower farmers may sell agricultural commodities to outsiders who did not finance the crop (Singh *et al.,* 2018).

Christina and Panagiota, (2018) argue that the market must be available for the agricultural commodities that ensures profitability for both the out-grower farmers and out-grower firm. Other factors that affect the performance of the out-grower schemes are land availability, physical, social, and cultural practices, infrastructure, and availability of required inputs. Government support is another important requirement that is beneficial to both parties.

3.3 Geographical Disparities Poverty Theory

Studies have revealed that there are several theories of poverty such as individual deficiencies, discrimination, cultural belief system geographical disparities, and cumulative and cyclical interdependence (Danaan, 2018; Bradshaw, 2005; Blank, 2003; Rodgers, 2000; Jennings and Kushnick, 1999; Shaw, 1996; Goldsmith & Blakely, 1992; Schiller, 1989). The theory that relates to the study is geographical disparities. This is because of the huge gap in poverty level between the rural and urban areas. To this effect, poverty still remains predominantly a rural phenomenon. The theory brings to the attention of how resources can be utilized to improve the well-being, increase income and reduce rural poverty, thereby fostering community development. In Zambia, the Government is in a hurry and making frantic efforts to take development to the rural populace by opening up new distracts. However, the pace is very slow to build infrastructure such as housing, public offices, and main roads.

3.3.1 Theoretical Framework of the Geographical Disparities Poverty Theory.

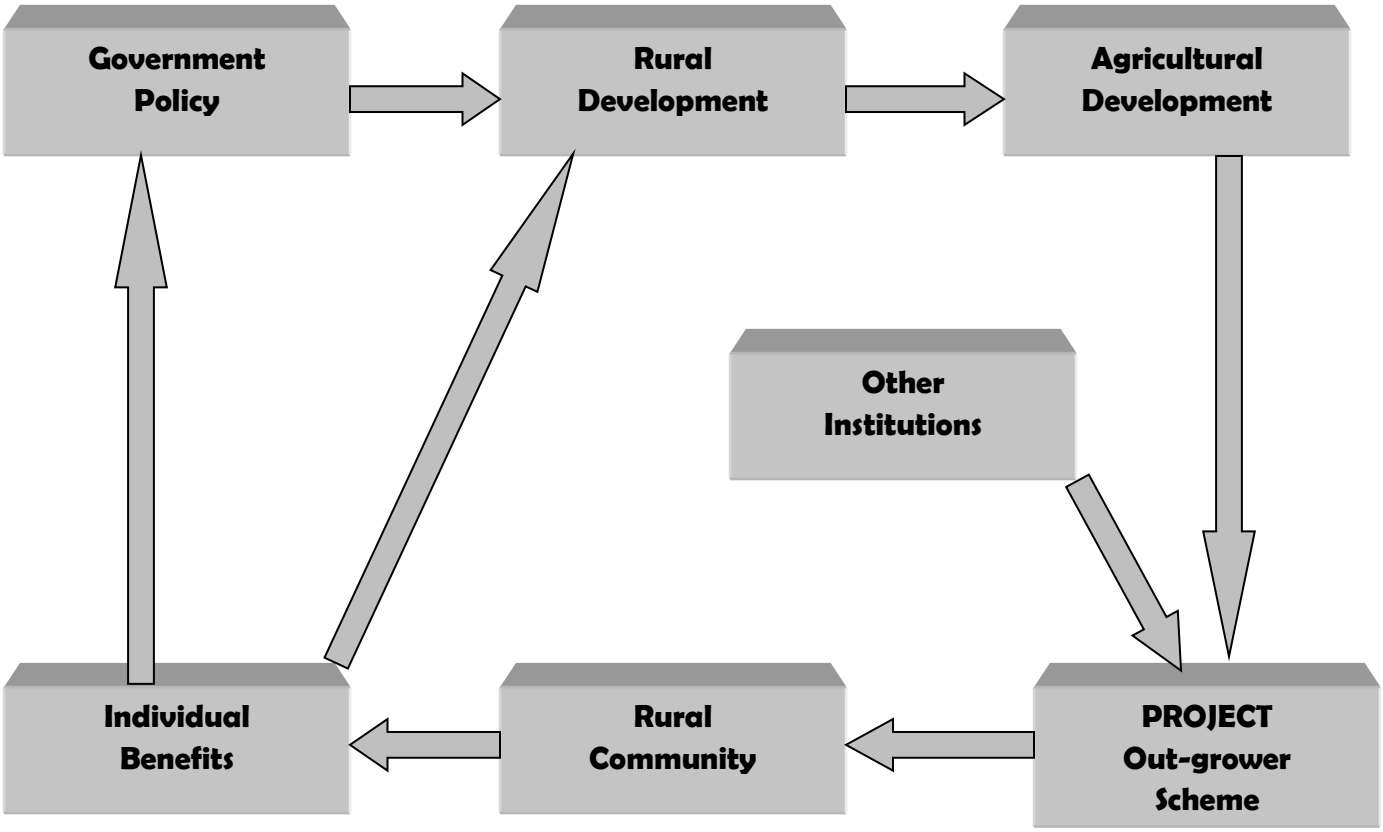

Figure 3.2 Geographical disparities poverty theory Framework Source: Author, 2018

Derived from Figure 3.2, rural development enhances the operation of the out-grower scheme in achieving the objective of mitigating poverty and improving the well-being of the rural population. The Government policy on rural development can be achieved through agricultural development performed by developmental models such as the out-grower schemes that can improve the well-being of the rural community by increasing the income; food security; employment, and poverty reduction. This relationship is shown in Figure 3.2. Government policy, once implemented, is translated into agricultural development that is achieved through the out-grower schemes operating in the rural community. Other institutions are relevant stakeholders that work in relationship with the out-grower scheme in developing the rural community. Individual benefits that are derived from the out-grower scheme enhance community

well-being and in the long-term, there is rural development (Anriques & Stamoulis, 2017; Mwabu &Thorbecke, 2014; Weber and Jensen, 2014; Bradshaw & Muller, 2013).

3.4 Failure Theory

The failure is the behavior of a member that renders unsuitable for its intended function and/or purpose (Jiang *et al.,* 2017; Du *et al.,* 2016; Liu *et al.,* 2016). For the purpose of this study, a member may be the smallholder out-grower farmer, out-grower firm, the Government and the out-grower model itself. The failure of the out-grower schemes to meet its intended objective of reducing poverty and improving the well-being of the population in rural Zambia may be dependent on the behavior of the other members that renders them unsuitable for their intended function and/or performance. Therefore, both the smallholder farmer and out-grower firms should adhere to their contractual obligation and the Government should provide an enabling environment that supports the out-grower scheme. The out-grower scheme model should in itself provide an enabling environment to successfully support the out-grower scheme arrangements.

Failure does not happen accidentally but it is caused by other influencing factors, prevailing in a particular internal or external environment. Out-grower schemes are influenced by both the internal and external factors. Internal factors include but not limited to contract enforcement; pricing mechanism of the agricultural commodities, quality standard of the agricultural commodities; provision of farming in puts and extension services; loan repayment; side selling (selling to the buyers who did not provide the loan); land availability; market availability; trust and transparency.

Further, external factors include but not limited to access to international markets; international pricing mechanism; international quality standards; climatic conditions; and support from Government and other organizations; and the legal and regulatory frameworks. It is against this background that change is inevitable and it affects the operations of the out-grower schemes. Relating to failure in the operations of the out-grower scheme, the most important factor is to have an effective monitoring system in place, especially at production level. Therefore, it is important to take seriously the issues of planning, organizing, coordinating and managing

production. Subsequently, emphasis should be on developing a harmonious relationship between the out-grower farmers and out-grower firm

3.4.1 Theoretical Framework of the Failure Theory

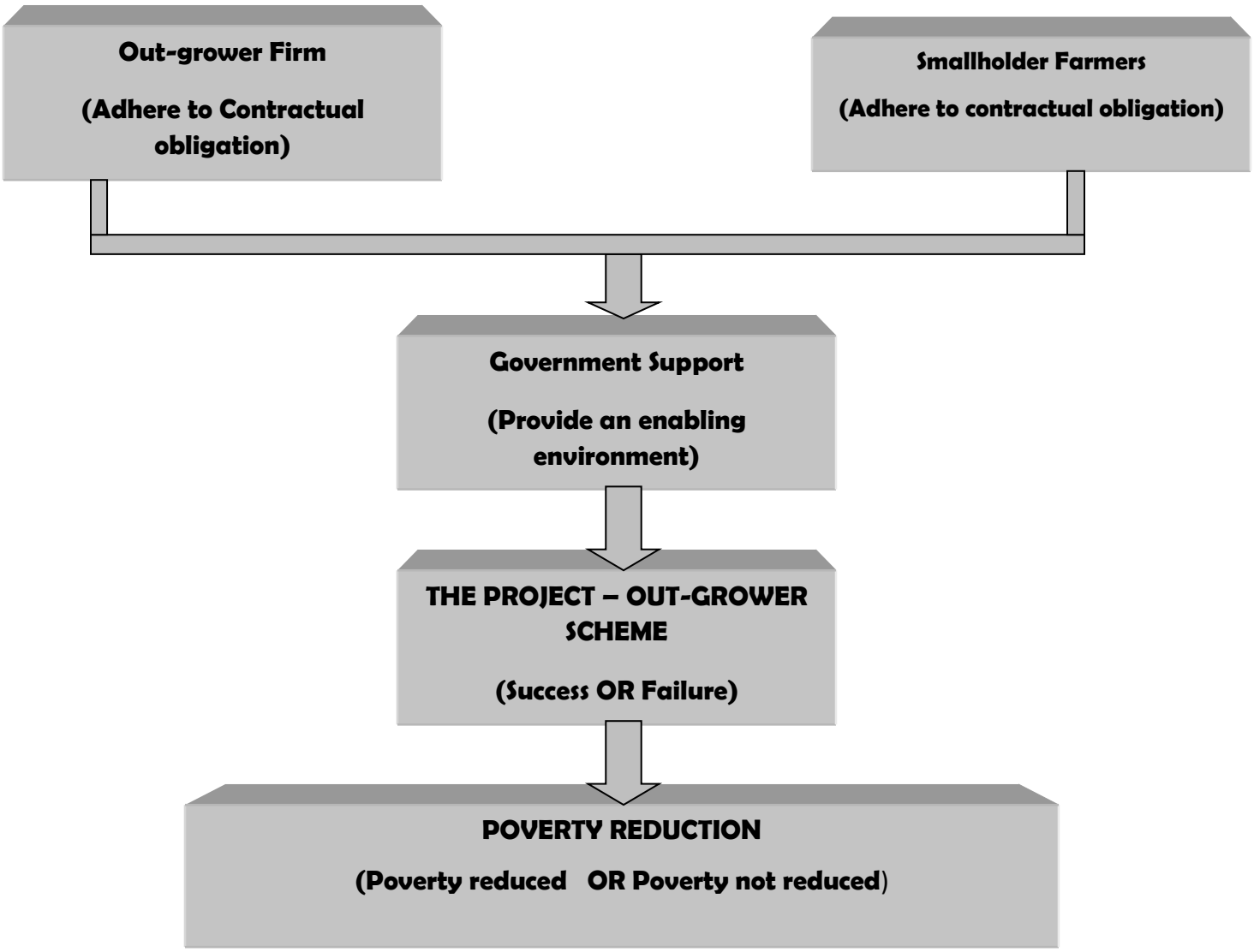

Figure 3.3: Failure Theory Framework Source: Author, 2018

The success or failure of the out-grower scheme on reducing poverty in rural Zambia depends on out-grower smallholder farmers' adherence to contractual obligation, out-grower firms'

adherence to contractual obligation, and Government support. Panotra, *et al.,* (2018) indicates that it is important to know what makes the out-grower arrangement successful so that the out-grower farmers and out-grower firm work towards achieving the benefits. For the out-grower scheme to be implemented and achieve the intended purpose of reducing poverty in the rural area, the government must support all the stakeholders involved. In view of the enabling regulatory role, both the out-grower farmers and out-grower firm should respect and adhere to their contractual obligations (Scoones *et al.,* 2018; FAO, 2018)

3.5 Critical Review of the Theories.

The theories are critically reviewed on the interaction with success or failure of the out-grower schemes implementation, poverty reduction and improving the well-being of the rural populace in Zambia.

3.5.1 Contract Enforcement Theory

Despite the contract enforcement theory anchoring the study, it has flaws in the overall management of the out-grower schemes. The contract enforcement theory excludes external partners that should ensure transparency in the operations of the out-grower schemes. To this effect, the out-grower firm has more power than the out-grower farmers and controls the operations of the out-grower scheme. The out-grower farmers have no control over out-grower scheme arrangements. In this regard, there is mistrust between the out-grower farmers and out-grower firm (Bishnoi *et al.,* 2018; Ragasa *et al.,* 2018; USAID, 2012; UNCTAD, 2009; Jain, 2008; Hayami, 2006)

3.5.2 Geographical Disparities Poverty Theory

The direction of the geographical disparities poverty theory is towards poverty reduction and rural development. However, government inertia and lack of political will has a negative impact on the rural development. To this effect, it has been very difficult for the private sector to engage in rural development programs due to lack of infrastructure to support such initiatives. Community development should take an approach of strategic planning, especially in community investment in order to turn around distressed areas and places where poverty is rampant. (Parthasarathy, 2015; Sameti, et al., 2005; Blakely and Bradshaw, (2002), and Florida, (2002)

3.5.3 Failure Theory

Social and cultural constraints have been neglected and not taken into consideration in management of the out-grower scheme by the out-grower firms. The out-grower firm should respect and observe the cultural norms in the areas where out-grower schemes are implemented. Customary beliefs and religious issues are sensitive and must be handled properly. On the other hand, out-grower farmers should comply and understand the rules and regulations that govern the operations of the out-grower schemes. Problems may arise when both the out-grower farmers and out-grower firm do not comply with the stipulated obligations. Noncompliance may lead to project failure, thereby not improving the standard of living of the rural populace.

3.6 Conceptual Framework.

The conceptual framework refers to the diagrammatic presentation to the logical flow of the ideas presented in the thesis. Further, a conceptual framework could be regarded as an interconnected set of ideas (concepts) about how a specific phenomenon functions or is related to its parts. The framework may serve as the foundation for understanding the causal and/or correlation designs of interconnections across events, ideas, observations, concepts, knowledge, interpretations and other components of experience.

Subsequently, Creswell (2014) highlights that people have a conceptual framework about how reality works that allows a person to make predictions about what would happen when analyzing and interpreting a phenomenon under study. This allows for making choices about the behavior on the basis of the interpretation that is linked to the relationships. In this study, the conceptual framework provided a reference for informing the title of the study; research problem; research questions; theoretical and conceptual frameworks; and methodology of the study.

Further, it provided a strong structure for the organization of the content of the study and allowed for identification of limitations to the study as well as areas for future research. Consequently, the conceptual framework helped the Author to articulate other researches' point of view with regards to the subject matter of the study. For this study, the ideas and concepts that are used to understand the research problem are shown in Figure 3.4.

3.6.1 Conceptual Framework: Through which the Study aims at explaining the Problem

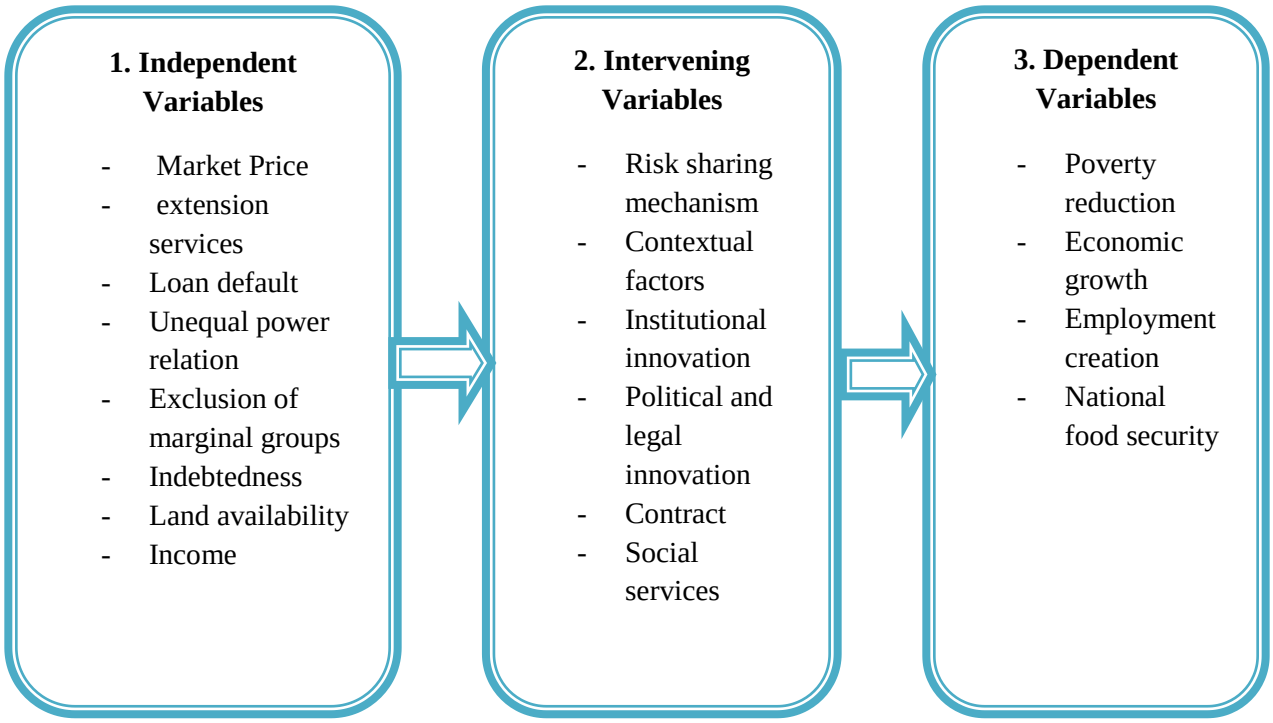

Figure 3.4: Conceptual Framework Source: Author, 2018

3.7 Operationalization of Variables

In this study, the out-grower scheme arrangement has eight (8) independent variables that influence four (4) dependent variables that are mediated by six (6) intervening variables.

3.7.1 Independent Variables

The independent variables include the market price, extension services, loan default, and unequal power relation, exclusion of marginal groups, indebtedness, and land availability.

3.7.1.1 Market Price

For trading to be fair, the out-grower smallholder farmers and the out-grower firm must adhere to the terms and condition of the contract. To this effect, the Cotton Association of Zambia - CAZ (2016) highlights that the out-grower firms have full responsibility of the operations of the out-grower scheme. Studies reveal that the pricing mechanism favors the out-grower firm and

disadvantages the out-grower farmers (Sambuo, 2018; Kunte *et al.,* 2017; Wendimu *et al.,* 2017; Swain, 2016; Cahyadi & Waibet, 2016; Mwambi *et al.,* 2016; Trifkovic, 2016; Narayanan 2014) Lower prices have a negative effect on poverty reduction for smallholder farmers.

3.7.1.2 Extension Services

The main objective, for both the out-grower farmers and out-grower, for engaging in the out-grower scheme arrangements, is to make profit from the proceeds of the project. However, this can only be realized if the out-grower firm provides the necessary extension services such as training in crop production and provision of agricultural inputs. On the other, the out-grower farmers must use the knowledge acquired in training to produce agricultural commodities that meet quality standards. They should also take responsibility not to misuse the farming inputs. If out-grower firms do not have the technical capacity or resources, they may contract with other organizations to provide extension services (Isager *et al.,* 2018; Ton *et al.,* 2018; Setboonsarng *et al.,* 2014; IFAD 2014)

3.7.1.3 Loan Default

In Zambia, lack of information sharing and mistrust among out-grower firms has subsequently failed to find a solution to stop farmers from defaulting on loans. There are gaps in networking among the out-grower firms with regards to sharing information. Sharing information can inform the out-grower firms on farmers that have defaulted on loans and not to give credit to such farmers. Studies have revealed that side selling is the main factor for failing to pay back the loans by the out-grower farmers ((Njogu *et al*., 2018; Murekezi *et al*., 2018; CAZ, 2016; Etukurno & Akpaeti, 2015; Da silva, 2005; M4P, 2005; Woodend, 2003; Stringfellow, 1996).

3.7.1.4 Unequal Power Relation

There is evidence that unequal power relationship exists between the out-grower firm and out-grower farmers (Ton *et al.,* 2018; Vicol, 2017; Ton *et al.,* 2017; Actionaid, 2015; Sharma, 2014; World bank, 2009; Bernard *et al.,* 2006; Vorley and Fox, 2004) The out-grower farmer is an important stakeholder of the out-grower scheme has no control whatsoever on the operations of the out-grower scheme.

3.7.1.5 Exclusion of Marginal Groups

Studies have revealed that the out-grower scheme arrangement excludes marginal groups such as the women and youth from participating (Navarra *et al,* 2018; Sokchea & Cula, 2015; Lindhom, 2014; Ito *et al.,* 2012; Saigenji, 2012; Rao *et al.,* 2011)

3.7.1.6 Indebtedness

In the long term, the out-grower farmers must work towards the exit strategy of self-reliance in order to avoid perpetual dependence on the out-grower scheme. The out-grower scheme is not the end in itself but a model that can be used to reduce poverty in rural areas of Zambia. Out-grower firms should design contracts that do not tie out-grower farmers to indebtedness. Studies reveal that the out-grower scheme takes advantage that smallholder farmers cannot easily access credit from other lending institution as compared to the out-grower schemes (Ramprasad, 2018; Goodhoe & Simon, 2016; Lee et al., 2014; Dedehouanou et al., 2013; Chengappa et al., 2012; Munongo, 2012)Chronic Poverty Research Centre – CPRC in 2008; Royal Tropical Institute - KIT *et al.,*2006)

3.7.1.7 Land Availability

Gordon (2008) argues that land is the most valuable asset in the out-grower scheme arrangements. Out-grower scheme establishments are dependent on land availability. The out-grower scheme in itself does not own land but contracts with smallholder farmers who own land where to farm. According to Lambrecht and Ragasa (2016), World Bank, (2007), Jabbar *et al.* (2007) and, Moyo and Yeros (2005), the out-grower farmers benefit in terms of credit and provision of extension services by the out-grower scheme while the out-grower scheme benefits in terms of access to land and economies of scale at production level. Studies have revealed that despite contracting land to the out-grower scheme, production risks are borne by the out-grower farmers (Ncube, 2018; Kaur & Kaur, 2018; Takahashi *et al.,* 2017; Boulay *et al.,* 2013; Abebe, 2013; Barret *et al.,* 2012; Begum & Buysse, 2012; Shivji, 2008; Herley, 2007; Ramaswami *et al.,* 2005; Maxwel & Slater, 2003; Baumann, 2000). For the out-grower scheme, the implication of land scarcity is that the yield of the agricultural commodities is low and it affects the profit.

3.7.1.8 Income

Income plays a significant role in improving the standard of living of the rural population, especially in Zambia. Once there an improvement in household income, the spillover effect is that the households are food secure; there is increased consumption expenditure; poverty is reduced; and improvement in the wellbeing of the households. Studies reveal that smallholder farmers participating in the out-grower scheme arrangements had better income as compared to independent farmers (Isager, *et al.,* (2018; Ton *et al.,* 2018; Atkin *et al,* 2018; Bannor, *et al,* 2018; Bellemare *et al.,* 2017; Herrmann *et al.,* 2017; Briones, 2015; Bernard *et al.,* 2010).

3.7.2 Intervening Variables

The intervening variables include risk sharing mechanism, contextual factors, institutional innovational, political and legal, contract, and social services

3.7.2.1 Risk Sharing Mechanism

The out-grower schemes are not risk averse. At production level, the out-grower farmers are susceptible to risks while the out-grower firm is susceptible to risk at marketing level (Casaburi & Wills, 2017; Samphantharak & Townsend, 2017; Takahashi *et al*., 2017; Cai, 2016; Carter *et al*., 2016; Clarke & Dercon, 2016; Banerjee *et al.,* 2014). The risks to both the out-grower farmers and out-grower firm can be mitigated by including respective clauses within contracts. If the risk mechanism is not managed well, then both parties face the consequences.

3.7.2.2 Contextual Factors

It is important to contextualize the operations of the out-grower schemes so that all the stakeholders are involved in the management of the out-grower scheme arrangements. Full participation by all stakeholders promotes trust and transparency (Bellemare, 2018; Navarra, 2018; Kaur *et al.,* 2017).

3.7.2.3 Institution Innovation

The out-grower scheme is operated as business enterprise. Therefore, both the out-grower farmers and out grower firm should be innovative and strategic to realize the profit from the out-grower scheme arrangement (Chamberlain & Anseeuw, 2017; Chamberlain & Anseeuw, 2016;

Vellema *et al.,* 2016; Chamberlain & Anseeuw, 2015; Penrose-Buckley, 2007; Nadvi & Waltring, 2004). The out-grower firm should invest in capacity building of the out-grower farmers in terms of adaptation to new farming techniques that increase crop yield and improve the quality of the agricultural commodities. The out-grower farmers should work towards attaining self-reliance in order to avoid perpetual dependence on the out-grower scheme.

3.7.2.4 Political and Legal

For the out-grower scheme arrangement to operate effectively and yield the expected results to reduce poverty in the rural area, there must be an enabling environment. To this effect, there must be political enthusiasm from government to support smooth running of the project. Therefore, the role of government is to protect both the out-grower farmers and out-grower firm from exploitation by putting in place the required legal and regulation frameworks (Ton *et al.,* 2017).

3.7.2.5 Contract

The basis of the out-grower scheme arrangement is contract farming. It is, therefore, a necessity that both the out-grower farmers and out-grower firm respect and adhere to the obligation of the contract. The contract must include the consequences of breaching of the contract. A contract is a legal binding document that is valid and useful in the courts of law. For ease understand by the out-grower farmers, it is fair that the contract is translated in the local main language that is used in the area where the out-grower scheme is implemented. (Bellemare, 2018: Ragasa, *et al.,* 2018).

3.7.2.6 Social Services

There is no development that has been initiated outside the sphere of social services. In this regard, social services support the development and implementation of the out-grower scheme in rural areas. Out-growers schemes should be accessed by road throughout the year. Other social services required are schools, medical facilities such as clinics, and communication system (Briones, 2014; Freguin-Gresh *et al.,* 2012; Indarsih, 2012; Schipmann & Qaim, 2011)

3.7.3 Dependent Variables

In this study, the dependent variables include poverty reduction, economic growth, employment creation, and improved food security.

3.7.3.1 Poverty Reduction

Poverty comes in different ways and its definition relates to the prevailing environment at the time of definition. Therefore, it is prudent for the government not to implement blanket poverty reduction strategies but specific problem related strategies. In Zambia, there is evidence that government has been implementing poverty reduction strategies (World Bank, 2017)

3.7.3.2 Economic Growth

The majority of the population of Zambia is in the rural area and depends on agriculture and other related activities. Therefore, the government and other collaborating partners should implement strategies that improve the life of the rural populace. Improving the standard of living for the rural populace through strategies such as the out-grower scheme can facilitate grassroots development and economic growth (World Bank, 2018; Minten *et al.,* 2018; Haile *et al.,* 2017; Adjognon & Naseem, 2012)

3.7.3.3 Employment Creation

The communities have benefited from employment creation by the out-grower schemes. Not only do out-grower farmers benefit in terms of employment but also the independent farmers that do not participate in the out-grower scheme arrangements. Studies have revealed that out-grower schemes create employment (Minot & Sawyer, 2016; IFAD, 2014; Word Bank, 2014; FAO, 2012a)

3.7.3.4 Improved Food Security

Out-grower schemes have the potential to improve the food security in the immediate, medium and long terms. It is evident that out-grower schemes provide a forum for building capacity of farmers in terms of training in improved farming methods by conducting fields (SNDP, 2017; Kuijipers & Swinnen, 2016; Nguyeni, *et al.*, 2015; Shiferaw *et al.*, 2014; WU, 2014). The independent farmers who are not participants of the out-grower scheme are also allowed to attend. Both the out-grower farmers and independent farmers acquire knowledge in farming techniques that improve yields, thereby reducing on food insecurity.

3.8 Hypotheses and Operationalization to the Study

Studies highlight that one of the most important considerations when beginning research work and formulating the research problem is constructing the hypothesis (Trochim, 2007; Vagner, 2007). Generally, hypothesis provides clarity so that focus is on a research problem. In this study, alternative hypotheses (H_A) were used and not null hypotheses (H_O). The following alternative hypotheses are to be confirmed in relation to the research questions

Question 1: What changes have out-grower schemes brought to poverty reduction to the smallholder out-grower farmers in Eastern Province?

