AN ASSESSMENT OF THE PERCEIVED BENEFITS AND CHALLENGES IN COLLABORATIVE AGRIBUSINESS ARRANGEMENTS AMONG SMALLHOLDER FARMERS IN ZIMBABWE

By

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DECLARATION

I, ........................................... do hereby declare that this dissertation is the result of my own investigation and research, except to the extent indicated in the Acknowledgements, References and by comments included in the body of the report, and that it has not been submitted in part or in full for any other degree to any other university.

Student signature  Date
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ABSTRACT

To ensure successful integration of the agribusiness sector, collaborative arrangements should be a strong incentive as they can be a solution to the high transaction costs in the imperfect markets found in conflict-affected countries, fragile states and least developed countries. Despite the importance of collaborative arrangements in agribusiness, there has not been a general consensus among researchers on the benefits and challenges encountered in such arrangements. The study seeks to assess perceived benefits and challenges to smallholder farmers so as to address issues of significance for the survival of the agribusiness sector.

This study employed quantitative survey methods to gather data and Factor Analysis to extract the important benefits and challenges key to the smallholder farmers in these arrangements. Results of the study showed that collaborative arrangements have significant benefits (which include increased revenue, improved access to credit and diversification) that also come with challenges (like increased risk, overreliance on advances and side marketing) for the small-scale farmers and the particular benefits and challenges encountered offer an improved understanding of collaborative arrangements in the Zimbabwean context. The study recommends critical considerations of the benefits and challenges so as to address current deficits that include food security issues.
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CHAPTER ONE

INTRODUCTION

There have been increasing concerns on food safety and requirements for low-cost differentiated products by consumers. Hendrikse, (2007) demonstrated need to seriously consider vertical coordination in the food supply chains as this is an area of potential competitiveness. The trend in the agri-business sector has seen collaboration of various agribusiness projects between farmers, processors and retailers. This is vital in this sector considering the increasing demand for products in terms of both quantity and quality. The Zimbabwean farmers and retailers in the agri-business sector are presented with challenges and opportunities emanating from the recent developments like globalization, environmental and food-safety awareness and other consumer concerns.

Collaborative arrangements can be the solution to the high transaction costs in the imperfect markets found in conflict-affected countries, fragile states and least developed countries. Collaborative agribusiness arrangements (CAA) have been successful for tobacco and cotton (FAO, 2011) and this has to be expanded to the grains and livestock sectors in order to increase food security. The Government has put in place SI 140 of 2013 to promote collaborative farming arrangements in the form of contract farming (Ministry of Agriculture Mechanisation and Irrigation (MAMI), 2014). Despite so many advantages of collaborative arrangements, such relationships often fail due to some reasons.

Adoption of CAA will assist in redressing the current deficits and help in the delivery of the ambitious Zimbabwe Agenda for Sustainable Socio-Economic Transformation (ZIMASSET). CAA will help participants to pool resources together at varying degrees like land, capital, time, skills and facilities to achieve these goals. Planning for successful firm collaboration development is now a crucial strategic management issue but research has not done justice on the factors for successful and sustainable collaborative relationships in the Zimbabwean agribusiness sector.
This study will highlight issues in this area through testing of hypothesis on the different perceived benefits and challenges to participation in collaborative agribusiness arrangements and then proceed to give the theoretical framework on collaborative relationships. Another section will look into various aspects of smallholder farmer collaborations in agribusiness under literature review. The subsequent sections will venture into the methodology used in the study and data analysis of the findings. The final part concludes with given recommendations.

1.1 BACKGROUND

In Zimbabwe, agriculture is the mainstay of its economy as it provides livelihoods to more than three quarters of the country’s population. The agricultural sector accounts for 16 to 20% of the country’s GDP. One third of export earnings come from agribusiness through its 60% contribution to the manufacturing industry in terms of value addition via agribusiness (MAMI, 2014).