Hypothesis 1 (H_{A1}): There are positive changes in poverty reduction to smallholder farmers participating in the out-grower scheme in Eastern Province.

Question 2: What is smallholder out-grower farmers understanding of the operations of the out-grower schemes in Eastern Province?

Hypothesis 2 (H_{A2})**:** Smallholder out-grower farmers have understood the operations of out-grower schemes in Eastern Province

Question 3: How have the out-grower schemes benefitted the communities in Eastern Province?

Hypothesis 3 (H_{A3})**:** There are benefits to the communities where the out-grower schemes are implemented.

3.9 Conclusion

The theoretical and conceptual framework is done and/or explained within the confines relating to reducing poverty in rural Zambia. The theories of the study are the contract enforcement; geographical disparities poverty; and failure. These are discussed within their frameworks. However, the contract enforcement theory underpins the study. The conceptual framework evolves on issues in the out-grower schemes arrangements that culminate into poverty reduction, economic growth, national food security, and employment creation. Chapter Three established the theoretical and conceptual framework of the study and precedes Chapter Four which is the Research Methodology.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

Chapter Four discusses the methodology that applies to the study. It starts with the philosophical assumptions of the study and further discusses the research design, target population, sample size and sampling procedures. Also, it gives an outline of the data collection techniques and data Analysis techniques. Subsequently, it discusses the pilot study, validity, credibility, reliability, and ethical considerations. Finally, it draws the conclusion of the chapter.

4.2 Philosophical Assumptions

The assumptions of philosophy for the study are epistemology, ontology, axiology, phenomenology, and methodology.

4.2.1 Epistemology

Epistemology is a branch of philosophy that deals with the nature, sources, and scope of knowledge (Tweedt, 2018; Lachney & Dotson, 2018; Cooksey & McDonald, 2011; Davidson, 2000; Schwaldt, 1997; Lucey, 1996; Sosa, 1994; Lehrer, 1990). In this regard, therefore, the epistemological assumption of this study was that only authenticated literature and that was within the scope of out-grower scheme on reducing poverty was considered for use and/or reviewing. All sources and views that were not from the researcher were acknowledged by citation.

4.2.2 Ontology

Ontology is one of the core areas of philosophy and a science that describes the nature of reality in the internal and external worlds (Daniel, 2018; Kivunja, & Kuyini, 2017; Dai & He, 2017; Chen *et al.,* 2011; Burkhard & Smith, 1991). The ontological assumption of this study was the understanding of the nature of reality in both the internal and external environments, surrounding the effectiveness of the out-grower schemes on reducing poverty in rural Zambia.

4.2.3 Axiology

Axiology is the value of making decisions that relate to ethics (Jacobsson & Thomas, 2016). In this regard, therefore, the axiological assumption of this study was that the respondents were told

the truth and the discussion with the respondents was confidential and not revealed to third parties. Further, all the questionnaires were identified by numbers and not by names of the respondents in order to protect the respondents from any form of harm and to ensure unanimity. Subsequently, privacy of the respondents was respected and respondents gave consent to be interviewed.

4.2.4 Phenomenology

Phenomenology is another core area of philosophy. It entails lived experiences of individuals about a phenomenon as described the participants (Creswell, 2014; Giorgi, 2009; Moustakas, 1994). The philosophical assumption brought to the study was the nature to explore the understanding of lived experience of the out-grower scheme to reduce poverty by the participants

4.2.5 Methodology

Methodology involves techniques and modes of collecting and analyzing data through which the merits of various competing versions of reality can be assessed (Baškarada & Koronios, 2018; Žukauskas *et al.*, 2018; Creswell, 2014). In this study, the methodological assumption dealt with the structured set of procedures for the methodology that the Author used to evaluating the effectiveness of the out-grower schemes in reducing poverty in rural Zambia.

4.3 Research Design

There are several philosophical views that Researchers bring to the study. The common philosophical views are post-positivism; constructivism, transformative, and pragmatism. The philosophical view that underpins this study is pragmatism because it informs the mixed research method approach for this study. It provides an opportunity to use both quantitative and qualitative methods approach when conducting research. Pragmatism is holistic, problem specific and uses pluralistic approaches to get knowledge concerning the problem (Creswell, 2014; Freshwater and Cahill, (2013; Hesse-Biber, and Johnson, 2013; Johnson and Stefurak, (2013; Maxwell, (2011; Tashakkori and Teddlie, 2010; Morgan, 2007; Cherryholmes, 1992; Patton, 1990)

For this study, it was necessary to use a mixed method approach because by using quantitative or qualitative method as stand-alone approach, it was inadequate to best understand the research

problem and triangulation of research methods provided the best understanding. There are several strategies of the mixed method approach namely explanatory sequential, exploratory sequential, and convergent parallel. However, the study used the convergent parallel mixed method strategy. Convergent parallel mixed methods strategy provides for converging quantitative and qualitative data in order to provide for a comprehensive analysis of the research problem. In this design, the Researcher collects both forms of data at the same time and then integrates the information in the interpretation of the overall results (Creswell, 2014).

4.4 Target Population

According to the out-grower schemes on which the study is based, the total target population was 50,000, broken down as 25,000 out-grower farmers and 25,000 independent farmers in the Eastern Province of Zambia.

4.4.1 Description of the Sample and Sampling Procedures

The sample size was 396, calculated at 95 percent confidence level and 0.05 was the level of precision. The sample size consisted of one hundred ninety-six (196) out-grower smallholder farmers, and two hundred (200) independent smallholder farmers. Twenty (20) key informants were selected as well. This information is shown in Table 4.1

The following is the formula and calculation for the sample size.

$$\mathbf{n= \frac{N}{1+N(e)^2}}$$ *(Source: Adapted from Yamane, 1967:886)*

Where**: n** = is the sample size; **N** = is the population size; and **e** = is the level of precision.

Therefore: **N** = 50,000; and **e** = 0.05

Then: $\mathbf{n=\frac{50{,}000}{1+50000(0.05)^2} = 396}$

Table 4.1: Breakdown of the Total Number of Respondents participating in the Study

Category of Respondents	Number
Out-grower farmers	196
Independent farmers	200
Key Informants (KIs)	20
TOTAL	**416**

Source: Author, 2018

4.4.1.1 Selection of Smallholder Out-grower farmers

A total number of one hundred ninety-six (196) smallholder out-grower farmers were selected from the out-grower firms' registers. The register was used as the sampling frame because it was reliable, valid, exhaustive, and it allowed for the tracing of respondents. The respondents were selected using a simple random sampling technique. This sampling technique provides an opportunity that each respondent has chance of being included in the sample. Random selection of respondents was achieved by using a Microsoft Excel program known as random number generator. The respondents in this group formed the **treatment group.**

4.4.1.2 Selection of Smallholder Independent Farmers

A total number of two hundred (200) smallholder independent farmers were selected from the village registers in their respective villages. The village register is a book where the names of all the heads of the households are registered, representing the total number of household families in the village. The headman of the village keeps the village register. The village register was used as the sampling frame because it was reliable and allowed for the tracing of respondents. The respondents were selected using the simple random sampling technique. This sampling technique provides an opportunity that each respondent has chance of being included in the sample. Random selection of respondents was achieved by using a Microsoft Excel program known as random number generator. The respondents in this group formed the **control group.**

4.4.1.3 Selection of Key Informants

Twenty (20) key informants were selected based on their knowledge about the phenomena under investigation. Key informants are people that do not participate in the out-grower scheme

arrangement. They were selected using purposive sampling method. For this study, key informants comprised Five (05) senior managers from out-grower firms, Five (05) opinion leaders of the community, Five (05) government officials, and Five (05) ordinary residents within the target population. To preserve the originality of the interview and avoid information distortion, the discussion was recorded. The interview guide was used during the interview (see Appendix C)

4.5 Data Collection Techniques

The study used mixed method research instruments that included personal interviews, document reviews and questionnaires.

4.5.1 Personal Interviews (face to face interview)

Personal interviews were conducted with the key informants, out-grower farmers, and independent farmers. Interviews with the respondents were recorded in order to avoid distortion and preserve the originality of the conversation.

4.5.2 Document Review

The study considered existing records for the out-grower firm, out-grower farmers and the independent farmers. Documents reviews were also a rich resource as literature for the study. The strength of the document reviews is that it facilitates validity checks and triangulation. Its weakness lies in that cultural differences may lead to misinterpretation of data (Creswell, 2014).

4.5.3 Questionnaires

In this study, questionnaires were administered by the Author to gather specific information from 396 respondents, broken down as one hundred ninety-six (196) out-grower farmers and two hundred (200) independent farmers. The study used a questionnaire that had a combination of both the qualitative and the quantitative designs based on the convergent mixed method strategy. The qualitative design involved obtaining in-depth responses to in-depth questions while quantitative design was used to solicit information on closed ended questions.

4.6 Data Analysis Techniques

Qualitative data analysis was done by using the inductive process of building from the data to broad themes and interpretation while quantitative data was analyzed by using a combination of factors that enabled the Author to determine what statistical test was suitable for answering the research question. The statistical techniques used are Chi-square test, Coefficient of variation (CV), and Coefficient of Consensus (CC). The Chi-square was used to yield an association between two variables measured by categories. The chi square test is based on the difference between the observed and the expected values for each category.

The coefficient of variation (CV) was used to measure the level of respondents' disagreement (dissention) in responses. The measure was applied to the likert scale and any other ordinal responses. The coefficient of variation (CV) is a measure of relative variability. It is the ratio of the standard deviation to the mean (average). The higher the coefficient of variation is, the greater the level of dispersion around the mean. It is generally expressed as a percentage. The lower the value of the coefficient of variation, the more precise is the estimate. The CV is calculated as follows:

CV for a Population: $CV = \frac{\sigma}{\mu} * 100$

CV for a Sample: $CV = \frac{s}{\bar{x}} * 100$ (Adapted from Vaz *et al.*, 2017)

Where: σ is the standard deviation for a population, which is the same as "s" for the sample. μ is the mean for the population, which is the same as X-Bar in the sample

Coefficient of consensus was used to gauge the level of respondents' agreement (consensus) in responses. The measure was applied to the likert scale and any other ordinal responses. In this study, the CC is calculated as follows: CC = 100 – CV. It is expressed as a percentage.

4.7 Pilot Study

The pilot study ensured that the research instruments were measuring what was intended to be measured in order to ensure validity. For this study, the pilot study was conducted and the gaps, in terms of instrument validity, were corrected.

4.7.1 Pilot Study Data

The pilot study was done in Chipata district. A questionnaire comprising both closed questions (quantitative) and open ended (qualitative) questions was used to collect data with regards to a mixed research method approach that underpins the study. Data were collected from Ten (10) out-grower smallholder farmers selected from Kapara tobacco out-grower scheme and Ten (10) independent smallholder farmers selected from the villages outside Kapara tobacco out-grower scheme. One questionnaire was administered to Twenty (20) respondents. The respondents were selected using simple random sampling. The out-grower company register was used as the sampling frame to select smallholder out-grower farmers while the village register was used to select smallholder independent farmers.

4.7.2 Pilot Study Data Analysis

Qualitative data analysis was done by using the inductive process of building from the data to broad themes to an interpretation. Quantitative data was analyzed by using a combination of factors to determine what statistical test was suitable for answering the research questions.

4.7.3 Pilot Study Conclusion

Preliminary conclusions drawn to answer the research questions were that the out-grower scheme had contributed to reducing poverty of smallholder out-grower farmers in terms of the increase in household income, asset accumulation and consumption expenditure as compared to smallholder independent farmers. Further, smallholder out-grower farmers indicated that they had knowledge and/or information on the operations of the out-grower scheme. Subsequently, the pilot study revealed that there was support by the out-grower scheme to the entire community in terms of infrastructure development and poverty reduction.

4.8 Validity of the Study

Validity is the extent to which any measuring instrument measures what it is intended to measure (Thatcher, 2010, p.125). The study ensured that the issues of validity were taken care of to eliminate bias. There are three traditional types of validity and this study incorporated all of them.

4.8.1 Criterion Validity

According to Nunnally (1978) cited in Thatcher (2010, p.125, 145), criterion validity is the extent to which a research instrument is related to other instruments that measure the same variables. Criterion validity is measured in three ways:

- Convergent validity—shows that an instrument is highly correlated with instruments measuring similar variables (Cadon & Lee, 2013; Bagozz, 2011).
- Divergent validity—shows that an instrument is poorly correlated to instruments that measure different variables (Diamantopoulos, 2011; Edwards, 2011).
- Predictive validity—means that the instrument should have high correlations with future criterions (Korb, 2012).

This study ensured that the scores predicted a criterion measure and results correlated with other results by designing and using accurate tools for data collection, analysis and interpretation

4.8.2 Content validity

Content validity is the extent to which a research instrument accurately measures all aspects of a construct. In other words, does the instrument cover the entire domain related to the variable, or construct it was designed to measure? It is also called Face validity. A subset of content validity is face validity, where experts are asked their opinion about whether an instrument measures the concept intended (Hardin *et al,* 2011; Thatcher, 2010, p.125, 141). This study ensured that the instruments measured the content they were intended to measure by conducting a pilot study.

4.8.3 Construct validity

It is concerned with the extent to which a research instrument (or tool) measures the intended construct (Mackenzie *et al.,* 2011; Carmines & Zeller, 1979, cited in Thatcher, 2010, p.147). There are three types of evidence that can be used to demonstrate a research instrument has construct validity:

- Homogeneity—meaning that the instrument measures one construct (Shuttleworth, 2015).

- Convergence—this occurs when the instrument measures concepts similar to that of other instruments. Although, if there are no similar instruments available, this will not be possible to do (Carlson and Herman, 2012).
- Theory evidence—this is evident when behavior is similar to theoretical propositions of the construct measured in the instrument. For example, when an instrument measures increased consumption expenditure, one would expect to see that participants who score high on the instrument for consumption expenditure also demonstrate symptoms of disposable income in their day-to-day lives (Korb, 2012).

This study ensured that the instruments measured the constructs they were intended to measure.

4.9 Credibility/trustworthiness

The credibility/trustworthiness is involved in establishing that the results of the research are believable (Cohen *et al.*, 2011; Ary et al., 2010; Blaikie, 2010; Bowen, 2009; Gelo *et al*., 2008). In this study, credibility/trustworthiness was shown by using rigorous techniques and methods for gathering high-quality data that was carefully analyzed, with attention to issues of validity, reliability, and triangulation. The Author was conversant and/or understood the philosophical assumptions and research design, brought to the study.

4.10 Reliability of the Study

According to Creswell (2014) reliability means dependability or consistency. It suggests that the same thing is repeated or recurs under identical or very similar conditions. The opposite of reliability is an erratic, unstable or inconsistent result that happens because of the measurement. There are three types of reliability namely stability, representative and equivalency. However, this study used representative and equivalency reliability. Since the study collected and analyzed data at a single point in time, stability reliability was not used because it required measuring the instruments over time.

4.10.1 Stability Reliability

Stability reliability (sometimes called test, re-test reliability) is the agreement of measuring instruments over time. To determine stability, a measure or test is repeated on the same subjects at a future date. Results are compared and correlated with the initial test to give a measure of

stability (Twycross & Shields, 2004). As mentioned above, stability reliability was not used in this study, owing to the reason given.

4.10.2 Representative Reliability

Representative reliability is reliability across subpopulations or different types of cases. It addresses the question: Does the indicator deliver the same answer when applicable in different groups? An indicator has high representative reliability if it yields the same result for a construct when applied to different subpopulations (Thatcher, 2010). In this study, representative reliability was used to measure reliability to generalize the results to the target population. It was also used to measure reliability to compare constructs between the out-grower farmers (treatment group) and independent farmers (control group).

4.10.3 Equivalence Reliability

Equivalence reliability applies when researchers use multiple indicators – that is, when a construct is measured with multiple specific measures (Tavakol & Dennick, 2011). In this study, equivalence reliability was used to compare the standard of living and consumption expenditure between the out-grower farmers and independent farmers by using multiple indicators, a measure that yielded consistent results using different specific indicators.

4.11 Ethical Considerations

The ethical considerations were based on the axiological assumption. Axiology refers to the ethical issues that need to be considered when planning research. It considers the philosophical approach to making decisions of value or the right decisions (Jacobsson & Thomas, 2016). It involves defining, evaluating and understanding concepts of right and wrong behavior relating to the research. The axiological assumption of this study was to consider what value to attribute to the different aspects of research, the participants, the data and the audience to which the results of the study would be reported. It addressed the nature of ethics or ethical behavior and it was important to consider the regard for human values of everyone that was involved with or participated in the study. There was a balance between protecting respondents and quest for knowledge. The following ethical rules of research were strictly adhered to.

4.11.1 Veracity

The study was based on the principle of truth. There was no justification for lying, but this was not be the same as non-disclosure of information should it, in particular, invalidate the research. Respondents were happy and acknowledged the fact that they were being told the truth

4.11.2 Privacy

When respondents enrol in a research study, they grant access to themselves, but this is not unlimited access. Access is a broad term and generally includes viewing, touch or having information about them. Therefore, to ensure privacy of respondents, unanimity was strictly adhered to. By ensuring that privacy prevailed, the respondents were comfortable and open to discussion.

4.11.3 Confidentiality

Although respondents may grant limited access to themselves, they may not relinquish control over any information obtained. No information obtained with the respondents' permission from their records was disclosed to any third person without the respondents' consent. This rule applied to conversations as well. To this effect, the respondents appreciated and were happy with the respect and dignity given to them.

4.11.4 Fidelity

Fidelity means keeping our promises and avoiding negligence with information. All verbal promises were kept on timing of various activity schedules, meetings, and others. This strategy impressed and encouraged the respondents to be part of the study. Research studies should be judged ethically on three sets of criteria namely: ethical principles, ethical rules, and scientific criteria. The latter is often neglected, however, this is important because a study that is not professionally done is not capable of demonstrating anything and consequently could be regarded as unethical. The ethical rules of research, like principles, are not absolute in that one may override another, although this must be clearly justified. These rules are essential for the development of trust between Researchers and study participants.

4.12 Conclusion

The philosophical assumptions that were brought to the study were epistemological, ontological, and methodological. The worldview underpinning the study was pragmatism that informed the mixed method research approach that was used for the study. The study followed the laid down rules for selecting the sample and sampling procedures. The research instruments used related to a mixed method research approach. In this regard, a pilot study was conducted to pre-test the research instruments and the questionnaire. Validity and reliability are cardinal to research. Therefore, validity and reliability issues were taken serious and laid down procedures adhered to. As far as ethical considerations were concerned, the study made sure that there was a balance between protecting respondents and the quest for knowledge. The ethical issues that were strictly adhered to were veracity, confidentiality, privacy and fidelity. Chapter Four established the research methodology of the study. It precedes Chapter five is data analysis, presentation, and results

CHAPTER FIVE

DATA ANALYSIS, INTERPRETATION AND RESULTS

5.1 Introduction

The out-grower smallholder farmers and independent farmers were analyzed to evaluate the effectiveness of the out-grower schemes on reducing poverty in rural Zambia. The analysis provides statistical information on the demographics of the respondents; changes in poverty reduction of the out-grower smallholder farmers; knowledge by out-grower smallholder farmers on the operations of the out-grower schemes; and benefits of the out-grower schemes to the entire community. The out-grower farmers were the treatment group while the independent farmers were the control group. Data were evaluated to determine the characteristics that informed the quality of data. The six characteristics that defined data were: Accuracy and Precision; Legitimacy and Validity; Reliability and Consistency; Timeliness and Relevancy; Completeness and Comprehensiveness; and Availability and Accessibility. To this effect, the study used these characteristics to define the criteria for high quality and accurate data.

5.2 Demographic Data

Demographic data of the respondents is based on sex, the type of the respondent (either out-grower farmer or independent farmer), and education. Further, it is on marital status, number of children, household size, and children attending school. Subsequently, it is based on children that have completed secondary school, and children that have completed tertiary education. In this regard, the demographic data is presented in the tables.

5.2.1 Sex

In this study, there were three hundred ninety-six (396) respondents drawn from the Eight (08) districts of the Eastern Province out of which 74% (293) were male and 26% (103) were female. This information is in Table 5.1.

Table 5.1: Sex of the Respondents

Sex	Frequency	Percent
Male	293	74.0
Female	103	26.0
Total	**396**	**100.0**

Source: Field Data

5.2.2 Type of Respondent

Table 5.2 presents the break down on the type of the respondent as 49.5% (196) out-grower farmers and 50.5% (200) independent farmers.

Table 5.2: Type of Respondent

Type of Respondent	Frequency	Percent
Out-grower farmer	196	49.5
Independent farmer	200	50.5
Total	**396**	**100.0**

Source: Field Data

5.2.2.1 Cross tabulation on Sex by Type of Respondent

The results of the study show that there were more males than females participating in the out-grower scheme arrangements. The women are the majority participants in rural agriculture and contribute significantly to agricultural production. However, women are discriminated against and excluded from participating in the out-grower scheme arrangements. To this effect, it is only fair that women are considered as equal partners in rural development and also benefit from the out-grower scheme arrangements. In this regard, the study has recommended that more women are included and encouraged to participate in the out-grower schemes. As shown in Table 5.3, a cross tabulation presents a disaggregation on sex by the type of the respondent. There were 81.1% male and 18.9% female as out-grower farmers. The independent farmers constituted 67% (134) male and 33% (66) female. The results of the study are in agreement with similar studies conducted by Navarra, (2018), Sokchea and Culas, (2015), and DFID, (2014) who also revealed that women are excluded from participating in the out-grower schemes

Table 5.3: Cross tabulation on Sex by Type of Respondent

		Type of Respondents				Total	
		Out-grower farmer	**Percent**	**Independent Farmer**	**Percent**		**Percent**
SEX	Male	159	81.1	134	67	293	74
	Female	37	18.9	66	33	103	26
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.2.3 Age

As shown in Table 5.4, the majority of the respondents belonged to the age group of between 40 and 49 years while 1.3% belonged to the aged group of less than 20 years. Further, the oldest group of the respondents, 12.9% was 60 years and above.

Table 5.4: Age of the Respondents

Years	Frequency	Percent
Less than 20	5	1.3
20-29	57	14.4
30-39	94	23.7
40-49	112	28.3
50-59	68	17.2
60 and above	51	12.9
Non Response	9	2.3
Total	**396**	**100.0**

Source: Field Data

5.2.3.1 Cross tabulation on Age by Type of Respondent

Table 5.5, is the cross tabulation on the age of the respondent according to the type of respondent of either out-grower farmer or independent farmer. It is evident from the results that few youths participated in the out-grower schemes arrangements. In Zambia, the definition of a youth is any person that is below the age of 35 years (CSO & LCMS, 2015). In this study, the out-grower farmers comprised 36.7% youths as compared to 63.3% persons outside the age bracket of a youth. The imbalance is numbers confirms that the youths are excluded from participating in the out-grower schemes arrangements. The study is in agreement with similar studies conducted by Navarra, (2018), Matenga, (2017) and ActionAid, (2015) who also found that youths are excluded from participating in the out-grower schemes arrangements.

Table 5.5: Cross tabulation on Age by Type of Respondent

		Type of Respondent					
		Out-grower farmer	Percent	Independent Farmer	Percent	Total	Percent
AGE	Less than 20	2	1.0	3	1.5	5	1.3
	20-29	22	11.2	35	17.5	57	14.4
	30-39	52	26.5	42	21	94	23.7
	40-49	56	28.6	56	28	112	28.3
	50-59	36	18.4	32	16	68	17.2
	60 and above	24	12.3	27	13.5	51	12.8
	Non-Response	4	2.0	5	2.5	9	2.3
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.2.4 Level of Education

Generally, the results of the study revealed that the illiteracy level was high among the smallholder farmers in the rural area. In this regard, the out-grower farmers were facing challenges in reading and understanding the contents of the contract with the out-grower scheme because of the high illiteracy level due to low education attained. Most of the out-grower farmers have not gone beyond primary school education. To this effect, the study has recommended that the Government and out-grower firms consider addressing the high illiteracy level. The study agrees to similar studies conducted that revealed that the provision of social services, schools inclusive, was a necessity in the areas where the out-grower scheme operated (Ton *et al.*, 2017; Tongchure & Hoang, 2013; Freguin-Gresh *et al.*, 2012; Indarsih, 2012). Table 5.6, shows that majority of the respondents, 55.3% (219) indicated that they had gone up to primary level of education and only 1.5% (6) respondents had reached tertiary level of education. Nineteen (19) respondents indicated that they had never been to school.

Table 5.6: Level of Education

	Category	Frequency	Percent
	Primary	219	55.3
	Secondary	149	37.6
	Tertiary	6	1.5
	Never been to school	19	4.8
	Non-response	3	.8
Total		**396**	**100.0**

Source: Field Data

5.2.4.1 Cross tabulation on the Education Level of Respondents

As shown in Table 5.7 the majority of the out-grower farmers, 59.2% and 51.5% independent farmers had reached primary school. Further, 6.5% of independent farmers and 3.1% out-grower farmers had never been to school. However, 2.5% (5) of the independent farmers and One (1) out-grower farmer had reached tertiary level of education.

Table 5.7: Cross tabulation on the Education Level by Type of Respondent

		Type of Respondent					
		Out-grower farmer	**Percent**	**Independent Farmer**	Percent	Total	Percent
Level of Education	Primary	116	59.2	103	51.5	219	55.3
	Secondary	73	37.2	76	38	149	37.6
	Tertiary	1	0.5	5	2.5	6	1.5
	Never been to school	6	3.1	13	6.5	19	4.8
	Non-Response	0	0	3	1.5	3	0.8
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.2.5 Marital Status

The majority of the respondents, 77.8% indicated their marital status as married and 4.8% were single and not married. Further, 9.1% respondents indicated that they had divorced while 8.1% were widows. Subsequently, the minority of the respondents were single as shown in Table 5.8

Table 5.8: Marital Status

Marital Status	Frequency	Percent
Married	308	77.8
Divorced	36	9.1
Widow	32	8.1
Single	19	4.8
Non-Response	1	.3
Total	**396**	**100.0**

Source: Field Data

5.2.6 Number of Children

Concerning the number of children that the respondents had, it was indicated that the majority of the respondents, 16.9% had four and above children while 14.6% had three children. Further, 9.6% of the respondents had two children while 1% had no children as indicated in Table 5.9

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Table 5.9: Number of Children of the Respondents

Number of Children	Frequency	Percent
One	19	4.8
Two	38	9.6
Three	58	14.6
Four and above	67	16.9
Nil	4	1.0
Not Applicable	2	.6
Non Response	3	.8
Total	**396**	**100.0**

Source: Field Data

5.2.6.1 Cross tabulation on the Number of Children by Type of the Respondent

Table 5.10 shows that majority of the out-grower farmers, 56.1% indicated that they had five and above children as compared to 47.5% independent farmers with the same response. Further, 5.1% out-grower farmers and 4.5% independent farmers indicated that they had one child. The results show that out-grower farmers had more children than independent farmers and this relationship may confirm that the out-grower farmers were capable to manage the consumption expenditure that was higher than the independent farmers. Studies have revealed that out-grower farmers get more money for their agricultural produce that the independent farmers (Ton *et al.*, 2018; Sharma, 2014). Income is a critical determinant factor in poverty reduction.

Table 5.10: Cross tabulation on the Number of Children by Type of the Respondent

		Type of Farmer					
		Out-grower farmer	Percent	Independent Farmer	Percent	Total	Percent
How many children do you have?	One	10	5.1	9	4.5	19	4.8
	Two	12	6.1	26	13	38	9.6
	Three	25	12.8	33	16.5	58	14.6
	Four	36	18.4	31	15.5	67	16.9
	5 and above	110	56.1	95	47.5	205	51.8
	Nil	3	1.5	1	0.5	4	1.0
	Not Applicable	0	0	1	0.5	1	0.3
	Non Response	0	0	4	2	4	1.0
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.2.7 Household Size

It was found that the largest group of the respondents, 34.6% had a family size of four up to six members while 33.8% (134) had a family size of seven up to nine members. Further, 24.7% respondents had a family size of ten and above while 5.3% (21) respondents had a family size of one up to three members as indicated in Table 5.11.

Table 5.11: Household Size

	How many are you in your family?	
Size of Household	**Frequency**	**Percent**
1-3	21	5.3
4-6	137	34.6
7-9	134	33.8
10 and above	98	24.7
Non Response	6	1.6
Total	**396**	**100.0**

Source: Field Data

5.2.8 Children Going to School

Education is fundamental in enhancing the welfare of people and improving the quality of life. Similarly, it has an effect in terms of health, income, poverty reduction, and nutritional diversity. Data collected on education was based on whether the child was attending school, education level being attended, and whether the child has ever attended school or not. Majority of the

respondents, 45.2% (179) had one up to three children going to school while 39.6% (157) had four and above children going to school. Further, 14.1% respondents indicated that their children were not in school as shown in Table 5.12. The results of the study are in agreement to a similar study that was done on living conditions in Zambia and found that education was paramount in the process to reduce poverty (CSO & LCMS, 2015)

Table 5.12: Children Going to School

How many children of your household go to school?		
	Frequency	**Percent**
Nil	56	14.1
1 – 3	179	45.2
4 and above	157	39.6
Non response	4	1.1
Total	**396**	**100.0**

Source: Field Data

5.2.8.1 Cross tabulation on Children Going to School by Type of Respondent

Table 5.13 shows that the largest group of the independent farmers, 16% (32) indicated that their children were not in school as compared to 12.2% (24) out grower famers. Subsequently, 59.2 % (116) out-grower farmers indicated that not more than three (3) children were going to school as compared to 31.5% (63) independent farmers who gave the same response. Bellamare, (2018) and FAO, (2018) argue that it is by being educated that the out-grower farmers acquire skills in communication and negotiating in order to make informed decisions to venture into a profitable business that stabilizes income and reduce poverty

Table 5.13: Cross tabulation on Children Going to School by Type of Respondent

		Type of Farmer					
		Out-grower farmer	Percent	Independent Farmer	Percent	Total	Percent
How many children in your house hold are going to school?	None	24	12.2	32	16	56	14.1
	1-3	116	59.2	63	31.5	179	45.2
	4 and more	55	28.1	102	51	157	39.7
	Non response	1	0.5	3	1.5	4	1.0
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.2.9 Children Completed Secondary School

Half of the respondents indicated that none of their children had completed secondary school and 2.3% indicated that all the children had completed school. Similarly, 42.2% respondents indicated one up to three children had completed secondary while 3.6% (14) respondents indicated that four and above children had completed secondary school as shown in Table 5.14.

Table 5.14: Children Completed Secondary School

How many in your household completed secondary school?		
	Frequency	**Percent**
All	9	2.3
None	197	49.7
1 – 3	167	42.2
4 and above	14	3.6
Non Response	9	2.3
Total	**396**	**100.0**

Source: Field Data

5.2.9.1 Cross tabulation on Children Completed Secondary School by Type of Respondent

Table 5.15 shows that 50.5% out-grower farmers and 49% independent farmers, indicated that all of their children had completed secondary level of education, Further, 2% out- grower farmers and 2.5% independent farmers, indicated that none of their children had completed secondary level education. Similarly, 42% of both the out grower farmers and independent farmers indicated that not more than three children had completed secondary level education.

Table 5.15: Cross tabulation on Children Completed Secondary School by Type of Respondent

		Type of Farmer					
		Out-grower farmer	Percent	**Independent**	Percent	**Total**	Percent
How many children in your household have completed secondary school?	None	4	2.0	5	2.5	9	2.3
	All	99	50.5	98	49	197	49.7
	1-3	83	42.4	84	42	167	42.2
	4 and above	8	4.1	6	3	14	3.5
	Non Response	2	1.0	7	3.5	9	2.3
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.2.10 Children up to Tertiary Level of Education

Table 5.16 indicated that the majority of the respondents, 80% had children who did not reach tertiary level education but 6.6% respondents had children who reached tertiary level education.

Table 5.16: Children up to Tertiary level of Education

How many of the children reached tertiary level of education?		
	Frequency	**Percent**
None	319	80.6
All	26	6.6
1 – 3	37	9.3
4 and above	3	.8
Non Response	11	2.8
Total	**396**	**100.0**

Source: Field Data

5.2.10.1 Cross tabulation on Children reached Tertiary education Level by Type of Respondent

The families participating in the out-grower schemes had the lowest number of children that did not get tertiary education. To this effect, Kaur and Kaur, (2018) indicates that a greater focus on strengthening literacy for the out-grower farmers may provide solutions to resolving conflicts arising from out-grower scheme arrangements. Table 5.17 shows that the majority of both the independent farmers and out grower farmers had no children at tertiary level of education. Only,

2.6% out grower farmers and 10.5% independent farmers had children that reached tertiary level of education.

Table 5.17: Cross tabulation on Children reached Tertiary education Level by Type of Respondent

		Type of Farmer					
		Out-grower farmer	**Percent**	**Independent**	**Percent**	**Total**	**Percent**
How many children have reached tertiary level of education?	None	156	79.6	163	81.5	319	80.6
	All	5	2.6	21	10.5	26	6.5
	1 – 3	30	15.3	7	3.5	37	9.3
	4 and above	1	0.5	2	1	3	0.8
	Non Response	4	2	7	3.5	11	2.8
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3 Changes in Poverty Reduction to the Out-Grower Smallholder Farmers

To evaluate the effectiveness of the out-grower schemes on reducing poverty in rural Zambia, it was necessary to establish changes in poverty reduction to the smallholder farmers participating in the out-grower schemes in comparison with independent the farmers. In this regard, the items used as indicators to compare consumption expenditure and the standard of living between the out-grower farmers and independent farmers are meals taken per day, type of house, source of income, income per year, source of lighting at home, cash at the bank, change in income in the last five (5) years, and ownership of livestock such as cattle and goats, vehicle, ox-cart, bicycle, television, radio, and phone sets. The items used as indicators are those that both the out-grower farmers and independent farmer can afford and claim ownership.

5.3.1 Meals taken per Day

The number of meals taken per day is an indicator that can be used to measure poverty. The measuring standard is that three meals are taken per day (CSO & LCMS, 2015). It is in this vein that the study used the number of meals taken per day to compare consumption expenditure and the standard of living between the out-grower farmers and the independent farmers. Majority of

the respondents, 48.7% (193) indicated to afford two meals a day. Further, 46.7% (185) respondents indicated to afford three meals a day. Similarly, 3% (12) respondents indicated to afford one meal a day. Subsequently, 48.5% (97) independent farmers indicated that they managed to have three meals while 45% (88) out-grower farmers managed to have three meals a day. The study found that 4% (8) independent farmers and 2% (4) out-grower farmers had one meal per day as shown in Table 5.18.

Table 5.18: Cross tabulation on Meals taken per day by Type of Respondent

		Type of Respondent					
		Out-grower farmer	**Percent**	**Independent Farmer**	**Percent**	**Total**	**Percent**
How many meals do you have per day?	One	4	2	8	4	12	3
	Two	101	51.5	92	46	193	48.7
	Three	88	45	97	48.5	185	46.7
	Not Sure	3	1.5	1	0.5	4	1
	Non Response	0	0	2	1	2	0.6
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

T-test for Meals per Day

Group Statistics

	Type of Farmer	N	Mean	Std. Deviation	Std. Error Mean
meals per day	Out-grower farmer	196	2.46	.567	.040
	Independent	200	3.42	9.647	.682

Notes:

- Out-grower farmers have mean meals per day of 2.46 while the Independent farmers have a mean meals per day of 3.42
- The mean meals per day deference between out-grower and independent farmers is -.966
- Therefore out-grower farmers are assumed to have lower number of meals per day compared to independent farmers.

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Meals per day	Equal variances assumed	4.201	.041	-1.399	394	.163	-.966	.690	-2.323	.391
	Equal variances not assumed			-1.413	200.402	.159	-.966	.683	-2.313	.382

Decision and Conclusions

- Since *p (0.159)* > is greater than our chosen significance level ($\alpha = 0.005$), we cannot reject the null hypothesis, and conclude that that the mean meals per day for out-grower and Independent farmers is not significantly different.
- Based on the results, it can be stated that there was no significant difference in mean meals per day between Out-grower and Independent farmers

5.3.2 Type of House Owned

Poverty among households in Zambia can also be measured by the housing standards (CSO & LCMS, 2015). The study collected data on housing, characteristics. This section presents results on the type of housing unit used by the out-grower farmers and independent farmers on the basis of occupation. The study found that 22.9% out-grower farmers and the largest group of the independent farmers, 29% had a mud and grass thatched house. Further, the majority of the out-grower farmers, 56% (109) had houses made of burnt bricks and iron sheets as compared as to 47% (94) independent farmers as shown in Table 5.19

Table 5.19: Cross tabulation on Type of the House for the respondent

		Type of Respondent					
		Out-grower farmer	**Percent**	**Independent Farmer**	**Percent**	**Total**	**Percent**
What type of a house do you live in?	Mud Grass Thatched	45	22.9	58	29	103	26
	Mud thatched with Iron Sheets	17	8.6	20	10	37	9.3
	Burnt bricks grass thatched	22	11	27	13.5	49	12.4
	Burnt Bricks with Iron Sheets	109	56	94	47	203	51.3
	Non Response	3	1.5	1	0.5	4	1
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3.3 Main Source of Income

Income can be used to measure poverty. To this effect, the poor are identified by comparing the household income expenditure. Studies have shown gaps in using income as a measure for poverty and much of poverty assessments use household consumption expenditure as an indicator for household income (UN Statistics Division, 2017; Haughton and Khandker, 2009). It is against this background that the study has used consumption expenditure data as an indicator to compare the standard of living between the out-grower farmers and independent farmers. Majority of the respondent, 98% (388) indicated that their major source of income was farming as shown in Table 5.20.

Table 5.20: Main Source of Income

What is your main Source of Income?		
Source of income	**Frequency**	**Percent**
Farming	388	98.0
Business	3	0.8
Farming and Business	1	0.3
Gifts from friends and Relatives	6	1.1
Total	**396**	**100.0**

Source: Field Data

5.3.4 Income per Year

Poverty among households in Zambia can also be measured by income. The measuring standard is total income per year (CSO & LCMS, 2015). It is against this background that the study used the income to compare consumption expenditure and the standard of living between the out-grower farmers and the independent farmers. The majority of the respondents, 31.1% (123), indicated that their annual income was less than two thousand Kwacha (K2000_Zambian currency) while 28.8% (114) indicated that their annual income was above five thousand Kwacha (K5000).

Table 5.21: Income per Year

How much is your income per year?		
Income	**Frequency**	**Percent**
Less than 2000	123	31.1
2001 to 3000	46	11.6
3001 to 4000	52	13.1
4001 to 5000	61	15.4
Above 5000	114	28.8
Total	**396**	**100.0**

Source: Field Data

5.3.4.1 Cross tabulation on Income by Type of Respondent

Table 5.22 indicates that most of the out-grower farmers, 36.7% had an annual income above K5000 as compared to 21% independent farmers. Further, the largest group of the independent farmers, 33.5% had an annual income of less than K2000 as compared to 28.6% out-grower farmers.

Table 5.22: Cross tabulation on Income by Type of Respondent

		Type of Respondent					
		Out-grower farmer	**Percent**	**Independent Farmer**	**Percent**	**Total**	**Percent**
How much is your income per year?	Less than 2000	56	28.6	67	33.5	123	31.1
	2001 to 3000	19	9.7	27	13.5	46	11.6
	3001 to 4000	22	11.2	30	15	52	13.1
	4001 to 5000	27	13.8	34	17	61	15.4
	Above 5000	72	36.7	42	21	114	28.8
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.370[a]	5	.020
Likelihood Ratio	14.231	5	.014
Linear-by-Linear Association	3.830	1	.050
N of Valid Cases	396		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is .99.

Notes:

- The value of test statistics is 13.370
- The corresponding p- value of the test statistic is p = 0.020

Decision and Conclusion

Since the p- value is less than the chosen significant level (a= 0.05), the null hypothesis can be rejected and the conclusion is that there is evidence suggesting an association between type of the respondent and the amount of income earned per year by the respondents.

Based on the results, the following is stated:

- An association was found between type of respondent and amount of income earned per year by respondents (X2(4)> =13.370, p =0.020).

T-test for Income Per year

Group Statistics

	Type of Farmer	N	Mean	Std. Deviation	Std. Error Mean
Income per year	Out-grower farmer	196	4,100	9.797	.700
	Independent	200	2,700	1.566	.111

Notes;

- Out-grower farmers had a mean income of K4,100 while the Independent farmers had a mean income of K2,700
- The mean income deference between out-grower and independent farmers is K1,400
- Therefore out-grower farmers are assumed to have higher income per year compared to independent farmers.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Income per year	Equal variances assumed	2.814	.094	1.964	394	.050	1,400	.702	-.001	2.758
	Equal variances not assumed			1.945	204.756	.053	1,400	.708	-.019	2.775

Decision and Conclusions

- Since *p (0.53)* > is greater than the chosen significance level ($\alpha = 0.005$), we cannot reject the null hypothesis, and conclude that the mean income for out-grower and Independent farmers is not significantly different.
- Based on the results, it can be stated that there was no significant difference in income between Out-grower and Independent farmers

5.3.5 Source of Energy for Lighting

Data relating to the main type of energy used for lighting by households was also collected in order to compare consumption expenditure and the standard of living between the out-grower farmers and the independent farmers. Table 5.23 shows that 71.4% (140) out-grower farmers and 66.5% (133) independent farmers, used solar for lighting. Further 15% (30) independent farmers used forest products for lighting as compared to 7.7% (15) out-grower farmers. Subsequently, the majority of the out-grower farmers, 5.6% (11) used hydro power as compared to 2% (4) independent.

Table 5.23: Cross tabulation on Source of Energy for lighting by Type of Respondent

		Type of Respondent				Total	
		Out-grower farmer	Percent	Independent Farmer	Percent		Percent
What is the source of lighting in your house?	Candle	13	6.6	10	5	23	5.8
	Hydro power	11	5.6	4	2	15	3.8
	Solar	140	71.4	133	66.5	273	68.9
	Paraffin	12	6.1	14	7	26	6.6
	Forest products	15	7.7	30	15	45	11.4
	Others	5	2.6	9	4.5	14	3.5
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.719[a]	4	.606
Likelihood Ratio	3.505	4	.477
Linear-by-Linear Association	.609	1	.435
N of Valid Cases	396		

a. 8 cells (80.0%) have expected count less than 5. The minimum expected count is .49.

Notes:

- The value of test statistics is 2.719
- The corresponding p- value of the test statistic is p =0.606

Decision and Conclusion

Since the p-value is greater than the chosen significant level (a= 0.05), the null hypothesis cannot be rejected. Rather, it is concluded that there is no evidence suggesting an association between type of respondent and source of light for the respondents.

Based on the results, the following stated.

- No association was found between type of respondent and source of lighting used by respondents (X2(4)> =2.719, p =0.606),

5.3.6 Household Income and Assets

To analyze the living conditions of the households, it is required to carry out an assessment on income and assets. Household income and assets owned can be used to measure poverty and wellbeing. Ton *et al.*, (2018), Bellemare, (2018), Bellemare *et al.,* (2017) argue that ownership of productive assets can determine a household's ability to further generate income. It is in this regard that the study has used income and assets to compare the living conditions between the out-grower farmers and independent farmers in order to evaluate the effectiveness of the out-grower to reduce poverty in reducing poverty in rural Zambia

5.3.6.1 Change in Income in the Last Five Years

The study revealed that the majority of the out-grower farmers, 54% had an increase in their income in the last five years as compared to 42% independent farmers. Further, most of the independent farmers, 28.5%, indicated that their income had not changed in the last five years as compared to 20% (39) out-grower farmers. This information is shown in Table 5.24. A similar trend is observed in physical assets and other expenditure. It is evident from the results of the study that participants of the out-grower scheme increased their income as compared to independent farmers. The study is in agreement to similar studies that also found similar results (Bellemare, 2018; Ton *et al.*, 2018)

Table 5.24: Change in Income in the Last Five Years by Type of Respondent

		Type of Respondent				Total	
		Out-grower farmer	**Percent**	**Independent Farmer**	**Percent**		**Percent**
Indicate Change in income in the last five years	Increased	106	54	84	42	190	48
	Decreased	50	25.5	52	26	102	25.7
	No Change	39	20	57	28.5	96	24.3
	Non Response	1	0.5	7	3.5	8	2
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.089[a]	4	.026
Likelihood Ratio	12.059	4	.017
Linear-by-Linear Association	5.091	1	.024
N of Valid Cases	396		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is .49.

Notes:

- The value of test statistics is 11.089
- The corresponding p- value of the test statistic is p =0.026

Decision and Conclusion

Since the p- value is less than the chosen significant level (a= 0.05), the null hypothesis can be rejected and conclude that there is an association between type of respondent and change in income in the last 5 years for the respondents.

Based on the results, the following is stated.

- There was significant association between type of respondent and change in income in the last 5 years as indicated by the responds (X2(4)> =11.089, p =0.026),

5.3.6.2 Assets Owned such as Cash at the Bank by Type of Respondent

The study inquired about cash deposited in the bank as a proxy to measure the standard of living for both the out-grower farmers and independent farmers. Majority of the out-grower farmers, 30.6% indicated that they had cash at bank as compared to 12% independent farmers as shown in Table 5.25.

Table 5.25: Asset Owned such as Cash at Bank by Type of Respondent

		Type of Respondent				Total	
		Out-grower farmer	Percent	Independent Farmer	Percent		Percent
Do you own an asset such as cash at bank?	Yes	60	30.6	24	12	84	21.2
	No	133	67.9	175	87.5	308	77.8
	Non Response	3	1.5	1	0.5	4	1
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3.6.2.1 Cross tabulation on the Change in the Assets Owned such as Cash at the Bank by Type of Respondent

As shown in Table 5.26, the largest group of the independent farmers, 59%, indicated that their cash at bank remained unchanged in comparison to 48.5% out-grower farmers. Further, 26% out-grower farmers indicated that their cash at bank had increased as compared to 9.5% independent farmers.

Table 5.26: Cross tabulation on the Change in the Assets Owned such as Cash at the Bank in the last five years by Type of Respondent

		Type of Respondent					
		Out-grower farmer	Percent	Independent Farmer	Percent	Total	Percent
Indicate the changes in terms of Cash at the bank	Increased	51	26	19	9.5	70	17.7
	Decreased	9	4.6	5	2.5	14	3.5
	No Change	95	48.5	118	59	213	53.8
	Not Applicable	0	0	37	18.5	37	9.3
	Non Response	41	20.9	21	10.5	62	15.7
Total		**196**	**100**	**200**		**396**	**100**

Source: Field Data

5.3.6.3 Assets Owned such as Cattle by Type of Respondent

The study collected data on agricultural activities such as rearing of livestock essentially because this activity contributed to the welfare of households. The Eastern Province had the highest number of households owning livestock, 169,539 (CSO & LCMS, 2015). Cattle are an asset that is used for poverty ranking in the rural community (ibid). It is in this regard that cattle were used as an indicator to compare consumption expenditure and the standard of living between the out-grower farmers and the independent farmers. The study inquired on the number of the out-grower farmers and independent farmers that owned cattle. As shown in Table 5.27, the study discovered that the majority of the out-grower farmers, 61.8% (121) owned cattle as compared to 60% (120) independent farmers. The result on the respondents that did not own cattle was 40% (80) independent farmers and 37.2% (73) out-grower farmers. A similar trend was observed in the other livestock like pigs, goats, chickens and others.

Table 5.27: Cross tabulation on Asset Owned such as Cattle by Type of Respondent

		Type of Respondent					
		Out-grower farmer	**Percent**	**Independent Farmer**	**Percent**	**Total**	**Percent**
Do you own an asset such as cattle?	Yes	121	61.8	120	60	241	60.9
	No	73	37.2	80	40	153	38.6
	Non Response	2	1	0	0	2	0.5
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3.6.3.1 Cross tabulation on the Change in the Assets Owned such as Cattle by Type of Respondent

Table 5.28 shows 44.9% (88) of the out-grower farmers indicated that their cattle had increased in number as compared to 42% (84) independent farmers. Further, 15.3% (30) out-grower farmers indicated that their cattle decreased in number as compared to 10% (20) independent farmers. Similarly, 26% (51) out-grower farmers and 28.5% (57) independent farmers indicated that their cattle remained the same in number. A similar trend was observed in other categories of livestock such as chickens and pigs

Table 5.28 Cross tabulation on the Change in the Assets Owned (Cattle) by Type of Respondent

		Type of Respondent					
		Out-grower farmer	**Percent**	**Independent Farmer**	**Percent**	**Total**	**Percent**
Indicate the changes in the Assets you own such as Cattle	Increased	88	44.9	84	42	172	43.4
	Decreased	30	15.3	20	10	50	12.6
	No Change	51	26	57	28.5	108	27.3
	Not Applicable	0	0	26	13	26	6.6
	Non Response	27	13.8	13	6.5	40	10.1
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3.6.4. Cross tabulation on change in the number of Goats by Type of Respondent

Owning livestock such as goats is an indicator that can be used to compare consumption expenditure and the standard of living in the rural community (CSO & LCMS, 2015). The study inquired on the number of the out-grower farmers and independent farmers that owned goats. Table 5.29 shows that most of the independent farmers, 38.5% indicated an increase in the number of goats in the last five years as compared to 36.3% out grower farmers. Similarly, 29% out grower farmers and 23% (46) independent farmers indicated that the number of the goats had not changed in the last five years. Further, 10.7% out-grower farmers and 11% independent farmers indicated a decrease in the number of goats owned in the last five years. Christina, and Panagiota, (2018) indicate that investing in livestock is a lucrative business in agriculture. To this effect, smallholder farmers invest in livestock, in addition to other farming activities.

Table 5.29: Cross tabulation in the change in the number of Goats by Type of Respondent

		Type of Respondent					
		Out-grower farmer	Percent	Independent Farmer	Percent	Total	Percent
Indicate the changes in the Assets you own such as Goats	Increased	71	36.3	77	38.5	148	37.4
	Decreased	21	10.7	22	11	43	10.9
	No Change	57	29	46	23	103	26
	Not Applicable	0	0	31	15.5	31	7.8
	Non Response	47	24	24	12	71	17.9
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3.6.5 Cross tabulation on Asset Owned such as the Bicycle by Type of Respondent

A bicycle is considered as an asset that can be used in poverty ranking in rural community (CSO & LCMS, 2015). The study inquired on the number of the out-grower farmers and independent farmers that owned a bicycle in order to compare consumption expenditure and the standard of living. As shown in Table 5.30, the majority of the out-grower farmers, 88.3% indicated owning a bicycle as compared to 78% independent farmers. The trend observed was that as the cost of assets got higher, the number of respondents owning the asset started reducing. It was also found that the number of independent farmers owning high cost asset was smaller compared to out-grower farmers. This is true to assets such as oxcart, motor bike, and car.

Table 5.30: Cross tabulation on Asset Owned such as the Bicycle by Type of Respondent

		Type of Respondent					
		Out-grower farmer	Percent	Independent Farmer	Percent	Total	Percent
Type of Mobility asset you own such as the Bicycle	Yes	173	88.3	156	78	329	83
	No	22	11.2	43	21.5	65	16.5
	Non Response	1	0.5	1	0.5	2	0.5
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3.6.6 Cross tabulation on Asset Owned such as the Motor bike by Type of Respondent

Owning an asset such as a motor bike is an indicator that can be used to compare consumption expenditure and the standard of living in the rural community (CSO & LCMS, 2015). The study inquired on the number of the out-grower farmers and independent farmers that owned a motor bike in order to compare consumption expenditure and the standard of living. Table 5.31 shows that the largest group of the out-grower farmers, 29.6% (58) owned a motor bike in comparison to 16% (32) independent farmers

Table 5.31: Cross tabulation on Asset Owned such as the Motor bike by Type of Respondent

		Type of Respondent					
		Out-grower farmer	**Percent**	**Independent Farmer**	**Percent**	**Total**	**Percent**
Type of Mobility asset you own such as Motor bike	Yes	58	29.6	32	16	90	23
	No	138	70.4	168	84	305	77
	No Response	0	0	0		1	
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3.6.7 Cross tabulation on Asset Owned such as Car by Type of Respondent

Owning an asset such as a car is an indicator that can be used to compare consumption expenditure and the standard of living in a rural community (CSO & LCMS, 2015). The study inquired on the number of the out-grower farmers and independent farmers that owned a car in order to compare consumption expenditure and the standard of living between the out-grower farmers and the independent farmers. Table 5.32 shows that 10.7% (21) out-grower farmers owned a car as compared to 6.5% (13) independent farmers.

Table 5.32: Cross tabulation on Asset Owned such as Car by Type of Respondent

		Type of the Respondent					
		Out-grower farmer	Percent	Independent	Percent	Total	Percent
Do you own a type of the mobility asset such as a car?	Yes	21	10.7	13	6.5	34	8.6
	No	172	87.8	187	93.5	359	90.7
	Non Response	3	1.5	0		3	0.7
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3.6.8 Asset Owned such as Phone Set

A phone set is on the list of items that can be used to compare the consumption expenditure and the standard of living in the rural community (CSO, 2015). It is against this background that the study used a phone set to compare the consumption expenditure and standard of living between the out-grower farmers and the independent farmers. It was found that the largest group of the independent farmers, 92% (184) owned a cell phone set as compared to 89.8% (176) out-grower farmers. Further, 9.7% (19) out grower farmers and 8% (16) independent farmers did not own a cell phone set. This information is shown in from Table 5.33.

Table 5.33: Asset Owned such the Phone Set

		Type of Respondent				Total	
		Out-grower farmer	Percent	Independent Farmer	Percent		Percent
Do you own a phone set?	Yes	176	89.8	184	92	360	90.9
	No	19	9.7	16	8	35	8.8
	Non Response	1	0.5	0	0	1	0.3
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3.6.9 Asset Owned such as Television Set

A television set is on the list of items that can be used to compare the consumption expenditure and the standard of living in the rural community (CSO, 2015). It is against this background that the study used a television set to compare the consumption expenditure and standard of living

between the out-grower farmers and the independent farmers**.** As shown in Table 5.34, 35.7% (70) of the out-grower farmers owned a television set as compared to 25% (50) independent farmers. Further, 75% (150) independent farmers and 63.8% (125) out grower farmers, did not own any television.

Table 5.34: Asset Owned such as Television Set

		Type of Respondent					
		Out-grower farmer	**Percent**	**Independent Farmer**	**Percent**	**Total**	**Percent**
Do you own a Television Set?	Yes	70	35.7	50	25	120	30.3
	No	125	63.8	150	75	275	69.4
	Non Response	1	0.5	0		1	0.3
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3.6.10 Asset Owned such as Radio Set

A radio set is on the list of items that can be used to compare the consumption expenditure and the standard of living in the rural community (CSO, 2015). It is against this background that the study used a radio set to compare the consumption expenditure and standard of living between the out-grower farmers and the independent farmers. As shown in Table 5.35, the majority of the out-grower farmers, 79.1% owned a radio set as compared to 74% independent farmers. Further, 26% (52) independent farmers did own not own a radio set as compared to 19.9% (39) out grower farmers

Table 5.35: Asset Owned such as Radio Set

		Type of Respondent					
		Out-grower farmer	**Percent**	**Independent Farmer**	**Percent**	**Total**	**Percent**
Do you own a radio set?	Yes	155	79.1	148	74	303	75.6
	No	39	19.9	52	26	91	23.9
	Non Response	2	1	0	0	2	0.5
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3.6.11 Cross tabulation on Asset Owned such as Ox-cart by Type of Respondent

An ox-cart is on the list of items that can be used to compare the consumption expenditure and the standard of living in the rural community (CSO, 2015). The study inquired on the number of the out-grower farmers and independent farmers that owned an ox-cart in order to compare consumption expenditure and the standard of living. The largest group of the out-grower farmers, 47.4% (93) indicated owning ox-carts in comparison to 43% (86) independent farmers. Further, 56.5% of the independent farmers indicated they did not own an oxcart as compared to 50.5% (99) out-grower farmers. This information is shown in Table 5.36.

Table 5.36: Cross tabulation on Asset Owned such as Ox-cart by Type of Respondent

		Type of Respondent					
		Out-grower farmer	Percent	Independent Farmer	Percent	Total	Percent
Do you own an Ox-cart?	Yes	93	47.4	86	43	179	45.2
	No	99	50.5	113	56.5	212	53.5
	Non Response	4	2.1	1	0.5	5	1.3
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3.7 Sourcing of Farming Inputs

Effective management of farmers is essential to operating a successful out-grower scheme. Out-grower firms seek to gain the confidence of their out-grower farmers to encourage transparency and fairness. Thereof, it is the duty of the out-grower firm to provide better services such as the provision of farming inputs. It is in this regard that the study inquired on the source of farming inputs for the out-grower farmers in comparison to the independent farmers. The study discovered that the largest group of the out-grower farmers, 86.7% (170) got the farming inputs from the out-grower company while 85.5% (171) independent farmers provided for themselves and 5.5% (11) independent farmers got assistance from relatives as shown in Table 5.37. The study is agreement with other similar studies that found that out-grower schemes provided inputs to its participants (Ton *et al.*, 2018; Poku *et al.*, 2018; Matenga, 2017; Hichaambwa & Matenga, 2016).