The agri-business sector has struggled more in the past decade and was the most affected of all sectors in the economy due to the ripple effects of the Fast Track Land Reform Program (FTLRP), government controls, capital constraints and hyper-inflation. The year 2008 signaled the near collapse of the industry due to hyperinflation, foreign currency shortages, power outages, feed shortages and price controls. By 2009, production had only recovered to about two-thirds the 2007 figure (Food and Agricultural Organisation (FAO), 2011).

Despite these difficult market conditions, the agribusiness sector has also shown some resilience. The sectors with improved productivity include Tobacco and horticulture while poultry, dairy, beef, cotton, cereals and citrus are still showing footprints of struggle. The areas under crop being utilised effectively for farming purposes has been declining rapidly and this has been attributed to limited availability and high costs of fertilisers, unattractive local prices, lack of capital and most importantly in this context, reduction in collaboration activities due to side marketing risks (Musara, Zivenge, Chagwiza, Chimvuramahwe and Dube, 2011). The Zimbabwean agro-industry still faces serious challenges such as stiff competition from cheap imports,
very high input costs in raw materials such as maize and soya-beans and also mushrooming of illegal imports of produce selling at sub-economic prices (Government of Zimbabwe, 2013).

1.2 PROBLEM STATEMENT

Collaborative agribusiness arrangements are a strong incentive to ensure acceleration of the integration of the agribusiness sector. Therefore, it is vital for the players in the sector to understand the benefits and challenges of farmers to venture into such collaborative arrangements.

The research problem thus is the need for appreciation of the various opportunities and challenges faced by farmers to engage themselves into such collaborative arrangements. This brings actors to be wary and address issues of significance concerning success of such arrangements for the survival of the agri-business sector and the economy at large.

Previous researches on collaborative arrangements in agribusiness focused on advanced and emerging economies typified by for example the UK and China with less meaningful research on developing countries like Zimbabwe. In cases where the studies were done in developing countries, the emphasis has been on a single produce of which there is need to tackle various sectors in the agribusiness sector.

There is no general consensus among agribusiness practitioners and academics about the benefits of collaborative agribusiness arrangements which is an issue of main concern. On one hand some advocate for these arrangements as they offer many opportunities to both farmers and sponsors, others criticize them because they feel that the sponsors benefit at the expense of the farmers. This shows that little evidence about the benefits of collaborative agribusiness arrangements exists. In light of this identified research gap, there is need for more empirical studies that provide more evidence about this phenomenon. It is against this background that the study sought to investigate the benefits and challenges of smallholder farmers in CAA in Zimbabwe.
1.3 OBJECTIVES OF THE CURRENT RESEARCH

1.3.1 Main objective

The main objective of the present study is to assess the smallholder farmers’ perceived benefits and challenges of participating in collaborative agribusiness arrangements in Zimbabwe.

1.3.2 Specific objectives of the research

The following specific objectives will be useful for the proposed research project:

- To identify perceived benefits of participating in agribusiness collaborations.
- To identify perceived challenges faced by farmers in their participation in agribusiness collaborations.
- To draw lessons and give recommendations for successful participation in collaborative arrangements in agribusiness.

1.4 RESEARCH QUESTIONS

The questions that the research seeks to address are as follows:

1. What are the smallholder farmers’ perceived benefits and challenges of participation in collaborative agribusiness arrangements in Zimbabwe?
2. What are the benefits of participating in collaborative agribusiness arrangements?
3. What are the challenges faced by farmers in collaborative agribusiness arrangements?
4. What recommendations are there for successful collaborative arrangements in the agribusiness sector?
1.5 **HYPOTHESIS**

H1: While the collaborative agribusiness arrangements have significant benefits for smallholder farmers, they also come with problems.

1.6 **JUSTIFICATION OF THE STUDY**

The rules of the competition have changed in terms of flexibility in clusters. Accordingly, planning for successful collaborative farming development becomes a crucial strategic management issue but research has not done justice on the perceived benefits and challenges to smallholder farmers’ participation in collaborative arrangements in the Zimbabwean agribusiness sector.