Table 5.37: Source of Farming Inputs

		Type of Respondent					
		Out-grower farmer	**Percent**	**Independent Farmer**	**Percent**	**Total**	**Percent**
What is your source of farming inputs?	Out grower Scheme Firms	170	86.7	0	0	170	42.9
	Self	0	0	171	85.5	171	43.2
	Cooperatives	0	0	0	0	0	0
	Relatives	0	0	11	5.5	11	2.8
	Non Response	26	13.3	18	9	44	11.1
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3.8 Description of the Process to Source Inputs

Table 5.38 shows that the majority of the independent farmers, 64.5% (129) indicated that it was difficult to find farming inputs as compared to 51% (100) out grower famers. 43.4% (85) of the out-grower farmers indicated that it was easy to get farming inputs as compared to 33.5% (67) independent farmers. Respondents indicated that transport cost was high and the roads were in bad shape, thereby facing challenges in the process of sourcing farming inputs.

Table 5.38: Description of the Process to Source farming Inputs

		Type of Respondent					
		Out-grower farmer	**Percent**	**Independent Farmer**	**Percent**	**Total**	**Percent**
How could you describe the sourcing farming inputs?	Difficult	20	10.2	54	27	74	18.7
	Somehow Difficult	80	40.8	75	37.5	155	39.1
	Easy	85	43.4	67	33.5	152	38.4
	Not Sure	0	0	1	0.5	1	0.3
	Non Response	11	5.6	3	1.5	14	3.5
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

The information in Table 5.38 is further analyzed in detail in Table 5.39 by using the coefficient of variation (CV) and the coefficient of consensus (CC). Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure

variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the process of sourcing farming inputs by both the out-grower farmers and the independent farmers. The measure is applied to the likert scale and any other ordinal responses.

The CV for the out-grower farmers is sixty-three percent (63%) and the CC is thirty-seven percent (37%). The interpretation is that most of the out-grower farmers disagreed on their responses that the sourcing of farming inputs was difficulty while minority of the out-grower farmers agreed on their responses. Similarly, the CV for the independent farmers is fifty-three (53%) and the CC is forty-seven percent (47%). In this regard, many of the independent farmers disagreed on their responses that the sourcing of farming inputs was difficulty while a proportional of the independent farmers agreed on their responses.

Table 5:39: Interpretation of CV and CC on Source of Farming Inputs by Type of Respondents

QC: B1. Is the sourcing of inputs Difficulty?										
Type of Respondent										
Out-grower farmer						**Independent farmer**				
Likert scale	**W**	**F**	**f(w)**	**w^2**	**fw^2**	**W**	**F**	**f(w)**	**w^2**	**fw^2**
SD	1	85	85	1	85	1	67	62	1	67
D	2	0	0	4	0	2	0	0	4	0
N	3	11	33	9	99	3	4	12	9	36
A	4	80	320	16	1280	4	75	300	16	1200
SA	5	20	100	25	500	5	54	270	25	1350
TOTAL		196	538	55	1964		200	644	55	2653
MEAN					**2.7**					**3.2**
SD					**1.7**					**1.7**
CV					**63%**					**53%**
CC					**37%**					**47%**

Source: Field Data

Key: QC = Question Code; **SD** = Strongly Disagree; **D** = Disagree; **N** = Neutral Response; **A** = Agree; **SA** = Strongly Agree; **w** = Designated Weight on Likert scale; **f** = Individual Score; **f(w)** = Weighted Score; **w^2** = Link to Variance; **fw^2** = Link to Standard Deviation; **CV** = Coefficient of Variability; **CC** = Coefficient of Consensus; **SD** = Standard Deviation.

5.3.9 Crop Marketing

The out-grower firm is responsible for the marketing of the agricultural produce and should be responsible for the marketing risks. Out-grower farmers contracted to grow agricultural commodities on their farm and sell to the out-grower firm. Such an operation optimizes the use of out-grower farmers to meet volume requirements. Majority of the out grower farmers, 70.9% (139), indicated selling their farm produce to the out-grower firms as compared to 6% (12) independent farmers. Further, the majority of the independent farmers, 69.5% (139) indicated selling their crops to agro venders as compared to 3.1% (6) out-grower farmers. Subsequently, 10.7% (21) out-grower farmers and 12% (24) independent farmers indicated selling their crops to the Government. This information is shown in Table 5.40.

Table 5.40: Crop Marketing

		Type of Respondent				Total	
		Out-grower farmer	Percent	Independent Farmer	Percent		Percent
Where do you sell Your produce after harvest?	Out grower Schemes	139	70.9	12	6	151	37.1
	Any Agro-Vendor	6	3.1	139	69.5	145	37.6
	Government	21	10.7	24	12	45	11.3
	Not Sure	0	0	5	2.5	5	1.3
	Not Applicable	0	0	5	2.5	5	1.3
	Non Response	30	15.3	15	7.5	45	11.4
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

5.3.9.1 Cross tabulation on the Accessibility of Crop Market by Respondent Type

The study compared the accessibility to markets for agricultural commodities sold by both the out-grower farmers and the independent farmers. Majority of the independent farmers, 51% (102), described accessibility of market as difficulty in comparison to 45.9% (90) out-grower farmers. Further, the largest group of out-grower farmers, 47.4% (93) described access to markets as easy in comparison to 43.5% (87) independent farmers. This information is shown in Table 5.41. The study is in agreement with other similar studies that found out that out-grower

schemes provided to its participants a readily available market for agricultural commodities (Ton *et al.,* 2018; Christina & Panagiota, 2018; FAO, 2018)

Table 5.41: Cross tabulation on the Accessibility of Crop Market by Respondent Type

		Type of Respondent				Total	
		Out-grower farmer	**Percent**	**Independent Farmer**	**Percent**		**Percent**
Is the availability of the market for your produce difficulty?	Difficulty	11	5.6	32	16	43	10.8
	Somehow Difficulty	79	40.3	70	35	149	37.6
	Easy	93	47.4	87	43.5	180	45.5
	not sure	1	0.5	2	1	3	0.8
	Not Applicable	0	0	5	2.5	5	1.3
	No response	12	6.2	4	2	16	4
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

The information in Table 5.41 is further analyzed in detail in Table 5.42 by using the coefficient of variation (CV) and the coefficient of consensus (CC). Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the process of sourcing farming inputs by both the out-grower farmers and the independent farmers. The measure is applied to the likert scale and any other ordinal responses. The CV for the out-grower farmers is sixty-four percent (64%) and the CC is thirty-six percent (36%). The interpretation is that the largest group of the out-grower farmers disagreed on their responses that accessing the market for the agricultural produce was difficulty while few out-grower farmers agreed on their response. Similarly, the CV for the independent farmers is fifty-seven (57%) and the CC is forty-three percent (43%). In this regard, the majority of the independent farmers disagreed on their responses that accessing the market for the agricultural produce was difficulty while a proportional of the independent farmers agreed on their responses.

Table 5:42: Interpretation of CV and CC on Access to Market for Agricultural Produce by Type of Respondents

QC: B2. Is the availability of the market for your produce difficulty?										
Type of Respondent										
Out-grower farmer						Independent farmer				
Likert scale	**W**	**F**	**f(w)**	**w^2**	**fw^2**	**W**	**F**	**f(w)**	**w^2**	**Fw^2**
SD	1	93	93	1	93	1	87	87	1	87
D	2	0	0	4	0	2	0	0	4	0
N	3	13	39	9	117	3	11	33	9	99
A	4	79	316	16	1264	4	70	280	16	1120
SA	5	11	55	25	275	5	32	160	25	800
TOTAL		**196**	**503**	**55**	**1749**		**200**	**560**	**55**	**2106**
MEAN					**2.5**					**2.8**
SD					**1.6**					**1.6**
CV					**64%**					**57%**
CC					**36%**					**43%**

Source: Field Data

5.4 Knowledge of the Out-grower Farmers on the Operation of the Out-grower Schemes

In any project, knowledge to understand the management of the project by the stakeholders is very important in order to meet the objectives and achieve the intended goal. Therefore, is it necessary to determine the out-grower smallholder farmers understanding of the operations of out-grower schemes. In this regard, relevant indicators are selected and discussed in detail in the proceeding paragraphs. In this section, the discussion focuses **only on the out-grower smallholder farmers and not independent farmers.**

5.4.1 Years as an Out-grower Farmer

As shown in Table 5.43, the largest group of the out-grower farmers, 38.8% indicated that they had been in the out grower scheme for the period between four and six years. Further, 27.6% out-grower farmers indicated that they had been in the out-grower scheme for the period of more than ten years. The out grower farmers indicated that they were motivated to join the out-grower schemes because of a readily available loan facility that include extension services, farming inputs, crop market, and many more. They also indicated that joining the scheme was voluntary and no one coerced and/or forced them.

Table 5.43: Years as an Out-grower Farmer

How long have you been an out grower farmer?		
	Frequency	**Percent**
Less than 3 years	34	17.3
Between 4 - 6 Years	76	38.8
Between 7 - 9 years	30	15.3
10 Years and above	54	27.6
Not Applicable	2	1
Total	**196**	**100.0**

Source: Field Data

5.4.2 Out-grower Farmers benefit in Comparison with the Independent Farmers.

The majority of the out grower farmers, 92.3% (181), indicated that they benefited more, as out grower farmers, than independent farmers who were not participants of the out-grower scheme. Further, 4.6% (9) out grower farmers indicated that they had not benefited from the out-grower scheme. Those who benefited from the out-grower scheme were in agreement that out grower firms provided inputs on loan, especially in times when respondents did not have money to buy inputs on cash basis. They indicated that loans were flexible because when they failed to pay back in a particular season, such loans would be carried forward to the next farming season to give farmers time to settle their debts. The respondents indicated that such an arrangement also helped them to get back on track in times of calamities like sickness and droughts. Respondents also indicated that they were motivated to join out grower schemes because the schemes provided a ready market. This information is shown in Table 5.44.

Respondents understood the term ‘out grower scheme’ and gave various definitions but the common definition was that ‘an out-grower scheme is an arrangement where a company gives out inputs to farmers on credit or loan and the same company provides market for the agricultural commodities’. Respondents gave examples of the out grower companies operating in their communities such as NWK, Cargil, JTI, and Tobacco Board of Zambia - TBZ. The study is in agreement with other similar studies that revealed that the out-grower scheme provided to its participants a range of agricultural products (World Bank, 2018; Murekezi et al, 2018; FAO, 2018; IFAD, 2016; Matenga, 2017).

Table 5.44: Out-grower Farmers benefit in Comparison with the Independent Farmers.

Being an out-grower farmer is more beneficial than independent farmer. What is your opinion?		
	Frequency	**Percent**
Strongly Agree	88	44.9
Agree	93	47.5
Strongly Disagree	2	1
Disagree	9	4.6
Not Sure	3	1.5
Non Response	1	0.5
Total	**196**	**100.0**

Source: Field Data

The information in Table 5.44 is further analyzed in detail as shown in Table 5.45. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the benefit of being an out-grower farmer as compared to the independent farmer. The measure is applied to the likert scale and any other ordinal responses. The CV is nineteen percent (19%) and CC stands at eighty-one percent (81%). The interpretation is that the largest group of the out-grower farmers were in agreement on their responses that belonging to the out-grower scheme was more beneficial than being an independent farmer while few out-grower farmers disagreed on their responses.

Table 5.45: Interpretation of CV and CC on the benefit of being an Out-grower Farmer

QC: B3. Being an out-grower farmer is more beneficial than independent farmer. What is your opinion?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	2	2	1	2
D	2	9	18	4	36
N	3	4	12	9	36
A	4	93	372	16	1488
SA	5	88	440	25	2200
TOTAL		**196**	**844**	**55**	**3762**
MEAN					**4.3**
SD					**0.83**
CV					**19%**
CC					**81%**

Source: Field Data

5.4.3 Out-grower Farmers' Knowledge on the operation of the out-grower schemes

It is necessary that out-grower farmers have the required knowledge because out-grower schemes are operated as business enterprises that must be profitable to both the out-grower farmers and out-grower firm. To this effect, the out-grower farmers must have the knowledge on the operations of the out-grower schemes. Studies have revealed that out-grower farmers have had challenges in adhering to contractual obligations because of not understanding the out-grower scheme arrangements (Kaur and Kaur (2018). It is against this background that the study sought to find out if out-grower farmers understood the operations of the out-grower schemes. Table 5.46 shows that the majority of the out-growers farmers, 66.8% (131), indicated that they understood how the out-grower schemes operated. The minority of out-grower farmers, 6.1% (12) indicated that they did not understand how the out grower schemes operate. It was also found that the sources of information about the operations of the out-grower schemes were radio, friends and outreach visits by out-grower firms themselves.

Table 5.46: Out-grower Farmers' Knowledge on the operation of out-grower schemes

Do you understand how out-grower schemes operate?		
	Frequency	**Percent**
Yes	131	66.8
No	12	6.1
Somehow	47	24
Not sure	5	2.6
Non Response	1	0.5
Total	**196**	**100.0**

Source: Field Data

The information in Table 5.46 is further analyzed in detail as indicated in Table 5.47. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the knowledge of the out-grower farmers to understand the operations of the out-grower scheme. The measure is applied to the likert scale and any other ordinal responses. The CV is twenty-seven percent (27%) as compared to the CC at seventy-three percent (73%). In this regard, a small percentage of out-grower farmers disagreed on their

responses that they understood the operations of the out-grower schemes while the most of the out-grower farmers were in agreement on their responses.

Table 5.47: Interpretation of CV and CC on Understanding Out-grower Operations.

QC: C1. Do you understand how out-grower schemes operate?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	12	12	1	12
D	2	0	0	4	0
N	3	6	18	9	54
A	4	47	188	16	752
SA	5	131	655	25	3275
TOTAL		**196**	**873**	**55**	**4093**
MEAN					**4.4**
SD					**1.2**
CV					**27%**
CC					**73%**

Source: Field Data

5.4.4 Information Dissemination by the Out-grower Scheme on its Operations

Information sharing is vital in any business enterprise and the out-grower schemes are not an exception. An out-grower scheme operates as a value chain and information should be provided at every single stage of crop production. Therefore, it is important that information is shared to the out-grower farmers. Studies have revealed that information sharing promotes trust and transparency (Casaburi & Wills, 2017; Samphantharak & Townsend, 2017; Takahashi, 2017; Kunda; 2008). As shown in Table 5.48, out-grower farmers, 54.1% (106) indicated that the out-grower firms did provide a platform to disseminate information on the operations of the out-grower scheme. Similarly, 39.3% (77) out-grower farmers indicated that the out grower firms did not provide a platform to disseminate information on the operations of the out-grower scheme.

Table 5.48: Information Dissemination on the Operations of Out-grower Scheme

Do out grower schemes create platforms to provide information on how they operate?			
		Frequency	**Percent**
	Yes	106	54.1
	No	77	39.3
	Somehow	11	5.6
	Non Response	2	1
Total		**196**	**100.0**

Source: Field Data

The information in Table 5.48 is further analyzed in detail as shown in Table 5.49. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on providing information by the out-grower firm on the operations of the out-grower scheme. The measure is applied to the likert scale and any other ordinal responses. The CV stands at fifty-three percent (53%) while the CC is forty-seven percent (47%). The interpretation is that the majority of the out-grower farmers disagreed on their responses that the out-grower scheme provided information on its operations and a proportion of the out-grower farmers agreed on their responses.

Table 5.49: Interpretation of CV and CC on Dissemination of Information by the out-grower Scheme

QC: C2. Do out-grower schemes create platforms to provide information on how they operate?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	77	77	1	77
D	2	0	0	4	0
N	3	2	6	9	18
A	4	11	44	16	176
SA	5	106	530	25	2650
TOTAL		**196**	**657**	**55**	**2921**
MEAN					**3.4**
SD					**1.8**
CV					**53%**
CC					**47%**

Source: Field Data

5.4.5 Contracting with the Out-grower Schemes

Out-grower schemes operate on the basis of contract farming. The contract is signed between the out-grower farmers and out-grower firm. To this effect, both the out-grower farmers and out-grower firm must adhere to their contractual obligations. The breach of the contract by either the out-grower farmers or out-grower firm has consequences on the out-grower scheme arrangements. Should there be changes in the contract, both parties must take responsibility. Bellemare, (2018) and Ragasa, *et al.,* (2018) emphasize that communication is very important in

contract management because it promotes trust and transparency. As shown in Table 5.50, it was also found that the largest group of the out-grower farmers, 85.2% (167) indicated that out-grower firms signed a contract with the out-grower farmers. The minority of the out-grower farmers, 11.7 (23) indicated that they did not sign any contract with the out-grower firm.

Table 5.50: Contracting with the Out-grower Schemes

Do you sign Contracts with the out-grower Schemes?		
	Frequency	**Percent**
Yes	167	85.2
No	23	11.7
Sometimes	5	2.6
Non Response	1	0.5
Total	**196**	**100.0**

Source: Field Data

The information in Table 5.50 is further analyzed in detail in Table 5.51. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the out-grower farmers' contract arrangement with the out-grower scheme. The measure is applied to the likert scale and any other ordinal responses. The CV is twenty-nine percent (29%) and the CC is seventy-one percent (71%). The majority of the out-grower farmers agreed on their responses that they signed a contract with the out-grower schemes while the minority of out-grower farmers disagreed on their responses.

Table 5.51 Interpretation of CV and CC on Signing a Contract with the Out-grower Scheme

QC: C3. Do you sign Contracts with the out-grower Schemes?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	23	23	1	23
D	2	0	0	4	0
N	3	1	3	9	9
A	4	5	20	16	80
SA	5	167	835	25	4175
TOTAL		**196**	**881**	**55**	**4287**
MEAN					**4.5**
SD					**1.3**
CV					**29%**
CC					**71%**

Source: Field Data

5.4.6 Understanding the contents of the contract

It is a tendency by smallholder farmers to sign a contract without reading and understanding the contents of the contract. They sign because of desperation to get agricultural inputs. In this regard the out-grower firm must explain, clearly, contents of the contract to the out-grower farmers. Studies have revealed that misunderstanding of the contract by the out-grower farmers have the potential to make out-grower schemes fail (Bellemare, 2018; Navarra, 2018; Kuar *et al.*, 2017). As shown in Table 5.52, the majority of the out-grower farmers, 67.3% (132) indicated that they understood the contents of the contract before signing while 8.2% (16) were not in agreement. Further, 17.9% (35) out-grower farmers indicated that sometimes the out-grower firm explained the contents before signing while 1.3% (3) out-grower farmers were not sure.

Table 5.52: Understanding the contents of the contract

Are you made to understand of the contents of the contract before signing?		
	Frequency	**Percent**
Yes	132	67.3
No	16	8.2
Sometimes	35	17.9
Not sure	3	1.5
Non Response	10	5.1
Total	**196**	**100.0**

Source: Field Data

The information in Table 5.52 is further analyzed in detail in Table 5.53. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the explanation of the contract's content to the out-grower farmers by the out-grower firm. The measure is applied to the likert scale and any other ordinal responses. The CV is thirty-two percent (32%) and the CC is at sixty-eight percent (68%). The interpretation is that the majority of the out-grower farmers were in agreement on their responses that the out-grower firm explained the contents of the contract before signing. The minority of the out-grower farmers disagreed on their responses.

Table 5.53: Interpretation of CV and CC on Understanding the Contents of the Contract.

QC: C4. Are you made to understand of the contents of the contract before signing?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	16	16	1	16
D	2	0	0	4	0
N	3	13	39	9	117
A	4	35	140	16	560
SA	5	132	660	25	3300
TOTAL		**196**	**855**	**55**	**3993**
MEAN					**4.3**
SD					**1.4**
CV					**32%**
CC					**68%**

Source: Field Data

5.4.7 Understanding the language in which the contract is written

Contracts relating to out-grower scheme arrangements are written in the official language which is English, in the case of Zambia. The study revealed that the majority of the out-grower farmers have challenges in understanding the official language in which the contract is written. To this effect, the out-grower firm must endeavor to translate the contents of the contract into the main local language spoken in the community where the out-grower scheme operates. Translating contracts into the local language can avoid conflicts by ensuring trust and transparency in the long-term relationships (IFAD, 2014). As shown in Table 5.54, the majority of the out-grower

farmers, 50.5% (99) did not understand the language in which the contract was written and 11.2% (22) out-grower farmers partially understood the language. Further, 35.7% (70) out-grower farmers indicated that they understood the language.

Table 5.54: Understanding the language in which the contract is written

Do you understand the language in which the contract is written?			
		Frequency	**Percent**
	Yes	70	35.7
	No	99	50.5
	Not Much	22	11.2
	Non Response	5	2.6
Total		**196**	**100.0**

Source: Field Data

The information in Table 5.54 is further analyzed in detail in Table 5.55. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on understanding the language in which the contract was written. The measure is applied to the likert scale and any other ordinal responses. The CV is sixty-eight percent (68%) and the CC is at thirty-two percent (32%). The interpretation is that the most of the out-grower farmers were in disagreement on their responses that they understood the language in which the contract was written while the minority of the out-grower farmers agreed on their responses.

Table 5.55: Interpretation of CV and CC on the Language of the Contract

QC: C5. Do you understand the language in which the contract is written?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	99	99	1	99
D	2	0	0	4	0
N	3	5	15	9	45
A	4	22	88	16	352
SA	5	70	350	25	1750
TOTAL		**196**	**552**	**55**	**2246**
MEAN					**2.8**
SD					**1.9**
CV					**68%**
CC					**32%**

Source: Field Data

5.4.8 Preference of the language for the contract to be written in

Out-grower farmers' participation in out-grower scheme arrangement is compromised by their low level of education and illiteracy. Therefore, out-grower schemes should avail to the out-grower farmers a preference on the language that the contract should be written in. Ragasa *et al,* (2018) indicate that out-farmers have challenges in reading and understanding the contract. Therefore, they depend on their literate relatives to present them when they are required to sign formal contracts. As shown in Table 5.56, the majority of the out-grower farmers, 85.7% (168), preferred that contracts are written in the local language while the preference for 11.2% (22) out-grower farmers was that contracts are written in the official language which is English.

Table 5.56: Preference of the language for the contract to be written in

	What language do you prefer the contract to be written in?		
		Frequency	**Percent**
	English	22	11.2
	Local Language	168	85.7
	Non response	6	3.1
Total		**196**	**100.0**

Source: Field Data

5.4.9 Announcement of Agricultural Commodities Price by the Out-grower Firm

The out-grower scheme arrangement is that the price of the agricultural commodities is included in the contract and announced to the out-grower farmers before signing the contract. The anticipation is that the out-grower farmers are able to make informed decision on whether to continue or cancel the contract with the out-grower scheme. To this effect, the price of the agricultural commodities is announced after harvesting the crops. Kunte *et al.,* (2017) and CAZ (2016) argue that the time at which the price is announced has a significant effect on the out-grower farmers to plan for farming activities. The out-grower arrangement provides benefits to the out-grower farmers as well as out-grower firms. However, mistrust and not being transparent is a source of conflict that can cause problems. As shown in Table 5.57, the majority of the out-grower farmers, 57.7% (113) indicated that the out-grower firm announced the price for agricultural commodities after harvest. Announcing the price at the time of signing the contract binds the out-grower to pay the stipulated price. Announcing the price after crop harvest, is a hedge should there be a slump in the performance of the economy that affects profitability.

Table 5.57: Announcement of Agricultural Commodities Price by Out-grower Firm

When is the price of agricultural commodities announced by the out-grower firm?			
		Frequency	**Percent**
	Before Planting	3	1.5
	Just Before harvest	75	38.3
	After harvest	113	57.7
	Not sure	1	0.5
	Non Response	4	2
Total		**196**	**100.0**

Source: Field Data

5.4.10 Effect of Price Announcement on Decision to do Farming with the Out-grower Scheme

Although the time of announcing the price of agricultural commodities does not affect the out-grower farmers' decision to contract with the out-grower scheme, it is fair to announce the price at beginning of the farming season for strategic planning. Ahungwa *et al.*, (2017) argue that late announcement of the price encourages selling the crop to other buyers outside the contract that offer a better price. As indicated in Table 5.58, majority of the out-grower farmers, 92.9% (182), indicated that late announcement of the crop price had no impact on making a decision on either to continue as an out-grower farmer or discontinue as compared to 3.5% (7) that were in agreement.

Table 5.58: Effect of Price Announcement on Decision to do Farming with the Out-grower Scheme

Does the period during which prices are announced give you enough time to decide to do farming with the out-grower scheme?			
		Frequency	**Percent**
	Yes	7	3.5
	No	182	92.9
	Not Sure	6	3.1
	Non Response	1	0.5
Total		**196**	**100.0**

Source: Field Data

The information in Table 5.58 is further analyzed in detail in Table 5.59. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and

consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the effect of timing for price announcement to the out-grower farmers. The measure is applied to the likert scale and any other ordinal responses. The CV is sixty-nine percent (69%) while the CC stands at thirty-one percent (31%). Many of the out-grower farmers disagreed on their responses that the time at which the price of crops was announced affected their planning for farming activities. However, the minority of the out-grower farmers were in agreement on their responses.

Table 5.59: Interpretation of CV and CC on the Effect of Price announcement on Farming Activities

QC: C6. Does the period during which prices are announced give you enough time to decide to do farming with the out-grower scheme?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	182	182	1	182
D	2	0	0	4	0
N	3	7	21	9	63
A	4	0	0	16	0
SA	5	7	35	25	175
TOTAL		**196**	**238**	**55**	**420**
MEAN					**1.2**
SD					**0.83**
CV					**69%**
CC					**31%**

Source: Field Data

5.4.11 Opinion of the Out-grower Farmers on the Agricultural Commodity pricing system by the Out-grower Scheme

Development of transparent pricing systems is important to avoid mistrust and promote transparency. Therefore, there is need to develop a transparent pricing system that benefits both the out-grower farmers and the out grower firm. The uncertainty about price levels to exploitation of the out-grower farmers. The out-grower scheme provides a value chain that offers information at every stage of the activities in the value chain. ActionAid, (2015) indicates that for the success of the out-grower scheme, is important that the multitude of issues are addressed right from the beginning. However, it is exactly this knowledge which is neither available to the out-grower firm nor to the out-grower farmers when initiating an out-grower scheme. Therefore,

trust can only be established over time and the fear of exploitation has to be dealt with. The largest group of the out grower farmers, 49.5% (97), indicated that the pricing mechanism for agricultural commodities by the out-grower scheme was bad while 46.9% (92) out-grower farmers indicated that the pricing mechanism was fair as shown in Table 5.60.

Table 5.60: Opinion on the Agricultural Commodity pricing system by out-grower the Out-grower Scheme

What is your opinion on the agricultural commodity pricing system by out-grower the Out-grower Scheme?			
		Frequency	**Percent**
	Good	5	2.6
	Bad	97	49.5
	Fair	92	46.9
	Not Sure	1	0.5
	Non Response	1	0.5
Total		**196**	**100.0**

Source: Field Data

The information in Table 5.60 is further analyzed in detail in Table 5.61. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the opinion of the out-grower farmers about the agricultural commodity pricing system by the out-grower scheme. The measure is applied to the likert scale and any other ordinal responses. The CV is sixty-four percent (64%) while the CC stands at thirty-six percent (36%). The largest group of the out-grower farmers disagreed on their responses that the pricing system of the agricultural commodity was good while few the out-grower farmers were in agreement on their responses.

Table 5.61: Interpretation of CV and CC on the Out-grower farmers' opinion on the Agricultural Commodity pricing System

QC: C7. What is your opinion on the agricultural commodity pricing system by out-grower the Out-grower Scheme?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	97	97	1	97
D	2	0	0	4	0
N	3	2	6	9	18
A	4	92	368	16	1472
SA	5	5	25	25	125
TOTAL		**196**	**496**	**55**	**1712**
MEAN					**2.5**
SD					**1.6**
CV					**64%**
CC					**36%**

Source: Field Data

5.4.12 Participation in determining the price of Agricultural Commodities

The fact that the contract is between the out-grower farmers and out-grower firm, both parties must have a hand in managing the out-grower scheme arrangements, especially on the price of the agricultural commodities because income affects the wellbeing of both parties. However, the out-grower firm does not discuss with the out-grower farmers the price at which the agricultural commodities are sold. To this effect, the price is not included in the contract. The pricing mechanism seems to be benefiting the out-grower firms. Studies have revealed that the out-grower schemes are a vehicle to provide cheap labor and land availability for the benefit of the out-grower firms (ActionAid, 2015). As indicated in Table 5.62, the majority of the out-grower farmers, 93.9% (184), indicated that they did not participate in determining the prices of the agricultural commodities. However, the minority of the out-grower farmers, 3.6% (6) were in agreement but indicated that they participated in setting prices for crops through representation by the government.

Table 5.62: Participation in determining the Price of Agricultural Commodities

Do you participate in determining the pricing of agricultural commodities?			
		Frequency	**Percent**
	Yes	6	3.1
	No	184	93.9
	Sometimes	3	1.5
	Not Sure	2	1
	Non Response	1	0.5
Total		**196**	**100.0**

Source: Field Data

The information in Table 5.62 is further analyzed in detail as shown in Table 5.63. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the involvement of the out-grower farmers in the pricing of agricultural commodities by the out-grower firms. The measure is applied to the likert scale and any other ordinal responses. The CV stands at sixty-seven percent (67%) and the CC is at thirty-three percent (33%). Most of the out-grower farmers disagreed on their responses that they were not involved in determining the price for the crops by the out-grower firm. The minority of the out-grower farmers were in agreement on their responses.

Table 5.63: Interpretation of CV and CC on Participating in the pricing process of Agricultural Commodities

QC: C8. Do you participate in the pricing of agricultural commodities?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	184	184	1	184
D	2	0	0	4	0
N	3	3	9	9	27
A	4	3	12	16	48
SA	5	6	30	25	150
TOTAL		**196**	**235**	**55**	**409**
MEAN					**1.2**
SD					**0.8**
CV					**67%**
CC					**33%**

Source: Field Data

5.4.13 Stakeholders Participating in determining the Price of Agricultural Commodities

Including third parties as external partners can provide checks and balances to promote trust and transparency between the out-grower farmers and the out-grower firm, especially on adherence to contractual obligations by both parties. The out-grower scheme can benefit from the expertise and competencies of the third parties, in terms of synergy. As indicated in Table 5.64, the majority of the out grower farmers, 48.5% (95) were not sure if other stakeholders participated in crop pricing. Further, 47.4% (93) out-grower farmers indicated that the government participated and 3.6% (7) out-grower farmers indicated that the farmer associations did participate.

Table 5.64: Stakeholders Participating in Commodity Pricing

Who participates in the pricing of the agricultural commodities?			
		Frequency	**Percent**
	Self	0	0
	Farmer association	7	3.6
	Government	93	47.4
	Not sure	95	48.5
	Non Response	1	0.5
Total		**196**	**100.0**

Source: Field Data

5.4.14 Control on negotiations for determining the Price of Agricultural Commodities

The out-grower farmers have no bargaining power in the out-grower scheme arrangements. Although the out-grower scheme can contribute to the wellbeing of the out-grower farmers, exclusion from taking part in the negotiations disadvantages them from discussing their challenges with the out-grower firm. Studies reveal that the out-grower firm has an upper hand in controlling the out-grower scheme arrangements (Navarra, 2018). As shown in Table 5.65, the majority of the out grower farmers, 83.7% (164), indicated that the out-grower firms had more control in setting the price of the agricultural commodities than any other agency. Further, 9.7% (19) out-grower farmers indicated that the government had much control in setting the price of agricultural commodities.

Table 5.65: Control on negotiations of setting Agricultural Commodity Prices

Who controls negotiations of setting commodity prices?			
		Frequency	**Percent**
	Out grower companies	164	83.7
	Out grower farmers	4	2
	Government	19	9.7
	Not sure	7	3.6
	Non Response	2	1
Total		**196**	**100.0**

Source: Field Data

5.4.15 Effect of the Current Pricing Mechanism on Profit

Out-grower schemes should benefit farmers through more stable prices and reliable, timely payments. Price determination and quality assessment are, not surprisingly, contentious issues. Careful consideration of the appropriate pricing mechanism is a requirement. Of fundamental importance is that out-grower farmers understand the price determination mechanism and perceive it as fair and transparent. In Zambia, the pricing arrangement is that the out-grower scheme tie the price in US$ at the world market and out-grower farmers lose out due to currency exchange rate fluctuation because they are paid in the local currency that is weak as compared to the US$. Ton *et al*., (2018) and Sambuo, (2018) posit that most out-grower firms adopt the pricing mechanism that prevents them from tying themselves to a predetermined fixed price, especially when market volatility has a high level. Table 5.66 shows that the majority of the out-grower farmers 85.7% (168) indicated that the current pricing mechanism affected them negatively on profit while 9.7% (19), indicated that the pricing mechanism had no effect on their profit from the sale of agricultural commodities.

Table 5.66: Effect of the Current Pricing Mechanism on Profit

Do you think the current pricing mechanisms negatively affect your profit in farming			
		Frequency	**Percent**
	Yes	168	85.7
	No	19	9.7
	Somehow	8	4.1
	Non Response	1	0.5
Total		**196**	**100.0**

Source: Field Data

The information in Table 5.66 is further analyzed in detail as indicated in Table 5.67. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the effect of the current pricing mechanism on the profit that out-grower farmers realize. The measure is applied to the likert scale and any other ordinal responses. The CV is seventy-nine (79%) in comparison with the CC at twenty-one percent (21%). Majority of the out-grower farmers agreed on their responses that the current pricing mechanism had a negative effect on the profit realized from crop marketing while few of the out-grower farmers were in disagreement on their responses.

Table 5.67: Interpretation of CV and CC on the Effect of pricing mechanism on Profit

QC: C9. Do you think the current pricing mechanisms negatively affect your profit in farming					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	19	19	1	19
D	2	0	0	4	0
N	3	1	3	9	9
A	4	8	32	16	128
SA	5	168	840	25	4200
TOTAL		**196**	**894**	**55**	**4356**
MEAN					**4.6**
SD					**1**
CV					**21%**
CC					**79%**

Source: Field Data

5.4.16 Opportunity for the Out-grower to sell Agricultural Commodities Elsewhere

Engaging groups of out-grower farmers, rather than several individual farmers, can help out-grower firms to achieve significant economies of scale. Bannor, *et al,* 2018 highlight that side-selling, the sale of contracted agricultural commodities to other buyers, is a common practice by the out-grower farmers. The reasons for side selling vary in that some of the out-grower farmers sell to other buyers because of a market price that is higher than the contracted price. Other out-grower farmers sell to other buyers to avoid repayment of credit on farming inputs. As shown in Table 5.68, majority of the out-grower farmers, 73% (143), indicated that they are not given any

opportunity to sell their crops elsewhere because the contract binds them to sell the agricultural commodities to the out-grower firm that provided the loan.

Table 5.68: Opportunity to sell Agricultural Commodities Elsewhere

Do you have the opportunity to sell the agricultural commodities elsewhere?			
	Response	**Frequency**	**Percent**
	Yes	22	11.2
	No	143	73
	Sometimes	29	14.8
	Non Response	2	1
Total		**196**	**100.0**

Source: Field Data

The information in Table 5.68 is further analyzed in detail as shown in Table 5.69. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the opportunity for the out-grower farmers to sell the agricultural commodities to other buyers apart from the out-grower firm that offered the loan. The measure is applied to the likert responses and any other ordinal scale. The CV is seventy-nine percent (79%) while the CC stands at twenty-one percent (21%). In this regard, majority of the out-grower farmers disagreed on their responses that they had the opportunity to sell crops to other buyers apart from the out-grower firm that offered the loan. However, the minority of the out-grower farmers were in agreed on their responses.

Table 5.69: Interpretation of CV and CC on Selling the Produce elsewhere

QC: C10. Do you have opportunity to sell your produce elsewhere if not satisfied price set by the out grower Scheme?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	143	143	1	143
D	2	0	0	4	0
N	3	2	6	9	18
A	4	29	116	16	464
SA	5	22	110	25	550
TOTAL		**196**	**375**	**55**	**1175**
MEAN					**1.9**
SD					**1.5**
CV					**79%**

Source: Field Data

5.4.17 Loan Repayment Management by the Out-grower Firms

At harvest, the out-grower scheme deducts the total loan amount for farming in puts and any other accessories. Studies reveal that in cases where out-grower farmers fail to pay off the loan from the sale of the agricultural commodities, the out-grower scheme requests them to pay in-kind (Atkin *et al*, (2018). As indicated in Table 5.70, the majority of the out-grower farmers, 86.2% (169), indicated that the loan amount is deducted at the time of selling the crop to the out-grower firm.

Table 5.70: Loan Repayment Management by the Out-grower Firms

How is loan repayment managed by out grower firms?			
		Frequency	**Percent**
	Loan Deducted from sales	169	86.2
	paid cash by farmers	21	10.8
	Paid in kind	3	1.5
	Non Response	3	1.5
Total		**196**	**100.0**

Source: Field Data

5.4.18 Disclosure of Loan Amount by the Out-grower firm at the time of Collecting Inputs

The study revealed that the out-grower scheme discloses the loan amount to the out-grower farmers and provides documentation thereof. As indicated in Table 5.71, the majority of the out-grower farmers, 83.7% (164), indicated that loan amounts are revealed at the time that inputs are distributed to farmers. However, 12.2% (24) out-grower farmers were in disagreement. This information is as shown in Table 5.71.

Table 5.71: Disclosure of Loan Amount at the time of Collecting Inputs

Is loan amount disclosed to you at the time of collecting inputs?			
		Frequency	**Percent**
	Yes	164	83.7
	No	24	12.2
	Sometimes	5	2.6
	Not sure	1	0.5
	Non Response	2	1
Total		**196**	**100.0**

Source: Field Data

The information in Table 5.71 is further analyzed in detail as shown in Table 5.72. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the disclosure of the loan amount by the out-grower firm to out-grower farmers. The measure is applied to the likert scale and any other ordinal responses. The CV is at twenty-six percent (26%) as compared to the CC at seventy-four percent (74%). The interpretation is that the most of the out-grower farmers agreed on their responses that the loan amount was disclosed at the time of signing the contract. Few of the out-grower farmers did not agree on their responses.

Table 5.72: Interpretation of CV and CC on Disclosure of Loan Amount

QC: C11. Is loan amount disclosed to you at the time of collecting inputs?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	24	24	1	24
D	2	0	0	4	0
N	3	3	9	9	27
A	4	5	20	16	80
SA	5	164	820	25	4100
TOTAL		**196**	**873**	**55**	**4231**
MEAN					**4.5**
SD					**1.2**
CV					**26%**
CC					**74%**

Source: Field Data

5.4.19 Equivalence of the Loan Amount to the prevailing value of Inputs on the Market

Out-grower schemes have been operated with varying degrees of success. At their worst, investors may exploit power differences in pricing mechanisms for products. Out-grower farmers receive inputs on credit and to this effect, Yang *et al.,* (2018) and Ton *et al.,* (2018) indicate that the out-grower schemes inflate the price of agricultural commodities in order to make up for overhead expenditure. Independent farmers buy at a low price. As indicated in Table 5.73, the largest group of the out-grower farmers, 61.2% (120), disagreed that the loan amount was equivalent to the prevailing value of the farming inputs on the market while 22% (43) out-grower

farmers were in agreement. Further, 14.3% (28) out-grower farmers indicated that, sometimes, the loan amount was equivalent to the prevailing value of the farming inputs on the market.

Table 5.73: Equivalence of the Loan Amount to the prevailing value of Inputs on the Market

Is loan amount equivalent to the prevailing value of the farming inputs on the market?			
		Frequency	**Percent**
	Yes	43	22
	No	120	61.2
	Sometimes	28	14.3
	Not Sure	3	1.5
	Non Response	2	1
Total		**196**	**100.0**

Source: Field Data

The information in Table 5.73 is further analyzed in detail as indicated in Table 5.74. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the equivalence of the loan amount to the prevailing value of farming inputs on the market. The measure is applied to the likert scale and any other ordinal responses. The CV is seventy-eight percent (78%) and the CC is stands at twenty-two percent (22%). The majority of the out-grower farmers disagreed on their responses that the loan amount was equivalent to the prevailing value of the farming inputs on the market. The minority of the out-grower farmers disagreed on their responses.

Table: 5.74: Interpretation of CV and CC on Equivalence of Farming Inputs to market value

QC: C12. Is loan amount equivalent to the prevailing value of the farming inputs on the market?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	120	120	1	120
D	2	0	0	4	0
N	3	5	15	9	45
A	4	28	112	16	448
SA	5	43	215	25	1075
TOTAL		**196**	**462**	**55**	**1688**
MEAN					**2.3**
SD					**1.8**
CV					**78%**
CC					**22%**

Source: Field Data

5.4.20 Loan Insurance

Out-grower scheme arrangements take place in an inherently unpredictable environment. However, the out-grower schemes have no adequate risk management or mitigation strategies in place. Fair and clear contracts should include insurance cover in order to contribute to more stable out-grower schemes, especially when complemented by sustained, regular engagement between the out-grower farmers and out-grower firm. Bidzakan, *et al.*, (2018) allude to the fact that agricultural insurance should be incorporated into the out-grower scheme arrangements in order to help share the risks, particularly against force majeure events. Table 5.75 shows that the majority of the out-grower farmers, 87.2% (171), indicated that the loans for farming inputs are not secured by any form of insurance as compared to 9.3% (18) out-grower farmers that were in agreement. Further, 1.5% (3) out-grower farmers indicated that, sometime, the out-grower firms provided crop insurance on the agricultural commodities.

Table 5.75: Loan Insurance

Is the loan for inputs secured by any form of insurance?			
		Frequency	**Percent**
	Yes	18	9.3
	No	171	87.2
	Sometimes	3	1.5
	Not Sure	1	0.5
	Non Response	3	1.5
Total		**196**	**100.0**

Source: Field Data

The information in Table 5.75 is further analyzed in detail as shown in 5.76. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the loan insurance cover. The measure is applied to the likert scale and any other ordinal responses. The CV stands at eighty percent (80%) and CC is twenty percent (20%). The largest group of the out grower farmers disagreed on their responses that the loan for the farming inputs was insured while the minority of the out-grower farmers agreed on their responses.

Table 5.76: Interpretation of CV and CC on Loan Insurance

QC: C13. Is the loan for the inputs secured by any form of insurance?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	171	171	1	171
D	2	0	0	4	0
N	3	4	12	9	36
A	4	3	12	16	48
SA	5	18	90	25	450
TOTAL		**196**	**285**	**55**	**705**
MEAN					**1.5**
SD					**1.2**
CV					**80%**
CC					**20%**

Source: Field Data

5.4.21 Loan Repayment

Failing to pay the loan affects the operations of the out-grower scheme. Ragasa *et al.,* (2018) argue that bad policies by the out-grower schemes also contribute to loan default by the out-grower farmers. In such cases, the out-grower scheme should revise the policy. The majority of the out-grower farmers, 72%, did not find it difficult to repay loan for inputs as compared to 26% out-grower farmers that found it difficult as shown in Table 5.77.

Table 5.77: Loan Repayment

Do you find loan repayment difficult?		
	Frequency	**Percent**
Yes	51	26
No	141	72
Non Response	4	2
Total	**196**	**100.0**

Source: Field Data

The information in Table 5.77 is further analyzed in detail in Table 5.78. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the difficulty of loan repayment by the out-grower farmers. The measure is applied to the likert scale and any other ordinal responses. The CV is ninety percent (90%) while the CC stands at ten percent (10%). Most of the out-grower farmers disagreed that it was difficult to pay back the loan to the out-grower firm as compared to minority of the out-grower farmers in agreement on their responses.

Table 5.78: Interpretation of CV and CC on the difficulty of Loan repayment

QC: C14. Is the loan for the inputs secured by any form of insurance?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	141	141	1	141
D	2	0	0	4	0
N	3	4	12	9	36
A	4	0	0	16	0
SA	5	51	225	25	1275
TOTAL		**196**	**408**	**55**	**1452**
MEAN					**2**
SD					**1.8**
CV					**90%**
CC					**10%**

Source: Field Data

5.4.22 Factors making Loan Repayment difficulty

Out-grower schemes provide credit on farming inputs to out-grower farmers who are not able to get loans from commercial banks because they cannot meet the conditions such as collateral

requirement. The out-grower scheme arrangement is one of the oldest and most thriving agribusiness in Zambia but affected by loan repayment problems. Some of the problems for failing to pay off the loan are poor rainfall, low market price, and poor health, late supply of farming inputs, pest infestation, and crop disease. Out-grower farmers alone should not be held responsible for failing to pay the loan.

It is fair to take into consideration contractual obligation for both parties, in terms of responsibilities. Panotra, *et al.,* 2018 indicate that conflicts between out-grower firms and out-grower farmers are frequently about price, loan repayment, and quality standards. If open market prices rise, out-grower farmers may be tempted to sell on the open market rather than to the out-grower firm. Out-grower firms may be tempted to falsify quality testing as a way of reducing the price they pay to out-grower farmers under contract, particularly when market prices have fallen. Table 5.79 shows 41.3% of the out-grower farmers indicated that crop failure made it difficult to pay back the loan while 7.1% indicated that loan repayment was difficult in the event of sickness. Further, 1.5% out-grower farmers indicated pests and diseases as the cause to default on loan repayment and 2.7% attributed loan repayment failure to late supply of the farming inputs by the out-grower firms.

Table 5.79: Factors making loan repayment difficulty

	What makes loan repayment difficulty?		
		Frequency	**Percent**
	Crop failure due to poor rainfall	81	41.3
	Crop failure due to Sickness	14	7.1
	Crop failure due to pests and diseases	3	1.5
	Crop failure due to inputs being supplied late	5	2.7
	Non Response	93	47.4
Total		**196**	**100.0**

Source: Field Data

5.4.23 Management of Loan Repayment Failure by the Out-grower firms

Loan repayment procedure is indicated in the contract between the out-grower farmers and the out-grower firm. However, Bidzakan, *et al.*, 2018 indicate that the out-grower schemes use other methods outside loan repayment procedure so that the loan is recovered. Most of the out-grower farmers, 59.2%, indicated that they were not happy with the manner in which loan recovery was

handled by the out-grower firms as compared to 26.5% who indicated that they were happy. Further, 10.7% indicated that they were, somehow, happy and 1% out-grower farmers were not sure. This information is presented in Table 5.80.

Table 5.80: Management of Loan Repayment Failure by the Out-grower firms

Are you happy in the manner that failure to pay the loan is managed by the out-grower firms?			
		Frequency	**Percent**
	Yes	52	26.5
	No	116	59.2
	Somehow	21	10.7
	Not sure	2	1
	Non Response	5	2.6
Total		**196**	**100.0**

Source: Field Data

The information in Table 5.80 is further analyzed in detail as indicated in Table 5.81. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the management of loan default by the Out-grower firms. The measure is applied to the likert scale and any other ordinal responses. The CV is at sixty-eight percent (68%) in comparison with CC at thirty-two percent (32%). The majority of the out-grower farmers disagreed on their responses in the manner that loan default was handled by the out-grower firm while the minority of the out-grower farmers agreed on their responses.

Table 5.81: Interpretation of CV and CC on Loan Default Management

QC: C15. Are you happy in the manner that failure to pay the loan is managed by the out-grower firm?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	116	116	1	116
D	2	0	0	4	0
N	3	7	21	9	63
A	4	21	84	16	336
SA	5	52	260	25	1300
TOTAL		**196**	**481**	**55**	**1815**
MEAN					**2.5**
SD					**1.7**
CV					**68%**
CC					**32%**

Source: Field Data

5.4.24 Adequacy of Information dissemination by the Out-grower firms to assist Out-grower Farmer in decision making

Out-grower schemes operate as business enterprises. Therefore, the out-grower scheme must provide information that facilitates profit realization for both the out-grower farmers and the out-grower firms. As indicated in Table 5.82, the majority of the out-grower farmers, 39.3% (77) indicated that the information was inadequate. Further, 31.6% out-grower farmers indicated that the information was adequate while 26.6% out-grower farmers indicated that the information was fairly adequate

Table 5.82: Adequacy of Information by the Out-grower firms to Farmer's decision making

How do you rate the amount of information provided by the out-grower firms that can help you make decisions?			
		Frequency	**Percent**
	Adequate	62	31.6
	Inadequate	77	39.3
	fairly adequate	52	26.6
	Not sure	4	2
	Non Response	1	0.5
Total		**196**	**100.0**

Source: Field Data

The information in Table 5.82 is further analyzed in detail as shown in Table 5.83. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the information provided by the out-grower firms in order to help out-grower farmers make informed decisions. The measure is applied to the likert scale and any other ordinal responses. The CV stands at fifty-eight (58%) while the CC is at forty-two percent (42%). The largest group of the out-grower farmers disagreed on their responses that the out-grower firm provided information to help them in making decisions. However, a proportion of the out-grower farmers agreed on their responses.

Table: 5.83: Interpretation of CV and CC on Information to help in Decision making.

QC: C16. How do you rate the information provided by the out-grower firms to help in decision making?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	77	77	1	77
D	2	0	0	4	0
N	3	5	15	9	45
A	4	52	208	16	832
SA	5	62	310	25	1550
TOTAL		**196**	**610**	**55**	**2504**
MEAN					**3.1**
SD					**1.8**
CV					**58%**
CC					**42%**

Source: Field Data

5.5 Benefits of the Out-grower Scheme to the Community

Out-grower schemes operate in the community where some of the inhabitants are independent farmers and do not participate in out-grower activities. To this effect, the study sought to establish how independent farmers benefited from the out-grower schemes in terms of reducing poverty. The study revealed that the respondents benefited from employment of the community members, construction and renovations of schools and health posts, and provision of boreholes. Road construction was not consistently mentioned by the respondents. This information is shown in Table 5.84. The study agrees to the results from similar studies conducted by Ton *et al.*,

(2018), Bellemare (2018) Ragasa *et al.,* 2018 and FAO, (2018) who also found that communities, at large, benefit from the operations of the schemes.

Table 5.84: Benefits of the Out-grower Schemes to the Entire Community

How do out-grower schemes benefit your community?		
SN	**Benefit**	**Remarks**
1.	Employment	✓
2.	Boreholes	✓
3.	Health and School infrastructure	✓
4.	Roads	X

Source: Field Data

5.5.1 Extension Services Provided by the Out-grower Firms.

Sustainability of the out-grower schemes depends on back stopping in the provision of extension services. Extension services recap on what should be done to increase crop yield and quality improvement. The study inquired from the respondents what type of extension services out-grower firms were providing to its participants. It was found that the out-grower firms provided fertilizers, pesticides, herbicides, training in improved methods of farming, and crop marketing information, as shown in Table 5.85. The study is in agreement to the results from similar studies conducted by Panotra, *et al.,* (2018) Ton *et al.,* (2018), Bellemare (2018) Ragasa *et al.,* 2018 and FAO, (2018) who also found that out-grower schemes provided extension services.

Table 5.85: Extension Services provided by Out-grower Firms

SN	Extension Service	Remarks
1.	Fertilizers	✓
2.	Pesticides	✓
3.	Herbicides	✓
4.	Improved methods of farming	✓

Source: Field Data

5.5.2 Community Development by the Out-grower Schemes

Investing in out-grower schemes for the purpose of positively contributing to the communities where out-grower schemes operate, is an achievement to poverty reduction in the rural areas. Ton *et al.,* (2018) reveal that the out-grower schemes have the potential to reduce poverty in the

rural areas. As shown in Table 5.86, it was found that the largest group of the respondents, 55.8% (221), indicated that there has been development in the communities where out-grower schemes operated. However, 26% (61) respondents indicated that they had not seen any development while 15.4% (103) respondents indicated that communities have remained the same in terms of development despite the operations of the out-grower schemes. The majority of the respondents linked development in their communities to the operations of out-grower companies. Further, the respondents commended the out grower firms by assisting the government in creating employment. They also indicated that out-grower schemes have helped farmers with farming inputs and market for a range of agricultural commodities.

Table 5.86: Community Development by the Out-grower Schemes

How would you describe development in your community relating to the out grower schemes?		
	Frequency	**Percent**
Developed	221	55.8
No change	103	15.4
Underdeveloped	61	26.0
Not sure	8	2.0
Non Response	3	.8
Total	**396**	**100.0**

Source: Field Data

The information in Table 5.86 is further analyzed in detail as shown in Table 5.87. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on community development by the out-grower schemes. The measure is applied to the likert scale and any other ordinal responses. The CV is thirty-nine percent (39%) as compared to the CC at sixty-one percent (61%). The majority of the respondents agreed on their responses that there has been development in the communities where out-grower schemes operated. The minority of the respondents were in disagreement on their responses.

Table 5.87: Interpretation of CV and CC on Community Development by Out-grower Schemes.

QC: D1. How would you describe development in your community as a result of the operations of the out-grower schemes?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	61	61	1	61
D	2	0	0	4	0
N	3	114	342	9	1026
A	4	0	0	16	0
SA	5	221	1105	25	5525
TOTAL		**396**	**1508**	**55**	**6612**
MEAN					**3.8**
SD					**1.5**
CV					**39%**
CC					**61%**

Source: Field Data

5.5.3 Attributing Change in Community Development to Out-grower Schemes

The Zambian Government opted for the out-grower scheme as a model to reduce poverty in the rural areas where the majority of the population lives. The main objective was to improve the standard of living. To this effect, the study inquired on the contribution to community development brought by the operations of the out-grower schemes in rural areas. Michelson *et al.,* (2018) indicate that to ensure positive relations between the community and the out-grower scheme, benefits distribution should be fair and transparent. By approaching this relationship in a broad manner, the out-grower scheme ensures transparency. Similarly, communities appreciate the sense of being respected and they feel connected to the outside world, when the out-grower scheme is settled in their own environment. Table 5.88 shows that 61.9% of the respondents acknowledged that change in development in their area was attributed to the operations of out grower schemes. However, 3.3% of the respondents indicated that the development in their area could not be attributed to the operations of out grower schemes.

Table 5.88: Attributing Change in Community Development to Out-grower Schemes

Would you attribute the change in development to activities of out grower schemes?			
		Frequency	**Percent**
	Yes	245	61.9
	No	13	3.3
	Somehow	97	24.5
	Not Sure	30	7.6
	No Response	11	2.8
Total		**396**	**100.0**

Source: Filed Data

The information in Table 5.88 is further analyzed in detail as indicated in Table 5.89. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on attributing community development to the out-grower schemes. The measure is applied to the likert scale and any other ordinal responses. The CV is at twenty-three percent (23%) as compared to the CC at seventy-seven percent (77%). Many of the respondents agreed on their responses that the development in their communities was attributed to the operations of the out-grower schemes. However, few respondents were in disagreement on their respondents.

Table 5.89: Interpretation of CV and CC on Attributing Community Development to Out-grower Schemes.

QC: D2: Would you attribute the change or no change in development to activities of out grower schemes?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	13	13	1	13
D	2	0	0	4	0
N	3	41	123	9	369
A	4	97	388	16	1552
SA	5	245	1225	25	6125
TOTAL		**396**	**1749**	**55**	**8059**
MEAN					**4.4**
SD					**0.9**
CV					**23%**
CC					**77%**

Source: Field Data

5.5.4 Rating Performance of the Out-grower Schemes

Positive impact improves the wellbeing of the communities and community development at large. Additionally, the operations of the out-grower scheme may supplement the efforts of providing services to the communities. Christina & Panagiota, (2018) argue that inappropriate behavior exhibited by either the out-grower scheme or community is destructive to community development. The study sought to rate the performance of out-grower schemes in the communities they operated. It was found that the majority of the respondents, 51.3% rated the

performance of the out-grower schemes as fair and 36.6% rated the performance of the out-grower scheme as good. The minority of the respondents, 8.8% (35) rated the performance of the out-grower scheme as poor. This information is indicated in Table 5.90. Generally, respondents indicated that out-grower schemes have contributed to the development of their communities. Further, respondents indicated that poverty has been reduced because of the activities of the out-grower schemes.