This study addresses the lack of understanding about the transformation of agro-food supply chains to successful value creation in this industry. It makes great contribution to literature by giving a clear insight into the benefits and challenges faced to enable participation in collaborative arrangements. Studies in the area of agribusiness in Zimbabwe are very few and this study will stand to benefit both the private and public sectors including the policy makers.

1.7 **SCOPE OF STUDY**

Benefits and challenges in formal (contracts and vertically integrated firms) and non-formal (spot markets and repeated market transactions) set ups will be studied. The perceived benefits and challenges of collaborative arrangements in Zimbabwean Agribusiness sector will be studied at the farmer-processor level.
1.8  DISSECTATION OUTLINE

This study is outlined as follows;
1. Chapter 1: Outlines the background of the study, the research problem, objectives and justification of the study.
2. Chapter 2: This is an outline of the literature surrounding the areas of collaborative agribusiness arrangements and the factors that enable or hinder participation in such arrangement.
3. Chapter 3: This chapter addresses the methodological issues that include, research design, research approach, population and sampling, data sources, data collection, credibility and ethics, data analysis and the general methodological limitations.
4. Chapter 4: This is a presentation of the results and their discussion.
5. Chapter 5: This is a summary of the dissertation and conclusions.

1.9  CHAPTER SUMMARY

This chapter focused on the introduction of the research topic and provided background to the study. The problem statement was brought out and also justification of the research area. Research objectives, research questions and the hypotheses of the study were given. Literature on the research topic will be reviewed in the next chapter including theories surrounding the area of study.
CHAPTER TWO

2 LITERATURE REVIEW

2.1 INTRODUCTION

The chapter provides a theoretical background to collaborative agribusiness arrangements and particularly in the smallholder farming setup. A description of the different collaborative arrangement and a summary of existing research on the subject are given. The chapter also reviews applied research concerning collaborative agribusiness arrangements aspects conducted in recent years in both developed and developing countries in general.

2.2 AGRIBUSINESS

Agribusiness, the term coined by two economists in 1957 at Havard Business School John Davis and Ray Goldberg, has been defined to refer to all the business that supports food, tobacco, flowers and agricultural exports production and delivery to the final consumers (Esterhuizen and Rooyen, 2004). The agribusiness environment is where producers and consumers of goods and services related to agriculture operate. What distinguishes agribusiness from normal business here is the nature of the agriculture that involves the biology, seasonality, nature of products and their markets especially the kinds of risks involved (Esterhuizen and Rooyen, 2004).

2.3 NATURE OF AGRIBUSINESS

The links in agribusiness chain that illustrate collaborative arrangements include various industry sectors such as primary production of commodities, secondary transformation or processing into value added products, supply of inputs to both producers and processors, retail and wholesale provision of food and related products
to consumers and finally the provision of services like finance, insurance and technical advice (Esterhuizen and Rooyen, 2004).

Asian Development Bank Institute (ADBI) in Tokyo conducted research in some Asian countries to assess conditions under which small-scale rice farmers in CAA and realized that they earned significantly higher profits than those not participating. This according to the Ministry of Economic Affairs of Zimbabwe contributes to rural poverty reduction through transition from subsistence to commercial agriculture. The transition results in increasing need for value addition and this requires movement away from spot market arrangements to collaborative agribusiness arrangements such as formal co-operations and integration arrangements (Esterhuizen and Rooyen, 2004).

2.4 ROLE OF SMALL HOLDER FARMING IN AGROBUSINESS

Boehlje (2000) cited in Kirsten and Sartorius (2002), observed that there are major changes in world agriculture industry from small-scale family based farms to large, more tightly coordinated firms across the production and distribution value chain.

Birthal, Joshi and Gulati, (2005) studied firms in India and found that it was convenient to enter into collaborative agribusiness arrangements with smallholder farmers and their associations due to reduced risk in overall supply in case of crop failure of one or a few farmers. Smallholder farmers have lower costs due to lower implicit wage rates and the authors figured out that these farmers produced higher quality produce thanks to the labour-intensive management.