Table 5.90: Rating Performance of the Out-grower Schemes

How do you rate the performance of the out-grower schemes in your area?			
		Frequency	**Percent**
	Good	145	36.6
	Fair	203	51.3
	Poor	35	8.8
	Not sure	5	1.3
	No Response	8	2.0
Total		**396**	**100.0**

Source: Field Data

The information in Table 5.90 is further analyzed in detail as indicated in Table 5.91. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on rating performance of the out-grower schemes. The measure is applied to the likert scale and any other ordinal responses. The CV is at thirty-two percent (32%) as compared to the CC at sixty-eight percent (68%). The largest group of the respondents agreed on their responses on rating the performance of the operations of the out-grower schemes as good. However, few respondents were in disagreement on their responses.

Table 5.91: Interpretation of CV and CC on Rating the Performance of the Out-grower Scheme.

QC: D3. What is your general opinion about the operations of out grower schemes in your area??					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	35	35	1	35
D	2	0	0	4	0
N	3	13	39	9	117
A	4	203	812	16	3248
SA	5	145	725	25	3625
TOTAL		**396**	**1611**	**55**	**7025**
MEAN					**4**
SD					**1.3**
CV					**32%**
CC					**68%**

Source: Field Data

5.6 Findings from Key Informants

A total of twenty (20) questionnaires with open ended questions were distributed to key informants to solicit information on the operations on the out-grower schemes. Key informants comprised staff from the Ministry of Agriculture, representatives of out-grower scheme companies and headmen. Since all the respondents were literate, they were given an opportunity to complete the questionnaires.

In the first place, the study wanted to know how the key informants understood by the term 'out-grower scheme'. It was found that they understood this term as a 'transaction between a company and farmer where the company provides inputs and other extension services on credit to identified farmers with a view of recovering from the produce at the time of selling the crop'.

5.6.1 Out-grower schemes operating in Eastern Province

All the key informants agreed that there are out-grower firms operating out-grower schemes in the Eastern province of Zambia. These included NWK, China Africa, Manjeetn Nexus alliance Ginners, JTI, Tombwe Processing, Parogate, CGL, Olarm, and many more. It was found that most of these companies had been operating in the province for periods ranging between 4 to 10 years.

5.6.2 Success Recorded by Out-grower Schemes in Zambia

Key informants indicated that there is success that has been recorded in Zambia from the operations of the out-grower schemes. Such success included the provision of farming inputs, provision of market for the various crops, food security, employment and income. Generally, it was indicated that there has been improvement in the wellbeing of farmers as a result of operations of out-grower schemes. Respondents also indicated that out-grower schemes have achieved their objective in reducing poverty. They said that out-grower firms constructed schools, sponsored some pupils to school, constructed health posts, drilled boreholes, sponsored sports activities such as football and paid tax to the government.

Studies conducted in Zambia on the contribution of out-grower schemes arrangements to the rural community, revealed a lot of benefits towards reducing poverty (Springfellow, 1996; Likulunga, 2005; Kunda, 2008; Schupbach, 2014; Matenga, 2017; Manda *et al,* 2018). As such, out-grower schemes are considered by the rural community as a partner in development.

Springfellow (1996) indicates that both the out-grower farmers and out-grower firms benefited from the operations of the out-grower schemes. For the out-grower farmers, out-grower grower schemes provided an array of benefits such as farming inputs, extension services, readily available market, and crop diversification. As for the out-grower firms, they benefited from economies of scale in the supply of the raw material and a reliable source.

Likulunga (2005) posits that out-grower schemes had the potential to support and sustain an array of agriculture value chains at different levels from production throughout the supply chain to marketing. In this regard, out-grower farmers had the opportunity to participate in international markets by diversifying to growing crops that were destined for export. Clearly, this was an indicator for expansion and commercialization of smallholder farming. To this effect, there was potential for smallholder farmers to reduce poverty and improve the standard of living.

Kunda (2008) indicates that communities benefited from the operations of out-grower schemes. In order to improve community education, out-grower schemes complemented Government efforts by building new school and renovating old schools that needed a new facelift. Similarly,

in order to improve community health, out-grower schemes built new clinics and renovated old clinics. Further, in order to provide clean water to the community, out-grower schemes sunk boreholes and installed hand pumps.

Schubach (2014) concludes that out-grower schemes impacted positively on income and rural wealth in Zambia. He cited improved income and wellbeing of smallholder out-grower farmers participating in sugar out-grower schemes in Zambia, particularly, Mazabuka district. Matenga (2017) and Manda *et al.,* (2018), also, reported improvement in livelihoods of smallholder out-grower farmers participating in sugar out-grower schemes as compared to non participants.

5.6.3 Challenges faced by the Out-grower Farmers and Out-grower Firms

Both the Key informants and the out-grower farmers indicated that there are many challenges militating against the success of out-grower schemes in reducing rural poverty. The following are some of the challenges mentioned.

- **Poor Loan Recovery**

  Some farmers were not able to repay their loans by choice because of selling the crop to the vendors instead of the out grower firm where they got the inputs from.
- **International Market Pricing Index especially for Cotton and Tobacco**

  International commodity pricing negatively affected the out-grower farmers in terms of income and/or profit. Whenever the price for the crop goes down at the international market, the income and/or profit is low.
- **Destruction by Fire to the Purchased Crop**

  Some respondents stated that burning of financed and/or purchased crop negatively affected the operations of the out-grower schemes. The cause of the fire may by accident, sabotage by community members, and staff working for the out-grower company.
- **Inability by Farmers to Adopt New Farming Methods**

  Some of the respondents stated that some farmers are adamant to adopt new methods of farming and the crop yield was affected. They stated that low yields affected both the farmer and company.

- **Political interference that abrogate the principles of out-grower schemes**
  Respondents indicated that government interference had the potential to disadvantage both the out-grower firm and out-grower farmers
- **Unpredictable Weather Pattern**
  Both the out-grower farmers and out-grower firms indicated that the major cause of low yields was unpredictable weather pattern. They stated that climate change impacted negatively on farming.
- **Inflated Farming Input Prices**
  Out-grower farmers receive inputs on credit and out-grower firm inflate the price of the input prices to recover overhead expenditure. Independent farmers are able to buy inputs at lower prices than the out-grower farmers

5.7 Proposed changes that would result in both the out-grower companies and farmers benefit the from the out-grower schemes

Respondents suggested the following changes that would result in both the out-grower firms and the out-grower farmers benefiting from the out-grower schemes arrangements.

- Law must be put in place to compel the out-grower firms to allow the participation of the out-grower farmers in deciding the price for the agricultural commodities.
- Extension services and farmer trainings should be available whenever there is need.

5.8 Conclusion

The chapter has presented data analysis and provided empirical results to establish changes in poverty reduction to smallholder farmers participating in the out-growers scheme. Further, it provided empirical results to determine out-grower farmers understanding of the operations of the out-grower. Subsequently, the chapter provided empirical results to establish benefits to communities where out-grower schemes operate. Chapter Five established the data analysis, presentation and results of the study. It precedes Chapter Six which is discussion of the results.

CHAPTER SIX

DISCUSSION OF THE RESULTS

6.1 Introduction

Chapter Six presents the discussion of the research results. The study did not only evaluate the effect of the out-grower scheme on out-grower farmers, but also paid attention to the effect of the out-grower scheme on independent farmers, and community development at large. To this effect, the study was based on a comparative study analysis. The outline is that the first part discusses the results based on the specific research objectives. Further, the second part focuses on the results relating to tested hypotheses. Subsequently, the third part is the conclusion.

6.2 Change in Poverty Reduction to Smallholder Farmers Participating in Out-grower schemes

The majority of the out-grower farmers, 55.6% indicated that they had better houses made of burnt bricks with an iron sheet roof as compared to 47% independent farmers. In terms of annual income, the minority of the out grower farmers, 28.6% had an income of less that K2000 per year as compared to the majority, 33.5% independent farmers. Majority of the out-grower farmers, 36.7%, had annual income above K5000 in comparison to 21% independent farmers. Further, 30.6% out grower farmers indicated that they had cash at the bank as compared to 12% independent farmers. The largest group of independent farmers 87.5% did not have cash at the bank as compared to 68.7% out-grower farmers. It is evident that the minority of the out-grower farmers, 7.7% used forest products for lighting in comparison to 15% independent farmers. The majority of the out-grower farmers, 5.6%, were using hydroelectricity as compared to 2% independent farmers.

The majority of the out-grower farmers, 54% indicated that their income had increased in the last five years as compared to 42% independent farmers. Further, 10.7% out-grower farmers indicated that they owned cars as compared to 6.5% independent farmers. Similarly, 29.6% out-grower farmers indicated that they owned a motor-bike in comparison to 16% independent farmers. Subsequently, the results showed that 35.7% out-grower farmers owned a television set as compared to 10% independent farmers. The majority of the out-grower farmers, 79%, owned a radio set as compared to 74% independent farmers. The largest group of independent farmers,

26% did not own a radio set as compared to 16.3% out-grower farmers. The majority of the out-grower farmers, 47.4%, owned an ox-cart as compared to 43% independent farmers.
Further, the study revealed that out-grower schemes have been operated with varying degrees of success. At their best, these models ensure that out-grower farmers benefit from the presence of the out-grower firms by facilitating access to markets and finance, improving postharvest storage and transportation, and rewarding improved farming practices. Equally, out-grower firms gain access to land, labor, and improved of the quality of the agricultural commodities. Well-designed and executed out-grower schemes build trust between out-grower firms and communities and promote good working relationships.

At their worst, the out-grower schemes create dependence syndrome on the out-grower firm which can do more harm than good if the out-grower firm fails and leaves. Out-grower farmers can be financially constrained by reliance on expensive inputs; investors may exploit power differences in quality assessment and pricing mechanisms for products. From the out-grower firm perspective, a major risk is that the quality and quantity of required produce is not supplied, often due to side-selling, such that out-grower firms do not benefit from the resources employed in training out-grower farmers and supplying inputs.

Subsequently, there is a clear link among the institutions and the linkage is in support of pro-poor growth. The out-grower farmers operate profitability and realize more profit that the independent farmers. This is a significant indicator towards improving the wellbeing and poverty reduction. Similarly, training is improved and the out-grower farmers have adapted techniques in crop production that increase yield and improve quality. To this effect, there has been a reduction on the number of out-grower farmers that are not able to fulfill loan repayment obligations. Overly, the out-grower scheme should involve the out-grower farmers in the administration of the out-grower schemes arrangements. It is the responsibility of government to provide an enabling environment that promotes fairness to both the out-grower farmers and the out-grower firm.

Studies have revealed that out-grower schemes have the potential to minimize costs in managing production and marketing value chains, between the out-grower farmers and out-grower firms (Bellemare, 2018; Mishirai *et al.,* 2018). To this effect, the out-grower farmers are responsible

for crop production while the out-grower firms are responsible for marketing. In the open markets, the transaction costs are high due to uncertainty in behavior. In such circumstances, the out-grower schemes offer alternatives that reduce uncertainty and create an enabling environment to improve incentives for the out-grower farmers to diversify in their businesses. Additionally, the organizational structure of the out-grower scheme arrangements is a suitable channel to supply farming inputs and provision of extension services (Bellemare, 2018; Mishirai *et al.,* 2018)

A similar study was conducted by Singh *et al.,* (2018) on the impact of the of the out-grower schemes arrangements in the poultry and seed industries. The study revealed that the out-grower scheme had a positive impact on the standard of living of the out-grower farmers. It was evident that the out-grower scheme arrangement improved household income and participants were better off than the independent farmers, in terms of poverty reduction.

Mishirai *et al.,* (2018) indicate that there was a fifty percent (50%) increase on income for dairy contracted farmers participating in the out-grower scheme as compared to the income of dairy independent farmers. The increase was attributed to low production and marketing cost, obtaining in the out-grower scheme arrangements. It was also evident that the vegetable out-grower farmers sold their produce at a price that was seven percent (7%) more than the price that independent farmers sold the vegetables at the open market (ibid)

On the down side of the out-grower arrangements, Ton *et al.,* (2018) argue that out-grower farmers face problems. Since out-grower farmers are contracted to produce agricultural commodities, the out-grower scheme passes the production risks on the out-grower farmers. The out-grower farmers may become indebted because of the cost of production risks and excessive financial advances obtained from the out-grower scheme. It is only fair that the cost of production risks is shared between the out-grower farmers and the out-grower scheme. Out-grower schemes are institutions of unequal power sharing of the weak out-grower farmers and strong out-firms. As far as management of the out-grower scheme arrangements is concerned, the unequal power sharing equilibrium gives more power to out-grower firm than the out-grower farmers. As a result, there is mistrust between the out-grower farmers and out-grower firms.

Additionally, the price mechanism is in favor the out-growers firms, in terms of return on investment as compared to out-grower farmers. The out-grower firms are not transparent in adhering to their contractual obligations (ibid).

Further, due to land scarcity, out-grower farmers may fail to meet the quantity of the produce that is required by the out-grower scheme, thus breaching on the contractual obligations. Out-grower schemes operate in communities tagged by social and cultural norms that should be respected by both the out-grower farmers and out-growers. However, problems occur because of not following rules and regulations on social and cultural norms. Studies have revealed that out-grower schemes contract smallholder farmers to produce products that are against their culture and/or region (Ton *et al.,* 2018). To this effect social and cultural conflict the operations of the out-grower scheme arrangements.

The out-grower scheme arrangement is a potential channel that provides an opportunity to smallholder farmers to participate in the market economy. Market liberalization and expanding agricultural enterprises because of globalization, pose a danger that smallholder farmers can face difficulties to compete in the market economy. In Zambia, such smallholder farmers could be rendered non-existence as commercial farming becomes powerful as a vehicle for a profitable mechanism. Out-grower scheme arrangements can take such challenges and provide an enabling environment for smallholder farmers to engage in commercial type of farming.

6.3 Smallholder Out-grower Farmers Understanding of the Operations of the Out-grower Schemes

The majority of the out-grower farmers, 66.8% (131), indicated that they understood the operations of the out-grower scheme. They were able to give the definition of out-grower scheme and gave examples of out-grower firms such as JTI, Cargill Zambia and NWK. The proportion of the out-grower farmers, 54.1% (106) indicated that the out-grower firms did provide a platform to disseminate information on the operations of the out-grower scheme.

Successful operation of the out-grower scheme arrangements depends significantly on out-grower farmers understanding of the operation of the out-grower scheme. If the out-grower

farmers are knowledgeable about the operations of the out-grower scheme, then the out-grower scheme has the potential to benefit the communities and impact positively on rural development. However, communication plays a significant role in projects that promote development. In this regard, therefore, establishing an effective communication channel between the out-grower farmers and the out-grower scheme is of great importance. Communication builds trust and reduces disputes. Ton *et al.,* (2018) highlight that out-grower farmers can increase the yields of the agricultural commodities and improve quality if they are trained to keep record on land preparation, farming inputs, planting, and crop management, extension services offered, harvesting and marketing.

Bruntrup *et al.,* (2018) and Huang *et al.,* (2018) emphasize the importance to the out-grower farmers of having knowledge on the operations of the out-grower schemes because of adherence to contractual obligations. Out-grower schemes operate on the basis of contract farming. To this effect, both the out-grower farmers and out-grower firms must be knowledgeable in contract management. The out-grower scheme operates an array of value chains that includes production, processing and marketing activities. It is against this background that the out-grower scheme should design and implement a continuous training program to build capacity of the out-grower farmers in order to make informed decisions.

Studies have revealed that to benefit from the out-grower arrangements, both the out-grower farmers and the out-grower firms should be able to correct any challenge that can pose a danger to smooth operation of the out-grower scheme. To this effect, the out-grower farmers must have the necessary skills. The out-grower scheme and other partners in development have a significant role to play in providing support to building capacity of the out-grower farmers in order to increase household income and poverty reduction (Bidzaka *et al.,* 2018; Scoones *et al.,* 2018; Christina & Panagiota, 2018).

Finally, building capacity generally and the provision of specific services in particular, can make a contribution to changing behavior that is necessary for creating long-term and dependable out-grower relations, thereby improving on loan repayment risks on both sides. A change in behavior attribute to mutual trust and adherence to contractual obligations. Subsequently, it means

transparency in the way information is shared, agreement to contract relations that are fair to both parties, and a suitable scope of negotiation for the out-grower stakeholders.

6.4 Benefits to the Communities where the Out-grower Schemes are implemented

The Majority of the respondents, 55.8%, indicated that there has been development in the communities where out-grower schemes are implemented. Further, most of the respondents, 61.9%, indicated that they linked development in their communities to the operations of out-grower firms. A proportion of the respondents 36.6% rated the performance of the out-grower scheme as good while many of the respondents, 51.3% rated the performance of the out-grower schemes as fair. They further said that out grower schemes have assisted government in creating employment. It was evident that out-grower schemes have helped farmers with farming inputs and marketing of the agricultural produce.

The out-grower scheme arrangement, in the Eastern Province of Zambia, provides an institutional framework for the coordination of activities that can improve the standard of living of the rural populace. In this regard, the communities are moving towards poverty reduction by removing resource constraints faced by smallholder farmers. To this effect, the community views the out-grower scheme as a partner in development. Studies have revealed that the out-grower schemes have provided a platform to assist the communities in supporting grassroots development; rural economic growth; and reducing poverty (Poku, *et al.*, 2018; Musa, 2018). However, trust, transparency, and loyalty are at play to make the out-grower schemes profitable for both the out-grower farmers and out-grower firms.

Maltitz *et al.,* (2018) indicate that the rural communities see the out-grower scheme as their opportunity for development. It is the way to progress to see their villages being connected through roads and bridges, schools, and medical facilities being built and renovated. For community members, the out-grower scheme is not isolated from the community and out-grower scheme agreements. This is important to keep in mind as the out-grower firm's own commitments towards this social agreement have a direct or indirect impact on the success of the out-grower scheme. Further, it includes the choices that the communities make concerning the preferred out-grower model or other options. The other consideration for the out-grower scheme

is to be aware of existing decision-making bodies or other requirements under the agreement. In the process of establishing the out-grower scheme, preference would be to build on the existing institutions, rather than creating new ones.

Poku *et al.,* (2018) highlight that smallholder farmers face challenges in meeting the standard of the produce that is required by the buyer. The out-grower scheme arrangement can provide support to the out-grower farmers in overcoming such limitations. The out-grower scheme contracts a large number of smallholder farmer, thereby delivering scale benefits equivalent to commercial farming systems. Further, the out-grower scheme provides a readily available market and extension services to the community. By contracting with the out-grower scheme, smallholder farmers can benefit towards poverty reduction. Studies reveal that communities benefit from employment creation and building of infrastructure by the out-grower scheme. Further, through diverse activities by the out-grower schemes, communities have befitted by improving agricultural practices, increasing crop yields, and improving on crop revenue. Other benefits are education scholarships, support to traditional ceremonies, and sponsorship of sports clubs (Bruntrup *et al.,* 2018; Panotra *et al.,* 2018; Ragasa *et al.,* 2018). Out-grower schemes can significantly contribute to poverty reduction and rural development.

6.5 Results Relating to Confirmed Hypotheses

Results of the study confirmed the first hypothesis that there was change in poverty reduction to smallholder out-grower farmers participating in the out-grower scheme. To this effect, empirical evidence of the study failed to reject the hypothesis. Further, the second hypothesis that out-grower farmers understood the operations of the out-grower schemes was confirmed as supported by empirical evidence of the study. In this regard, the empirical evidence of the study failed to reject the hypothesis. Subsequently, the results of the study confirmed the third hypothesis that there were benefits to the communities where the out-grower schemes are implemented as evidenced by the empirical evidence of the study. It is against this background that the empirical evidence of the study failed to reject the hypothesis.

6.6 Conclusion

The results of the study show that the out-grower farmers have a better standard of living than independent farmers with regard to income, assets owned, standard of housing and consumption expenditure. The major benefit of the out-grower scheme arrangement to smallholder farmers is poverty reduction. The out-grower scheme can potentially improve the livelihoods of the rural community. This study has been done to identify how and under what conditions these potential benefits can be achieved. It is important to consider, therefore, how benefits of the out-grower scheme arrangement can be translated to ensure greater impact on poverty reduction. Chapter Six established the discussion of the results of the study and precedes Chapter Seven which presents the findings.

CHAPTER SEVEN

FINDINGS

7.1 Introduction

This chapter presents the findings of the study. The outline of the chapter covers five parts. The first part is based on answering of the research questions in relation to the findings. The second part discusses the gaps identified in the management of the centralized out-grower model. The third part is a discussion of the proposed out-grower management model and its operationalization. The fourth part presents a discussion and operationalization of the outcome areas that result from the out-grower management Model. The fifth part is the conclusion.

7.2 Discussion of the Main Findings

The study evaluated the effectiveness of the out-grower schemes on reducing poverty in rural Zambia. Firstly, there is a positive change in poverty reduction to smallholder farmers participating in the out-grower scheme arrangement. To this effect, out-grower farmers have a better standard of living as compared to independent farmers. Secondly, the out-grower schemes have improved the knowledge of the out-grower smallholder farmers on the operations of the out-grower schemes. Thirdly, the communities have benefited from the operations of the out-grower schemes.

7.2.1 Answering the Research Questions

The general discussion of the findings is based on the respondents' answers to the research questions. The answers given by the respondents are arranged under the sub-heading of the corresponding research question.

i. **What changes have the out-grower schemes brought to poverty reduction for the smallholder out-grower farmers?**

The study did find major differences in the wellbeing between the out-grower farmers and independent farmers to attribute the changes to participating in the out-grower schemes. The study revealed that the majority of the out-grower farmers had improved their standard of living in terms of income, assets owned, standard of housing and consumption expenditure as compared to the independent farmers. Further, the study found that out-grower farmers had

access to high-quality farming inputs as compared to independent farmers. Out-grower farmers benefited by getting farming inputs such seed, fertilizer and farming equipment. The farming inputs are given on credit, thereby allowing smallholder farmers that have no cash to access farming inputs. Further, the out-grower scheme provided extension services that built capacity in out-grower farmers to improve on farming practices, increase household income and improve on the yields of the agricultural commodities. The out-grower farmers benefited from a readily available market, an advantage that out-grower farmers receive, as compared to independent farmers.

Out-grower farmers are offered the opportunity to participate in markets of higher value, including export markets. A step from local markets to higher value markets has a positive impact on household income. The study is in agreement with (Ton *et. al.,* 2018), Bellemare, (2018), Chapoto *et al.,* (2018), Manda *et al.,* (2018), Mishira *et al.,* (2018), Bidzakan *et al.,* (2018), Isager, *et al.,* (2018), Panotra *et al.,* (2018), and Matenga, (2017) who also found that the out-grower schemes have improved the standard of living of the out-grower farmers as compared to their counterparts, the independent farmers.

ii. What is the smallholder out-grower farmers understanding of the operations of out-grower schemes?

Out-grower farmers indicated that they understood the model of the out grower scheme arrangement and how it operates. The study revealed that out-grower farmers had access to the expertise provide by the out-grower firm through extension services such as agricultural training and education. Enhanced training translated into higher crop yield, improved farming practices and increased incomes. Subsequently, effective farmer training is core to sustainable out-grower scheme, not only farming practices and business skills, but also social, health, and family issues. This training begins with the supervisors, extension officers, and farmers' club chairs who oversee the schemes. It is important to visit out-grower farmers on their farms or plots to provide hands-on, one-on-one training and problem solving. The study is in agreement with Ton *et al,* (2018), Bellemare, (2018), Navara, (2018) and Kaur *et al.,* (2017) who also indicated that providing knowledge to both the out-grower farmers and out-grower firms is important to the success of the out-grower scheme.

iii. What are the benefits to the communities where the out-grower schemes are implemented?

Benefits that communities have received as a result of out-grower schemes operations, as stated by both out-grower farmers and key informants are: out grower firms helped communities by drilling boreholes to provide clean water for human consumption, construction and renovation of schools and health infrastructure, and employment creation for the locals. The aforementioned services are accessed by all in the communities including independent farmers who do not participate in the out-grower scheme arrangements. The study agrees with the FAO, (2018), World Bank, (2018), and IFAD, (2016) who also found that out-grower schemes have brought development in communities where they operate.

Similarly, it was found that the out-grower schemes allowed independent farmers who were not participants of the out-grower scheme, to attend training during field days to show case modern farming techniques, using demonstration plots. The study is in agreement with Bellemare, (2018), Ton *et al.,* (2018), Kaur and Kaur, (2018) who also found out that the out-grower schemes provide training to independent farmers who are not participants of the out-grower scheme.

7.2.2 Gaps Identified in the Centralized Model Type of the Out-grower Scheme

In the Eastern province of Zambia where the study was done, the type of the out-grower model that is implemented is known as the centralized model, shown in Figure 1.1. The study sought to evaluate the management of the out-grower model in order to answer the main research question on how effective were the out-grower schemes on reducing poverty in rural Zambia

7.2.2.1 Bias in the Selection and Recruitment of Out-grower Farmers

The study revealed that in the centralized model, there was an indication of bias in the selection and recruitment of the out-grower farmers. It was found that there was a tendency by out-grower firms to exclude marginal groups such as the women and youths. Women and youths make up the majority of the poor in rural areas but are not targeted by most out- grower firms. This study found that majority of out-grower farmers, 81.1% (159), were male as compared to the minority, 18.9% female. Similarly, there were 36.7% out-grower farmers in the group of less than 39 years as compared to the majority 63.3% in the range of 40 years and above. The few women and

youths participating in the out-grower scheme is an indication that the out-grower firms excluded the marginalized groups from participating in the out-grower scheme arrangements. The study is in agreement with Navarra, (2018), FAO, (2018), Sokchea & Culas, (2015), ActionAid, (2015) and DFID, (2014) who also concluded that the out-grower firms excluded the marginal groups from participating in the out-grower scheme arrangements.

7.2.2.2 Unequal Power Sharing

Concerning the management of out-grower schemes, the majority of the out-grower farmers 83.7%, indicated that the centralized model gives more power and control to the out-grower firms than the smallholder out-grower farmers. The study is in agreement with Vicol, (2017) and Actionaid, (2015) who also found that the out-grower scheme created unequal power relationship between the out-grower firms and out-grower farmers. At production level, the out-grower farmers were used as cheap labor and all the productions risks passed to them by the out-grower firm. The majority of the out-grower farmers 59.2% indicated that in the centralized model, they were not happy with loan recovery arrangements because the out-grower firms did not follow contract terms on loan recovery. The study is in agreement with Ramprasad, (2018) and Goodhue and Simon, (2016) who also concluded that out-grower firms used methods that were not included in the contract in order to recover the loans.

7.2.2.3 Lack of Transparency in the Pricing Mechanism

The study revealed that there was no transparency in the pricing mechanism that is used in the centralized model. To this effect, the majority of the out-grower farmers, 49.5%, mentioned that the current pricing of the agricultural favored the out-grower firms because out-grower farmers were not involved in deciding the price. In this regard, the out-grower firms generate more profits at the expense of the out-grower farmers. According to the results, the largest group of the out-grower farmers, 57.7%, indicated that the prices of the agricultural commodities are announced to them after the harvest. The majority of the out-grower farmers 92.9% indicated that this precedence does not give out-grower farmers enough time to plan on farming activities. The study is in agreement with Sambuo, (2018), Ton *et al*., (2018), Kunte *et al.,* (2017), CAZ, (2016), and ActionAid (2015) who also pointed out that out-grower firms exploited out-grower farmers by offering low prices.

Further, the majority of the out-grower farmers, 85.7%, indicated that the current pricing mechanism affected their profits negatively by getting low income. The largest group of the out-grower farmers, 93.9% indicated that they did not participate in determining the price of the agricultural commodities. Further, most of the out-grower farmers 83.7% indicated that the out-grower firms fixed the price of the agricultural commodities. The study is in agreement with Bellemare, (2018) Navarra, (2018), and Kaur *et al.,* (2017) who also concluded that out-grower firms did not include the out-grower farmers to discuss the price of the agricultural commodities. The largest group of the out-grower farmers, 72.9% indicated that they are not given an opportunity to sell their crops elsewhere because the contract binds them to sell their crops to the out-grower firm that provide the loan facility. In this regard, the study agrees to the finding of other similar studies (Ton *et al.,* 2018; Ragasa, *et al.,* 2018; IFAD, 2017).

7.2.2.4 Exclusion of the Third Parties

The Centralized model does not explicitly involve external partners that can be a reliable resource to providing expertise on out-grower arrangements. To this effect, most of the out-grower farmers, 48.5% were not aware of any third party organization that worked in collaboration with the out-grower scheme. The study is in agreement with Bishnoi *et al* (2018), Prowse, (2012), UNCTAD (2009), and Jian (2008) who also found that the out-grower scheme excluded thirty parties from participation.