2.5 COLLABORATIVE AGROBUSINESS ARRANGEMENTS DEFINED

The literature on collaborative agribusiness arrangements is explored in this section. Collaborative arrangements were generally defined by Glasbergen, Biermann and Mol (2007) as self-organizing and coordinating alliances in which two or more actors
get involved to strive for a sustainability goal. Zadek (2006) went on to elaborate that these kinds of relationships were established for mutual benefit between parties to address common goals through combining their resources and competences.

Collaborative business arrangements are also known as partnerships, networking, collaborative management and coordination as defined by different authors. In agribusiness, collaborative arrangements have been associated with vertical integration, alliances, and more so to contract farming arrangements as opposed to the traditional spot marketing of agricultural produce. Minot (2011) then specifically defined CAA at farmer-processor level as an issue of commitment between farmer to produce required produce in a prescribed manner and the processor or sponsor commits to buy back the produce through prior agreements by both. AFDA (2013) defined collaborative farming arrangements to include farm partnerships, share farming, contract rearing, cow leasing, long term land leasing, inter-generational transition producer groups or small cooperatives.
2.6 THE DIFFERENT FORMS OF COLLABORATIVE ARRANGEMENTS

Figure 2.1 below shows the different forms of CAA from spot markets to vertically integrated firms with their characteristics.

![Image of Figure 2.1: Various models of collaborative arrangements and their characteristics]


Minot (2011) classified CAA into three groups. The first according to degree of formality of contractual agreements that is formal or informal. Danson, Ezedinma,
Wambua, Bashasha, Kirsten and Sartorius, (2004) during their study of CAA also stated that formal contracts were more common in Kenya and South Africa while Ghana, Nigeria and Uganda had informal contracts (oral agreements between a farmer and a buyer) as the norm. Informal contracts in CAA were found to be more common where buyers were traders purchasing horticultural produce for resell. Minot (2011) classified the second group of CAA according to the three types of commitments made in collaborative arrangement contracts. Market-specifying contracts looked at the sales transaction in terms of price, quality, timing and product attributes. Resource-providing contracts were those where buyer provides inputs plus technical assistance on credit to the smallholder farmers. Finally, the production-management contracts stipulated how the commodity is grown like planting or stocking densities, use of pesticides and timing of harvesting. The third classification of CAA by the same author was with regards to price issues. Contracts were differentiated as fixed-price, formula price or split payment contracts.

The Ministry of Agriculture, Mechanisation and Irrigation (MAMI), (2014) classified CAA into two forms with one form being horizontal where there are collaborations between farmers or the other being vertical where the collaborations are between farmers and processors. Collaborative partners can be farmers, processors, employees, property owners, government agencies and so on.

MAMI (2014) classify models of collaborative farming arrangements into three categories which are;

**Direct production support, purchase and toll processing.**

This arrangement entails direct relationship between farmer and contractor and the contractor supplies all the input requirements including credit and technical assistance. The contractor also provides market of the produce and may toll process the produce from the individual farmers or irrigation schemes, for value addition. Such arrangements are usually supported by the government through identification of eligible farmers and exemption from duties and taxes on capital equipment.
**Partnership model**
In this case, the farmer provides land and labour while the investor provides credit or inputs, technical advice, machinery or equipment and other infrastructure through third parties such as microfinance institutions, input suppliers and agro-processors. One partner is selected to be responsible for value addition through processing and sell of the value added products.

**The Joint Venture**
This model is a form of collaboration where the farmer and the corporate make equity contributions inform of land and capital for operations. Examples are where investors form joint ventures with Agricultural and Rural Development Authority (ARDA), which in turn leases land, places a processing plant and contracts surrounding farmers.

Globally, different forms of collaborations have erupted and evolved. The UK beef industry saw emergence of partnerships between producers, abattoirs and supermarkets in the 1990s and currently these relationships have extended further up the supply chain to include breeders and feed manufacturers (Reynolds, Fischer and Hartmann, 2009). These changes were also experienced in the Chinese beef sector over the past two decades (Gong, Rodney, Cox and Zhou, 2006).