7.2.2.5 Unfair Contracts

In a centralized model, contracts or production agreements between out-grower firms and out-grower farmers are not transparent and comprehensive. In this regard, the majority of the out-grower farmers, 60.7%, disagreed that the loan amount was equivalent to the prevailing value of the farming inputs on the market at the time of signing the contract and collection of the farming inputs. The study agrees to the results of similar studies by other authors who found that out-growers schemes inflated the prices of the farming inputs (Ton *et al,* 2017; Kunte *et al.,* 2017; CAZ, 2016).

The out-grower farmers had challenges in understanding the contract because it was written in English which is the official language. Majority of the out-grower farmers, 85.7%, preferred that the contract is translated into the main local language. However, the study revealed that the out-

grower firms made an effort to explain the contents of the contract so that the out-grower farmers understood clearly. The study is in agreement with Bellemare, (2018), Ragasa, *et al.,* 2018, and Ton *et al.,* 2018, who also found that out-grower farmers preferred that the contract is translated into the main language spoken in the community where the out-grower scheme is implemented.

7.2.2.6 Lack of Insurance on the Loans

The majority of the out-grower farmers, 86.7% indicated that the loan for the farming inputs is not secured by any form of insurance cover. The out-grower firms still, however, demanded for loan repayment in the event that loan default was due to natural calamities such as the drought, floods, and many more. The study is in agreement with Njogu *et al.,* (2018) who also found that the out-grower scheme avoided including insurance cover in the contract as a cost saving measure and imposing production risk on the out-grower farmers.

7.2.3 Knowledge Advancement on Out-grower Schemes to Reduce Poverty.

Studies have revealed that there has been no study that has interrogated the management and implementation of the centralized model type of the out-grower model (Bellemare, 2018; Ton *et al.,* 2018; Bruntrup *et al.,* 2018; Christina & Panagiota, 2018; FAO, 2018; Isager *et al.,* 2018; Manda *et al.,* 2018; Dube & Mugwagwa, 2017; Matenga, 2017; Eaton & Shepherd, 2001). However, in the quest for new knowledge, the Author conducted an interrogation. In view of the gaps identified in the management of the centralized model type of the out-grower scheme, the Author proposes an out-grower scheme management model that could provide a solution to closing on the identified gaps by including all the relevant stakeholders to take part in the management of the out-grower scheme.

Figure 7.1 shows the framework of the out-grower scheme management model and its structural relationships. The out-grower scheme management model translates into recommendations on setting up and implementing an out-grower scheme that promotes transparency, integrity and inclusiveness. The out-grower scheme management model is a guideline. Out-grower schemes are different in context and do not provide a one size fits all approach to improving the well-being of the rural communities. Often, using common sense is more important than trying to apply instructions derived from other contexts. Therefore, no out-grower model is perfect and each context requires a unique approach.

7.2.3.1 The Framework of the Out-grower Scheme Management Model by the Author

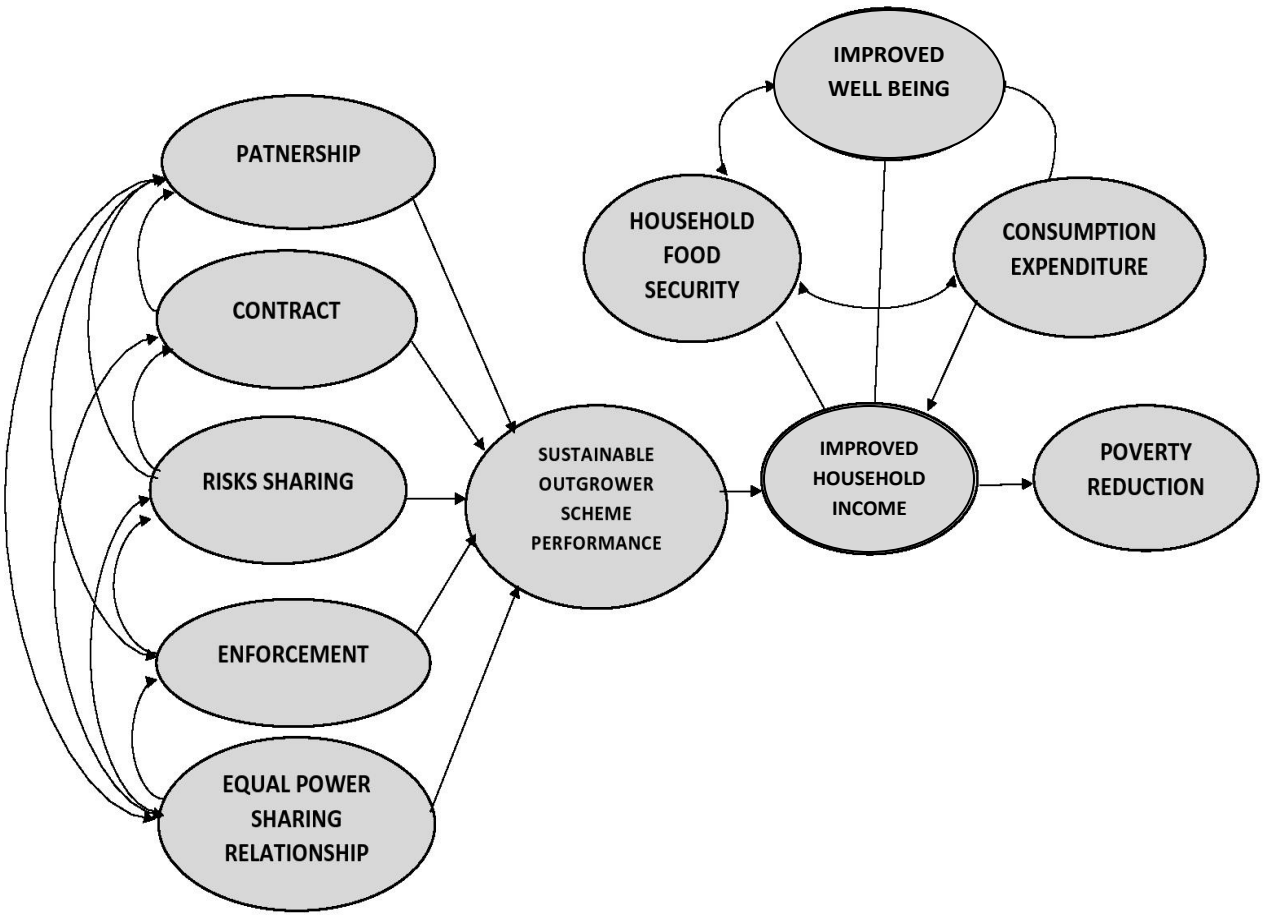

Figure 7.1: Author's Out-grower Scheme Management Model Source: Author, 2019

7.2.4 Operationalization of the Out-grower Scheme Management Model

The out-grower scheme management model presents the interaction of the variables in the framework. It addresses the partners, the contract, risks sharing, enforcement, and equal power sharing relationship. Further, it discusses sustained out-grower scheme performance, improved household income, and poverty reduction of the out-grower farmers and community at lager.

7.2.4.1 Partnerships

During the planning stage of any out-grower scheme, it is important to ensure that the out-grower firm, out-grower farmers and community benefit.

7.2.4.1.1 Establishing the Partnership

Out-grower schemes are business enterprises that can last for many years. It is in this regard that establishing the partnership is critical. Partnership reinforces synergy in terms of technical expertise and financial obligations. It facilitates trust and transparency in adherence to contractual obligations for both the out-grower farmers and the out-grower firm. It is important to involve external partners from the beginning for the sake of a lasting partnership.

7.2.4.1.2 The Out-grower Firm

The out-grower firm should carry out a market research to ascertain the long-term market viability at respective locations such as local, regional, and global. Further, the out-grower firm should invest in the value chain of the out-grower scheme that requires farming inputs and an array of extension services. Subsequently, it is important to have knowledge about the legal and regulatory frameworks that relates to the operations of the out-grower scheme. To this effect, it is helpful to consult from other stakeholders such as the Government and other collaborating partners that can provide advice in the spheres of the out-grower scheme arrangements. Similarly, it is helpful to consult from experienced out-grower farmers who have been involved with the out-grower scheme on long-term.

7.2.4.1.3 Out-grower Farmers

Out-grower farmers must be able to supply and meet the quantity and quality of the product required by the out-grower firm. Similarly, it is necessary that out-grower farmers are capable of producing for different markets. To capitalize on this potential advantage, out-grower farmers must have their own land. Without land availability, it is very difficult for smallholder farmers to transition from subsistence farming to large scale markets integration. Subsequently, out-grower farmers should anticipate to creating a long-term business relationship with the out-grower scheme.

7.2.4.1.4 External Facilitators

External partners are needed for value addition in terms of technical support and back up on transparency in the management of the out-grower scheme arrangements. External partners should engage as neutral parties that are non-partisan in providing support to the out-grower farmers and the out-grower firm. Otherwise, they end up being a partner of either the out-grower farmers or the out-grower firm and not being neutral.

7.2.4.2 The Contract

The contract must be designed to provide justice and fairness to both the out-grower farmers and the out-grower firm. It must be a legal binding document that can be used to settle disputes when requirement arises. In this regard, both the out-grower firm and the out-grower smallholder farmers should adhere to their contractual obligations.

7.2.4.3 Risks Sharing

Just like any other business enterprise, out-grower schemes operate in an environment that is prone to a range of business risks. Justice is that both the out-grower farmers and out-grower firms share the cost of the risks, equitably. However, in a centralized model of the out-grower scheme, the out-grower firms pass the production, marketing and price risks on to the out-grower farmers. It is against this background that the out-grower management model provides a platform of fairness and transparency where risks should be shared and handled in unison by all the stakeholders that are involved in the out-grower scheme arrangements. This may be achieved by sharing accurate information on risk management among all the stakeholders.

7.2.4.4 Enforcement

Out-grower schemes operate on the concept of contract farming. Out-grower farmers sign a contract with the out-grower firm to engage in out-grower scheme arrangements. However, contract enforcement can be problematic when parties breach the contract. Therefore, it is important that both the out-grower farmers and out-grower firms respect the contract and adhere to contractual obligations. In the centralized model type of the out-grower scheme, the out-grower firm has an upper hand over control of the out-grower scheme arrangements as compared to the out-grower farmers. The out-grower scheme management model provides a forum for equal power sharing by interaction and dialogue among all the stakeholders.

7.2.4.5 Equal Power Sharing Relationship

Key to understanding what contributes to the success of the out-grower schemes is an understanding of what motivates the out-grower farmers and out-grower firms to engage in such relationships in the first place. At the most basic level both the out-grower farmers and the out-grower firm want to engage profitably in the out-grower scheme arrangements. However, in the centralized model of the out-grower scheme, there is unequal power sharing relationship between the out-grower farmers and out-grower firm.

The out-grower firm has more power than the out-grower farmers in managing the out-grower scheme arrangements. The imbalance in power disadvantages the out-grower farmers to participate fully with regards to the out-grower scheme arrangements. To this effect, the out-grower management model promotes equal power sharing relationship between the out-grower farmers and out-grower firm by providing a platform for inclusiveness of all stakeholders to participate in decision making. Appropriate management of the out-grower farmers builds trust and transparency, thereby fostering commitment to the relationship with both parties over the long-term.

7.2.4.6 Sustainable Out-grower Performance

The out-grower scheme management model may promote sustained innovation within the out-grower scheme through products, processes, strategies, and domain in order to assess and ultimately exploit attractive opportunities to bring about ongoing improvement in the out-grower scheme. Transparency, fairness and timeliness are crucial to building relationships and trust between the out-grower farmers and out-grower firm. Timely delivery of inputs is especially important, as is payment for crops delivered within the specified timeframe and at the agreed price. It is also critical to follow a clear and negotiated process when drawing up the contract so that it is not skewed in favor of the out-grower firm. In this regard, the centralized model of the out-grower scheme does not promote sustained innovation as evident by lack of transparency and unequal power sharing relationship between the out-grower farmers and out-grower firms.

7.2.4.7 Household Income

Out-grower firms have invested in developing mechanisms such as the out-grower scheme in order to work with smallholder farmers. This allows them to expand their supplier base and to increase smallholder productivity. Unfortunately, despite massive investment in farmer training programs and providing inputs, the income for the out-grower farmers has remained low. Low income is attributed to unfavorable pricing mechanism in the centralized model type of the out-grower scheme that lack transparency and exclusion of marginal groups such as the women and youth from participating in the out-grower scheme arrangements. If farmers do not make sufficient profits from sales of their crops, they do not put their heart into growing the crops and are tempted to divert inputs and their products. The out-grower scheme management model may facilitate increased income for the out-grower farmers by promoting equal power sharing relationship, transparency, and inclusion of the marginal groups in the out-grower scheme

arrangements. In this regard, out-grower farmers have the opportunity to improve on their wellbeing.

7.2.4.7.1 Household Food Security

Out-grower schemes offer an opportunity to smallholder farmers to produce cash crops in partnership with sponsors that provide a readily market and offer a higher price for the agricultural commodities than the open market. However, this is not the case in the centralized model type of the out-grower scheme due to unfavorable conditions offered to the out-grower farmers by the out-grower firm. The out-grower scheme management model can improve household food security by promoting partnership with other stakeholders other than the out-grower farmers and out-grower firms. Allowing other stakeholders to take part in the management of the out-grower scheme arrangement promotes transparency and trust, thereby creating favorable conditions to increase household food security and eventually improve on the wellbeing of the out-grower farmers.

7.2.4.7.2 Improved Well-being

This refers to the resultant out-grower scheme outcomes in the form of the effectiveness and achieving the set objectives to reduce poverty in rural Zambia. Overly, the effects of the out-grower scheme should be spiral and have an over spill effect to the entire communities where out-grower schemes are implemented and not only benefiting those participating in the out-grower scheme arrangement. Out-grower schemes have the potential to create jobs and provide necessary infrastructure for the benefit of the communities, thereby contributing to poverty reduction and rural development. When appropriately managed, an out-grower scheme can be a viable vehicle for human development in terms of lifting the standard of living of the rural populace in Zambia. In the centralized model type of the out-grower scheme, however, there is no fair play in the treatment of the out-grower farmers. It is in this regard that the out-grower management model can promote fair play by bringing together on board all the stakeholders to fully participate in the management of the out-grower scheme arrangements.

7.2.4.7.3 Consumption Expenditure

Low consumption expenditure, in terms of poverty, is a widespread phenomenon among the rural populace of Zambia. Constraints of that nature can be dealt with through the out-grower scheme arrangement, as advocated by the Government of Zambia. Despite the potential of the out-grower scheme to reduce poverty, not much has been done in the centralized model type of the out-grower scheme to raise the consumption expenditure, in order to improve out-grower farmers' wellbeing. The centralized model lacks transparency and fairness as evidenced by exclusion of external parties that can provide checks and balances in the out-grower scheme arrangements; exclusion of the out-grower farmers from participating in decision making to manage the out-grower scheme; and unequal power sharing relationship between the out-grower farmers and out-grower firms.

It is against this background that the out-grower scheme management model may create a favorable environment to encourage transparency, fairness and inclusiveness of the stakeholders in the management of the out-grower scheme arrangements. This can be achieved by creating an enabling environment that provides an opportunity for the out-grower farmers to participate in determining economic prices for agricultural commodities, thereby realizing more profit, increased consumption expenditure and eventually improve the out-grower farmers' wellbeing.

7.2.4.8 Poverty Reduction

In the out-grower scheme management model, the ultimate goal is poverty reduction. The out-grower scheme management model is an inclusive model that promotes dialogue among all the stakeholders. In this regard, all the impediments that attribute to failure in poverty reductions are discussed and worked on amicably in order to meet the objective of reducing poverty.

7.2.5 Outcome Areas that Result from the Out-grower Scheme Management Model

The foregoing out-grower management model shows that there are significant outcomes towards reducing poverty in rural Zambia. The outcomes are in four areas namely: immediate, intermediate, ultimate, and development impact. The relationship of the concepts in the outcome areas is shown in Figure 7.2

7.2.5.1 Framework of the Concepts in the Outcome Areas

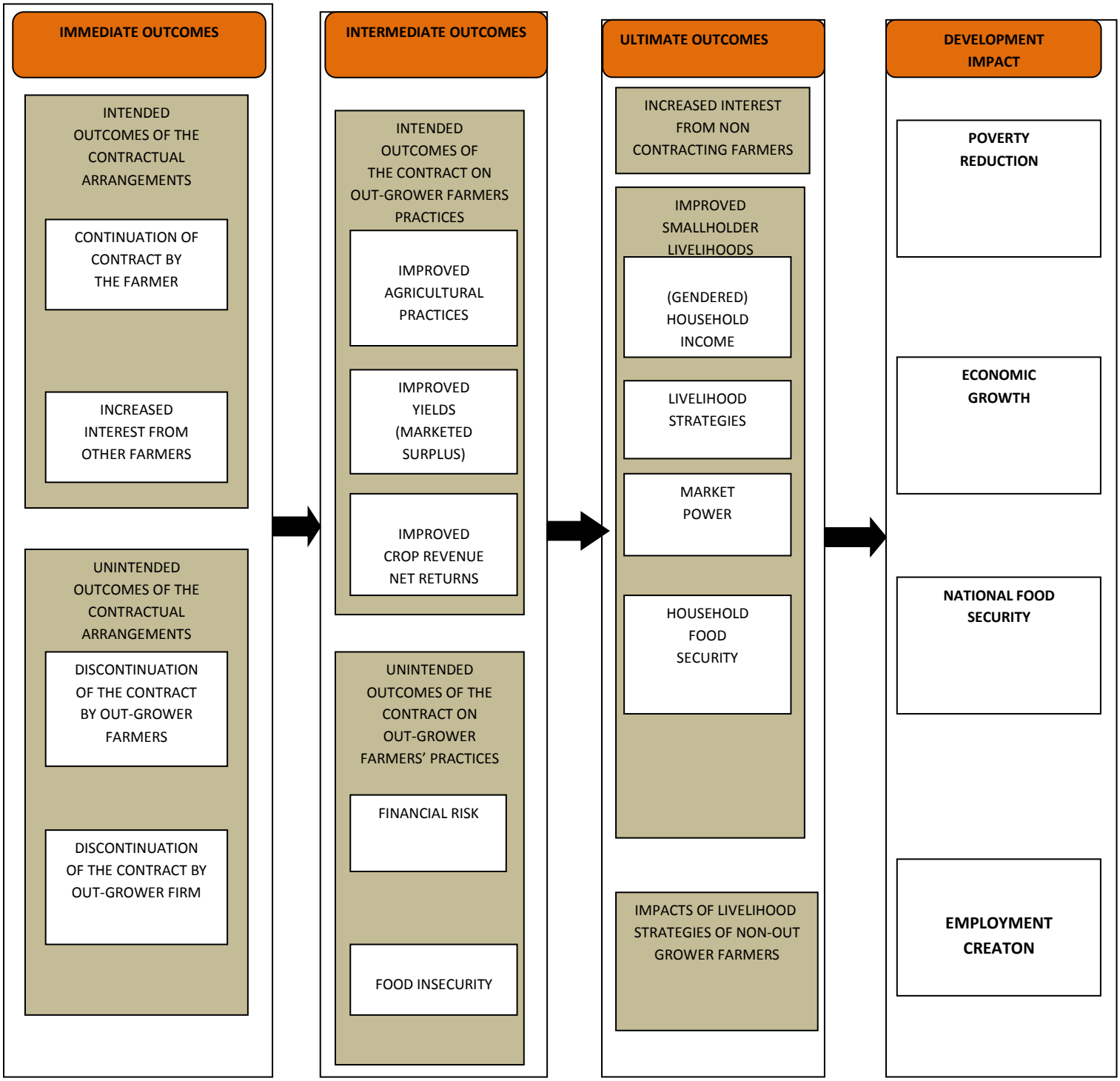

Figure 7.2: Relationship of the concepts in the Outcome Areas Source: Author, 2019

7.2.6 Operationalization of the Concepts in the Outcome Areas

This section discusses the operationalization of the concepts in the outcome areas in the context of the out-grower scheme management model and how the study aims at understanding and/or explaining the problem

7.2.6.1 Immediate Outcomes

The immediate outcomes of the contractual arrangements are a continuation of the contract by the out-grower farmers and increased interest from other farmers. The unintended outcomes of the contractual arrangements are discontinuation of the contract by the out-grower farmers and discontinuation of the contract by the out-grower firm, respectively. It implies that the out-grower farmers that have been longer with the out-grower scheme will benefit more due to the fact that investing in assets and knowledge take time to show the benefits

7.2.6.2 Intermediate Outcomes

Further, the intermediate outcomes of the contract on out-grower farmers' practices are improved agricultural practices; improved yields; and improved revenue. The unintended outcomes of the contract on the out-grower farmers' practices are financial risk exposure; failing health; and food insecurity. Independent farmers may benefit from spill-over effects, for example by attending field days to show case improved farming techniques. The spill-over effects may be larger if the out-grower has operated in the same area for a longer period.

7.2.6.3 Ultimate Outcomes and Development Impact

Subsequently, the ultimate outcomes of the out-grower scheme management model considered are: increased interest from non out-grower farmers; and improved out-grower farmers' livelihoods such as household income, adaptation to livelihood strategies, market power, and household food security. Other ultimate outcomes are positive and/or negative impacts on the livelihood strategies of non out-grower farmers and input providers. The immediate, intermediate, and ultimate outcomes culminate into development impact such as poverty reduction, economic growth, national food security and employment creation. The causal link between could not always be a clear-cut, especially when the out-grower scheme has small coverage on the out-grower farmers' agricultural activities

7.3 Conclusion

In comparison to the independent farmers, there has been positive change in poverty reduction to smallholder farmers participating in the out-grower scheme arrangement. The study revealed that out-grower famers had a better standard of living than the independent farmers who did not participate in the out-grower scheme arrangements. Further, it also found that out-grower farmers were knowledgeable about the out-grower schemes and understood the operations thereof. Subsequently, the study found that communities benefited from the operations of the out-grower schemes. The proposed out-grower scheme management model could be helpful to providing a solution to the gaps indentified in the management and implementation of the centralized model type of the out-grower scheme.

CHAPTER EIGHT

CONCLUSION AND RECOMMENDETIONS

8.1 Introduction

This chapter translates the study findings into conclusions and also the suggested recommendations aimed at resolving the study problem through striving to meet the set of objectives by interrogating the research questions. Further, it highlights the areas for further studies as a way of extending the research work. Subsequently, it concludes with the limitations of the study.

8.2 Conclusions

One of the rural development approaches adopted by the Government of Zambia has been the out-grower scheme arrangement. As such, this study sought to evaluate the effectiveness of the out-grower schemes on reducing poverty in rural Zambia.

In view of the above, the conclusion drawn by answering the first research question is that the out-grower schemes have contributed positively to poverty reduction for smallholder farmers participating in the out-grower scheme arrangement. To this effect, out-grower farmers had a better standard of living than independent farmers who did not participate in the out-grower scheme arrangement. The out-grower farmers were better off in terms of assets owned, increased income, and increased consumption expenditure as compared to the independent farmers.

Further, the conclusion drawn by answering the second research question is that the out-grower schemes have improved the knowledge of the smallholder out-grower farmers on the operations of the out-grower schemes. Out-grower schemes operate on the concept of contract farming. In this regard, out-grower farmers signed a contract with the out-grower firm. The out-grower firm endeavored to explain the contents of the contract to the out-grower farmers. To this effect, both the out-grower farmers and out-grower firm were duty bound to adhere to their contractual obligations.

Subsequently, the conclusion drawn by answering the third research question is that the communities have benefited from the operations of the out-grower schemes. Some of the benefits

are employment creation, providing clean water through the sinking of boreholes, community health improvement through building of clinics, enhancing rural education by building schools, and providing training in improved farming practices to increase yields of the agricultural commodities. Other benefits are education scholarships, supporting traditional ceremonies, and sponsoring sports clubs.

Finally, the general conclusion drawn from this study is that the out-grower schemes have been effective in contributing to reducing poverty in rural Zambia by improving the standard of living for the out-grower farmers as compared to independent farmers. However, there is need to remove the tag of unequal power sharing relationship between the out-grower farmers and the out-grower firm. The out-grower firm has more power in making decisions to manage the out-grower schemes arrangements as compared to the out-grower farmers who are excluded.

The study also concluded that the out-grower firms do not explicitly involve external partners in the out-grower scheme arrangements. The inclusion of external partners can contribute to synergy in terms of technical expertise and financial obligations that can benefit both the out-grower farmers and out-grower firms. Further, women and the youths were discriminated against in participating in the out-grower scheme arrangements as evidenced by a lower presentation than the men folk. In this regard, the study found inequality both across and within households.

8.3 Recommendations

i. Out-grower farmers should be given the opportunity to participate fully in order to avoid mistrust and encouraging transparency in the out-grower schemes arrangements. The prevailing situation is that the out-grower firm has an upper hand over the out-grower farmers and controls the management of the out-grower scheme arrangements, thereby excluding the out-grower farmers. Further, the out-grower scheme should work in collaboration with the external partners. External partners are needed for value addition in terms of technical support and back up on transparency in the management of the out-grower scheme arrangements. The external partners should engage as a neutral party that is non partisan in providing support to the out-grower farmers as well as the out-grower

firm. Otherwise, they end up being a partner for only the out-grower farmers or the out-grower firm, thereby not being neutral.

ii. Insurance cover should be included in the loan because out-grower schemes operate in an environment that is unpredictable and prone to an array of risks. Since the out-grower farmers are contracted for production, all the risks at this level are transferred to them even in the case of production failure caused by natural calamities such as drought and floods. In this regard the contact should have a framework on fairness in handling force majeure issues.

iii. Due to the high level of illiteracy among smallholder farmers and for ease understanding, the out-grower firm should endeavor to translate the contract into the main local language spoken in the community where the out-grower schemes are implemented. In some instances, out-grower farmers breach the contract because they did not understand and interpret the contents of the contract correctly. Similarly, the out-grower scheme should consider recruiting an equal number of women and youth as compared to men. The prevailing situation is that the number of women and the youth participating in the out-grower arrangements is lower than that of men. This scenario shows that the women and the youth are marginalized and excluded.

iv. Both the out-grower farmers and out-grower firms must ensure that they adhere to their contractual obligations to promote transparency and avoid disputes. To this effect, the out-grower farmers should not sell the crop outside the contract to buyers who did not finance production. Similarly, the out-grower firm should not inflate the price of farming inputs more that the price prevailing at the market. The pricing mechanism must benefit both the out-grower farmers and out-grower firm. The prevailing situation is that it favors the out-grower firm, in terms of benefits.

v. Out-grower farmers should be working towards an exit strategy of self-reliance to avoid perpetual dependence on the out-grower schemes in the long-term. In this regard the out-

grower firms take advantage to monopolize the market and cheat on the out-grower farmers who have no other options to rely on.

8.4 Areas for further Research

i. The number of the women and youth participating in the out-grower scheme arrangement is lower than the men folk. The study revealed inequality at both across and within households. The out-grower scheme is often considered as one of the major tools of poverty reduction. In this regard, there is need to document the implication of out-grower schemes on inequalities in view of poverty reduction in rural Zambia.

ii. The out-grower scheme plays three main roles in the economy. First, the out-grower scheme introduces the element of predictability into the production process and allows allocating resources with greater responsibility. Second, the out-grower scheme allows both sides of agreements (out-grower farmers and out-grower firms) share market risks. Third, the participants of the out-grower scheme are more motivated to achieve high performance. It is against this background that there is need for further research to document a deepened overview of the methods that can be useful in the assessment of the relation between economic development and the operation of the out-grower scheme.

8.5 Limitations of the Study

Certainly, the study was not without limitations arising from the data, time challenge and the methodology that was used. Without shortcomings, the comprehensiveness of the study could have been improved in conducting a more complete study.

Evaluating the effectiveness of the out-grower scheme in reducing poverty in rural Zambia could have been enhanced by collecting data over a longer period of time from both the out-grower farmers and independent farmers as opposed to a shorter period. A multi-year (longitudinal) approach would bring out the dynamics of the effectiveness of the out-grower schemes in reducing poverty other than the cross sectional approach that allows to collect data in a short period. The quality of the study could have been improved by using a bigger sample size. This

provides truth regarding the establishment of the impact of participation on accumulated household income. Nevertheless, since it was not done for this study, it was a limitation.

In terms of poverty reduction, the study used income as a proxy of wellbeing to compare the living standards between the out-grower farmers and independent farmers. On the contrary, income is more susceptible to incorrectness and excludes other costs that households incur. In this regard, farm profits provide a much better measure of wellbeing. Further, consumption expenditure suffices because it is accurate. Subsequently, the study could have considered the disaggregation of price differentials and similarities between the out-grower farmers and independent farmers. In view of the above, this was a limitation

Further, the study targeted the out-grower farmers and independent farmers. Therefore, after selecting these units of the study, the selection of Key Informants was done by a non-probability method known as purposive sampling. In this regard, using purposive sampling does not replicate a true cross-section of the population. To this effect, this was acknowledged as a limitation to the study.

Consequently, it was difficult to get accurate information from both the out-grower farmers and out-grower firms. Since all the out-grower firms had policy on disseminating information to third parties, it involved following procedure that took long to be approved by relevant authority. As a result, much time was wasted, thereby disrupting the process of conducting research because of unnecessary waiting. Subsequently, the information provided by the out-grower firm was suspect of biasness because it only reported of positive dealings and not negative. Similarly, the information provided by the out-grower farmers had characteristics of inaccuracy and bias because it only reported on negativity involving the dealings of the out-grower scheme and nothing on positivity, thereby considered as a limitation.

Concerning loan repayment, the majority of the out-grower farmers said they had not defaulted on loan repayment and were able to pay back, thinking that the Author was trying to get hold of those who had failed to pay back the loans. To this effect, the Author made a deliberate effort to explain to the farmers the purpose of the study. Subsequently, every community where the

research team went was essentially a patriarchal society, dominated by men. When you ask “are there people at this house?” to the majority that would mean the head of the household, who is usually a man there. To this effect, women were disadvantaged to participate in data collection. However, the Author explained that women were part of the exercise and encouraged them to participate fully. However, this contributed to the study as limitation.

Additionally, data collection was done parallel to the assessment conducted by the Ministry of Agriculture on crop damage caused by the drought and registration of households that were eligible to receive relief food. Since the study was on evaluating effectiveness of the out-grower schemes in reducing poverty, the questionnaire had questions that inquired on food security for the households. To this effect, the respondents misinterpreted data collection of the study as information required to qualify them as relief food recipients. This confusion may have had a spillover effect on distortion of data in terms of validity and this was considered as a limitation of this study.

Finally, the study was confined to the Eastern Province only. A wider scope to cover other provinces could have drawn significant comprehensive conclusions and recommendations thereof. Further, the study interrogated only one model namely the centralized model type of the out-grower scheme. Knowledge advancement to out-grower schemes to reduce poverty could have immensely contributed to the body of knowledge by interrogating other model types of the out-grower scheme such as nucleus, intermediary, tripartite, and formal. To this effect, the raised concern in view of the above is considered as a limitation to the study.

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APPENDICES

APPENDIX A

QUESTIONNAIRE FOR THE OUT-GROWER FARMERS

Questionnaire number.....

Date……

UNIVERSITY OF LUSAKA

SCHOOL OF POST GRADUATE STUDIES

EVALUATING THE EFFECTIVENESS OF OUT-GROWER PROJECTS ON REDUCING POVERTY IN RURAL ZAMBIA: A CASE OF THE EASTERN PROVINCE

Dear Respondent,

You have been selected to participate in the information collection exercise for the research to evaluate the effectiveness of out-grower projects on reducing poverty in Rural Zambia, a case of the Eastern Province. The names of all respondents shall be kept anonymous to ensure confidentiality. There are number of questions that you will be asked. In some cases, you have to choose between the alternatives provided. In other cases, you just have to answer according to what you feel is and/or are the answers. I would like to thank you in anticipation for your participation. May I interview you?

SECTION A

BACKGROUND INFORMATION

1) SEX

1	Male	
2	Female	

2) What is your age? ☐

3) What is your education level? Tick appropriate box in the table below

1	Primary	
2	Secondary	
3	Tertiary	
4	None	

4) Marital Status

1. Married ☐
2. Divorced ☐
3. Widow ☐
4. Single ☐

5) How many children do you have?

1	One	
2	Two	
3	Three	
4	Four	
5	Five or above	

6) How many are you at this household? ☐

7) How many in your household are going to school? ☐

8) How many of those children going to school do you sponsor? ☐

9) How many in your house hold are not going to school? ☐

10) How many in your household have completed Grade 12? ☐

11) How many in your household have reached tertiary level of education ☐

12) How many meals do you have per day?

1. One Meal ☐
2. Two meals ☐
3. Three Meals ☐
4. Not sure ☐

13) What type the house do you live in?

1. Mud Grass thatched ☐
2. Mud thatched with iron sheets ☐
3. Burnt Bricks grass thatched ☐
4. Burnt Bricks with iron sheets ☐

SECTON B

ECONOMIC INDICATORS

14) What is your major source of income for your living?.....

15) How much is your income per year?

1. Less than K2000.00 ☐
2. K2001.00 to K3000.00 ☐
3. K3001.00 to K4000.00 ☐
4. K4001.00 to K5000.00 ☐
5. K5001.00 and above ☐

16) What is your source of lighting in your house?

1. Candle ☐
2. Hydro electricity ☐
3. Solar ☐
4. Paraffin ☐
5. Forest products (wood/charcoal) ☐
6. Others ☐

17) Indicate by ticking in the appropriate box below whether there has been any change in the economic indicators in the past 5 years

INDICATOR	**CHANGE**		
	Increased (1)	Decreased (2)	no change (3)

a. Income			
b. Assets			
c. Consumption			
d. Expenditure			

18) Tick in the appropriate box below showing the assets you own

Asset	Yes(1)	No(2)
a. Cash at the bank		
b. Goats		
c. Cattle		
d. pigs		
e. Sheep		
f. Chicken		
g. Other		

19) indicate the change that has occurred in the assets you own in the last five years

Asset	Increased (1)	Decreased (2)	NO Change(3)
a. Cash at Bank			
b. Goats			
c. Cattle			

d. Pigs			
e. Sheep			
f. Chicken			
g. Other			

20) indicate by ticking an appropriate box showing the type of movable asset you own

Asset	**Yes(1)**	**No(2)**
a. Bicycle		
b. Motorbike		
c. Car		
d. Oxcart		

21) indicate by ticking an appropriate box below showing the type of electronic communication asset you own

Asset	**Yes(1)**	**No(2)**
a. Phone set		
b. Television set		
c. Radio set		
d. Access to Internet		

22) How do you source your inputs for farming? Tick the appropriate box

1. Provided by out-grower scheme firms ☐
2. Self provided ☐
3. Provided by cooperatives ☐
4. Provided by relatives ☐
5. Other sources ☐

23) How could you describe the nature of sourcing farming inputs?

1. Difficult ☐

2. Somehow difficult
3. Not difficult
4. Not sure

24) Give reasons to your response……

25) What challenges do you encounter, if any in finding farming inputs

……

……

26) Where do you sell your farm produce after harvest?

1. Sold to out-grower scheme firms
2. Sold to agro-vendors
3. Sold to government
4. Other

27) Give reason to your response……

28) How could you describe the nature of accessing market for your farm produce?

1. difficult
2. somehow difficult
3. not difficult
4. not sure

29) Give reasons to your response……

30) What benefits do you get from being an out-grower farmer?

……

……

31) How long have you been an out-grower farmer?

1. Less than 3 years
2. Between 4 and 6years
3. Between 7 and 9 years
4. 10 years or above

32) What motivated you to join the out-grower scheme? (Choose from the options below)

	1. Yes	2. No
a. Easy access to farm inputs		

b. Easy access to market
c. Easy access to agro- extension services
d. Forced to join
e. I was advised by friends and relatives
f. Not sure

33) Being an out-grower farmer is more beneficial than an independent farmer. What is your opinion?

1. Strongly agree
2. Agree
3. Strongly Disagree
4. Disagree
5. Not sure

Give reason to response.....

SECTON C

KNOWLEDGE ABOUT THE OPERATIONS OF OUT-GROWER SCHEMES

34) In your opinion what are out-grower schemes?

.....

.....

.....

35) List the out-grower schemes operating in your area

.....

.....

36) Do you understand how out-grower schemes operate? Tick in the appropriate box below

1	Yes	
2	No	

3	Somehow	
4	Not Sure	

37) IF Yes, what is the source of information on how you learnt about out-grower Schemes. Tick appropriate source.

Source information	
a. Radio set	
b. Television set	
c. Internet	
d. Friends/Relatives	
e. Community sensitization by out-grower scheme firms	
f. Others	

38) Do out-grower schemes create a platform for out-grower farmers and non-out-grower farmers to provide information on how they operate?

1	Yes	
2	No	
3	Somehow	
4	Not Sure	

Give reason to your response.....

39) Do you sign contracts with the out-grower scheme when dong business? (for out-grower farmers)

1	Yes	
2	No	
3	Sometimes	
4	Not Sure	

40) IF YES, do you understand the contents of the contract you sign with out-grower schemes on your own?

1	Yes	
2	No	
3	Sometimes	
4	Not Sure	

41) Are you made aware of the contents of contract with out-grower schemes before you sign?

1	Yes	
2	No	
3	Sometimes	
4	Not Sure	

42) Do you understand the language in which the contract is written?

1	Yes	
2	No	
3	Not Really	
4	Not Sure	

43) Which language would you prefer the contract to be written in?

1	English	
2	Local	

44) When are prices for farm produce announced by the out-grower company?

1	Before planting	
2	Just before harvest	
3	After harvest	
4	Not Sure	

45) Does the period when prices for the commodity are announced give you enough time to decide to venture into farming with out-grower companies?

1	Yes	
2	No	
3	Not Sure	

46) What is your opinion on the pricing system of farm produce by out-grower schemes found in your area?

1	Good	
2	Bad	
3	Fair	
4	Not Sure	

47) Give reasons to your response……

48) Do you participate in the process of negotiation of prices of your farm produce with your out-grower scheme firms?

1	Yes	

2	No	
3	Sometimes	
4	Not Sure	

49) What is the mode of price negotiation available for you?

1	Self	
2	Farmer association	
3	Government	
4	Not Sure	

50) Who controls the negotiations in setting commodity prices of your produce?

1	Out-grower companies	
2	Out-grower farmers	
3	Government	
4	Not Sure	

51) Do you think the prevailing pricing mechanism adopted by out-grower companies' affect your profit in farming?

1	Yes	
2	No	
3	Somehow	
4	Not Sure	

52) Give Reasons for you response.....

53) Do you have the opportunity to sell your produce elsewhere if the prices set by

the out-grower companies are not favorable to you?

1	Yes	
2	No	
3	sometimes	
4	Not Sure	

54) In your opinion what do you think should be done to ensure that the pricing mechanism benefit both farmers and out-grower companies

.....

55) How is loan repayment handled by your Out-grower company?

1	Deducted from sales by out-grower company	
2	Paid through cash by farmer own arrangement	
3	Paid in kind	

56) Is the total loan amount shown in contract at the time you collect farm inputs from Out-grower Company?

1	Yes	
2	No	
3	Sometimes	
4	Not Sure	

57) Are the prices quoted for inputs on the loan a true reflection of market prices of the same inputs at the market

1	Yes	
2	No	

3	Sometimes	
4	Not Sure	

58) Is the loan for inputs secured by collateral?

1	Yes	
2	No	
3	Sometimes	
4	Not Sure	

59) Do you find repayment of the loan to the out-grower company difficulty?

1	Yes	
2	No	

60) What could be the reason for making it difficult for the payment of the loan?

1	Poor rainfall pattern	
2	Sickness	
3	Pests and other crop diseases	
4	Farm inputs were supplied late by out-grower company	
5	Other reasons	

61) How is this dealt with in case you fail to pay?

.....

62) Are you happy with the manner in which failure to pay the loan issues are handled by out-grower companies?

1	Yes	
2	No	

3	Somehow	
4	Not Sure	

63) Do you have any cover in times of crop failure caused by factors that you have no control? (force majeure)

1	Yes	
2	No	
3	Sometimes	
4	Not Sure	

64) Would you prefer to have insurance cover in times of crop failure caused by factors beyond your control?

1	Yes	
2	No	

65) How do you rate information given to you by out-grower companies which may help you make an informed decision to do farming with out-grower companies Or not?

1	Adequate	
2	Inadequate	
3	Fairly adequate	
4	Not Sure	

Give reason to response.....

SECTION D

CORPORATE SOCIAL BENEFITS OF OUT-GROWER SCHEMES TO THE ENTIRE COMMUNTY

66) How do out-grower schemes benefit the entire community in the areas they operate? Tick appropriate box below.

Benefit	Services provided
a. Roads	
b. Schools	
c. Boreholes	
d. Health facilities	
e. Scholarships	
f. Employment opportunities	
g. Other	

67) What farming extension services benefit non out-grower farmers' in areas where out-grower scheme companies operate? Tick the appropriate box

Benefit	Services provided
a. Fertilizers	
b. Pesticides	
c. Herbicides	
d. Improved methods of farming information	
e. Crop marketing	
f. Other	

68) How do you describe your community in terms of development from the time

out-grower schemes started operating in your area?

1	Developed	
2	Remained the same	
3	Underdeveloped	
4	Not Sure	

69) Would you attribute the change in question 69 above to the activities of out – grower schemes?

1	Yes	
2	No	
3	Somehow	
4	Not Sure	

Give reasons to your response.....

70) What is your general opinion about the operations of out-grower scheme companies in your area?

1	Good	
2	Fair	
3	Bad	
4	Not Sure	

71) Give reasons to your response.....

.....

.....

.....

APPENDIX B

QUESTIONNAIRE FOR THE INDEPENDENT FARMERS

Questionnaire number.....

Date……

UNIVERSITY OF LUSAKA

SCHOOL OF POST GRADUATE STUDIES

EVALUATING THE EFFECTIVENESS OF OUT-GROWER PROJECTS ON REDUCING POVERTY IN RURAL ZAMBIA: A CASE OF THE EASTERN PROVINCE

Dear Respondent,

You have been selected to participate in the information collection exercise for the research to evaluate the effectiveness of out-grower projects on reducing poverty in Rural Zambia, a case of the Eastern Province. The names of all respondents shall be kept anonymous to ensure confidentiality. There are number of questions that you will be asked. In some cases, you have to choose between the alternatives provided. In other cases, you just have to answer according to what you feel is and/or are the answers. I would like to thank you in anticipation for your participation. May I interview you?

SECTION A

BACKGROUND INFORMATION

4) SEX

1	Male	
2	Female	

5) What is your age? ☐

6) What is your education level? Tick appropriate box in the table below

1	Primary	
2	Secondary	
3	Tertiary	
4	None	

4) Marital Status

1. Married ☐
2. Divorced ☐
3. Widow ☐
4. Single ☐

6) How many children do you have?

1	One	
2	Two	
3	Three	
4	Four	
5	Five or above	

7) How many are you at this household? ☐

8) How many in your household are going to school? ☐

9) How many of those children going to school do you sponsor? ☐

10) How many in your house hold are not going to school? ☐

11) How many in your household have completed Grade 12? ☐

12) How many in your household have reached tertiary level of education ☐

13) How many meals do you have per day?

5. One Meal ☐
6. Two meals ☐
7. Three Meals ☐
8. Not sure ☐

14) What type the house do you live in?

5. Mud Grass thatched ☐
6. Mud thatched with iron sheets ☐
7. Burnt Bricks grass thatched ☐
8. Burnt Bricks with iron sheets ☐

SECTON B

ECONOMIC INDICATORS

15) What is your major source of income for your living?.....

16) How much is your income per year?

6. Less than K2000.00 ☐
7. K2001.00 to K3000.00 ☐
8. K3001.00 to K4000.00 ☐
9. K4001.00 to K5000.00 ☐
10. K5001.00 and above ☐

17) What is your source of lighting in your house?

7. Candle ☐
8. Hydro electricity ☐
9. Solar ☐
10. Paraffin ☐
11. Forest products (wood/charcoal) ☐
12. Others ☐

18) Indicate by ticking in the appropriate box below whether there has been any change in the economic indicators in the past 5 years

INDICATOR	CHANGE

	Increased (1)	Decreased (2)	no change (3)
e. Income			
f. Assets			
g. Consumption			
h. Expenditure			

19) Tick in the appropriate box below showing the assets you own

Asset	**Yes(1)**	**No(2)**
h. Cash at the bank		
i. Goats		
j. Cattle		
k. pigs		
l. Sheep		
m. Chicken		
n. Other		

20) indicate the change that has occurred in the assets you own in the last five years

Asset	**Increased (1)**	**Decreased (2)**	**No Change(3)**
h. Cash at Bank			
i. Goats			
j. Cattle			

k. Pigs			
l. Sheep			
m. Chicken			
n. Other			

21) indicate by ticking an appropriate box showing the type of movable asset you own

Asset	Yes(1)	No(2)
e. Bicycle		
f. Motorbike		
g. Car		
h. Oxcart		

22) indicate by ticking an appropriate box below showing the type of electronic communication asset you own

Asset	Yes(1)	No(2)
e. Phone set		
f. Television set		
g. Radio set		
h. Access to Internet		

23) How do you source your inputs for farming?

6. Provided by out-grower scheme firms ☐
7. Self provided ☐
8. Provided by cooperatives ☐
9. Provided by relatives ☐
10. Other sources ☐

24) How could you describe the nature of sourcing farming inputs?

5. Difficult ☐
6. Somehow difficult ☐

7. Not difficult ☐
8. Not sure ☐

25) Give reasons to your response……

26) What challenges do you encounter, if any in finding farming inputs

……
……
……

27) Where do you sell your farm produce after harvest?

5. Sold to out-grower scheme firms ☐
6. Sold to agro-vendors ☐
7. Sold to government ☐
8. Other ☐

28) Give reason to your response……

29) How could you describe the nature of accessing market for your farm produce?

5. difficult ☐
6. somehow difficult ☐
7. not difficult ☐
8. not sure ☐

30) Give reasons to your response……

31) What benefits do you get from being an independent farmer?

……

……

……

32) Being an independent farmer is more beneficial than out-grower farmer. What is your opinion?

6. Strongly agree ☐
7. Agree ☐
8. Strongly Disagree ☐
9. Disagree ☐
10. Not sure ☐

Give reason to response……

33) Do out-grower schemes create a platform for out-grower farmers and non-out-grower farmers to provide information on how they operate?

1	Yes	
2	No	
3	Somehow	
4	Not Sure	

Give reason to your response……

3	Sometimes	
4	Not Sure	

SECTION C

CORPORATE SOCIAL BENEFITS OF OUT-GROWER SCHEMES TO THE ENTIRE COMMUNTY

34) How do out-grower schemes benefit the entire community in the areas they operate? Tick appropriate box below.

Benefit	Services provided
h. Roads	
i. Schools	
j. Boreholes	
k. Health facilities	
l. Scholarships	
m. Employment opportunities	

n. Other	

35) What farming extension services benefit independent farmers in the areas where out-grower scheme companies operate? Tick the appropriate box

Benefit	Services provided
g. Fertilizers	
h. Pesticides	
i. Herbicides	
j. Improved methods of farming information	
k. Crop marketing	
l. Other	

36) How do you describe your community in terms of development from the time out-grower schemes started operating in your area?

1	Developed	
2	Remained the same	
3	Underdeveloped	
4	Not Sure	

37) Would you attribute the change in question 35 above to the activities of out – grower schemes?

1	Yes	
2	No	
3	Somehow	
4	Not Sure	

Give reasons to your response……

38) What is your general opinion about the operations of out-grower scheme companies in your area?

1	Good	
2	Fair	
3	Bad	
4	Not Sure	

39) Give reasons to your response.....

APPENDIX C

INTERVIEW GUIDE FOR THE KEY INFORMANTS

Date……..

UNIVERSITY OF LUSAKA

SCHOOL OF POST GRADUATE STUDIES

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ensure confidentiality. There are number of questions that you will be asked. In some cases, you have to choose between the alternatives provided. In other cases, you just have to answer according to what you feel is and/or are the answers. I would like to thank you in anticipation for your participation.

May I interview you?

FOR KEY NFORMANTS

Indicate the position held by Key Informant.....

1) What do you understand by the term out-grower Scheme Model In Agriculture

.....

.....

2) Are there out-grower Schemes operating In Eastern Province?

1	Yes	
2	No	
3	Don't now	
4	Not Sure	

3) If Yes, list the out grower schemes companies operating in Eastern Province?

4) What successes have been recorded by out-grower Scheme model from the time it was introduced n Zambia?

5) Has the out-grower scheme model achieved the objective for reducing poverty in rural Zambia?

6)

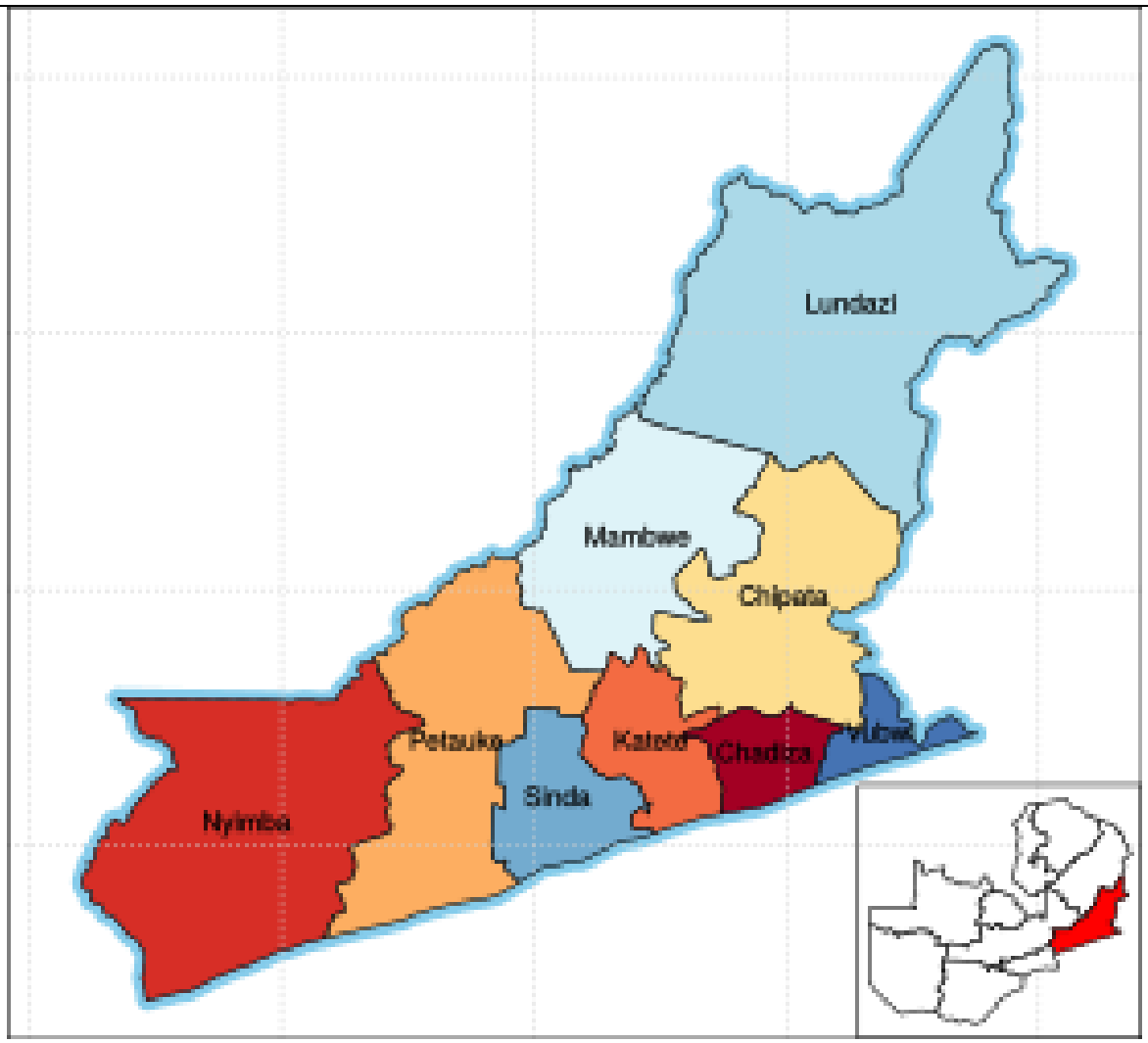
1	Yes	
2	No	
3	Somehow	
4	Not Sure	

7) Give reasons to support your response

8) What challenges do you think out-grower-companies face?
9) What Challenges do you think out-grower farmers face when dong farming under this model?
10) What changes do you think should be made to ensure that both farmers and out-grower companies benefit from out-grower scheme model?
11) Do you have in mind another model that would be implemented by the Government instead of the out-grower model?

APPENDIX D

MAP OF THE EASTERN PROVINCE AND THE DISTRICTS



Source: CSO/LCMS

APPENDIX E

MAP OF ZAMBIA AND THE PROVINCES

Source: CSO/LCMS

APPENDIX F

Similarities and Differences among Selected Past Research from Zambia and Other Regions

ZAMBIA		OTHER REGIONS			FINDINGS	
Author	**Study**	**Author**	**Study**	**Country**	**Similarities**	**Differences**

String fellow, 1996	Smallholder Out-grower schemes in Zambia	Bidzan et al., 2018	Production Efficiency of Smallholder Rice Farms under Out-grower Scheme in Ghana.	Ghana	Both studied were in agreement that out-grower Schemes improved income of participants as compared to non-participants	Stringfellow concluded that side selling (selling outside contract) significantly affected performance of out-grower schemes while Bidzan and others found that out-grower value chain reduced on waste of resources and improved production efficiency
Likulunga, 2005	Status of Out-grower Schemes and Contractual Arrangements in Zambian Agriculture and Agribusiness	Dube and Mugwagwa, 2017	Impact of Out-grower Scheme on Smallholder Tobacco Farmers' Household. Incomes	Zimbabwe	Both studies were in agreement that out-grower farmers did not benefit from out-grower schemes. Out-grower schemes inflated the price of farm inputs and the pricing system of agricultural commodities favored the out-grower firms	Likulunga concluded that the contract between the out-grower farmers and the out-grower firm was unfairly administered and skewed to favor the out-grower grower firm. Dube and Mugwagwa concluded that out-grower farmers were merely used as production tools on their own land

ZAMBIA		**OTHER REGIONS**			**FINDINGS**	
Author	**Study**	**Author**	**Study**	**Country**	**Similarities**	**Differences**
Kunda, 2008	Improving Communication	Musa, *et al.,* 2018	Challenges of Contract	South Africa	Both studies concurred that	Kunda concluded

	Channels in Out-grower Schemes		Farming among Small-Scale Commercial Vegetable Farmers in Eastern Cape South Africa		communication was a significant challenge that affected the performance of the out-grower schemes	that out-grower farmers lacked information on out-grower schemes and the out-grower firm took advantage to cheat on them. Musa and others concluded that there was need for the out-grower scheme to consider translating the contract and other materials into the local language because English language was a challenge to most of the out-grower farmers
Schupbach, 2014	The impact of Out-grower schemes and Large-scale farm Employment on Economic Well-being in Zambia	Navarra, 2018	Out-grower schemes in Mozambique: Implications on Gender Inequalities within and across Rural Households	Mozambique	Both studies were in agreement that out-grower schemes excluded the marginal groups such as women and youths from participating in the out-grower schemes arrangements.	Schupbach concluded that out-grower schemes had a significant positive effect on income and rural wealth while Navarra concluded that the out-grower firm benefited significantly, thereby promoting perpetual poverty for the rural

						community.

ZAMBIA		OTHER REGIONS			FINDINGS	
Author	**Study**	**Author**	**Study**	**Country**	**Similarities**	**Differences**
Matenga, 2017	Out-growers and Livelihoods: The Case of Magobbo Smallholder Farming Block in Mazabuka District in Zambia	Wainaina, 2014	"Blessing or Evil", Contract Farming, Smallholder Poultry Production and Household Welfare in Kenya	Kenya	Both studies agreed that out-grower schemes were not fair in dealing with the out-grower farmers in terms of benefits.	Matenga concluded that out-grower firms benefited more while Wainaina found that all the production risks were passed on to out-grower farmers.

ZAMBIA		OTHER REGIONS			FINDINGS	
Author	**Study**	**Author**	**Study**	**Country**	**Similarities**	**Differences**
Manda *et al., 2018*	Out-grower schemes, Livelihoods and Response Pathways on the Zambian 'sugar-belt'.	Repar *et al.,* 2018	Key Challenges in Malawi's Paprika Supply chain: New Insights into Out-grower Schemes.	Malawi	Both studies found that out-grower schemes operated on a colossal overhead and transaction costs. As a result, this affected the financial outcome of the out-grower farmers in terms of income.	Manda and others concluded that out-grower schemes had failed to produce significant path-changing gains for households. Repar and others concluded that out-grower schemes gave more power to the firms