The other forms include a combination of corporate ownership of functions while contracting via vertical coordination as a strategy to coordinate activities of value without owning every link in the supply chain (Insch, 2008).

Integration with foreign market customers with less formal structures to get closer to the customers and suppliers came up as different form (Gary and Jaramillo 2006). Franks (2001) supported this form by emphasizing enhancement of vertical coordination where buyers provide support measures to suppliers in form of credit and physical inputs to strengthen relationships for sustainability.
Various collaborative arrangements in the agribusiness supply chain exist for example between processors and wholesalers, wholesalers and retailers and so on. The focus for this study will however be on the relationship between farmers and the buyer of agricultural output.
2.7 THE COLLABORATIVE AGRIBUSINESS FRAMEWORK

Fig 2.2 depicts the framework typical of CAA at farmer-processor or sponsor level.

![Diagram of the Collaborative Agribusiness Arrangement framework]

**Figure 2.2: The Collaborative Agribusiness Arrangement framework**

Adopted from FAO (2011)
2.8 THEORIES AND ECONOMIC RATIONALE OF CAA

While the traditional neoclassical economies generally assume that there are laws, codes and social norms that define acceptable behavior and generally that the economic agents have complete information with less transaction costs, the new institutional economics (NIE) on the other hand is based on the view that market institutions evolve to reduce costs and adapt to specific problems relative to each sector (Minot, 2011).

The transaction cost economics which is a branch of NIE, explains the buyer-seller relationships with respect to costs of carrying out transactions such as finding buyer, price negotiations, commodity deliveries, payment and risks associated with the transactions (Williamson, 2000).

Minot (2011) explained transaction costs, as they are vital in CAA. Transaction costs can come in form of imperfect information leading to information asymmetry where in this case the seller of produce may have more information pertaining the quality of the produce while the buyer has better information on the market demand. Assuming that both parties (the buyer and the seller) have relevant information, the time and capacity to analyse the information may be inadequate thus leading to limited ability to process the information also known as bounded rationality. Another risk of opportunistic behavior prevents CAA markets from operating efficiently where there is lack of trust between the two parties leading to violation of the terms of agreement by the dishonesty partner. In transaction-specific investments such as coffee growing that require farmers to plant trees that take number of years to mature, risks of opportunistic behavior increase when buyer or seller make investments that are only useful for carrying out a transaction with the other party. This is termed asset specificity. After farmers make the investments, the buyers may lower the price at which they buy back the outputs especially if there are no other buyers available because the bargaining power of the farmer will have been compromised.

Various strategies have been implemented globally to minimize transaction costs and some of these measures have scared away smallholder farmers from participating in
collaborative arrangements with processors. However, CAA has remained popular in the agribusiness sector for a number of reasons. Agricultural produce varies in terms of moisture and sugar content, size, shape, colour, flavor, timing of delivery and so on. All these variations need to be matched to consumer preferences. With spot markets, these characteristics are not well-communicated or guaranteed for consumers. CAA is necessary to adjust to changing demands of consumers through communication between producers and parties on new developments in food and agricultural markets. CAA overcomes capital market failures through support from contracting firms in the form of production material supply and other inputs on credit while using future delivery of produce as collateral. This helps farmers to produce what they would not have produced otherwise but this relationship is threatened if there are other opportunities for producers to sell their produce. This is usually the case in countries especially where there are weak legal institutions to guarantee contract enforcement (Kirsten and Sartorius 2002).

2.9 THE RISE OF CAA

Increase in agricultural industrialisation was explained by Sofranko, Frerich, Samy and Swanson, (2000) to be due to biological technologies, information technologies, economic growth, mechanisation, modernisation of production, processing and distribution systems. Forces of change like globalisation, agriculture market reforms in developing countries and world agriculture industrialisation influenced need for collaborations in agribusiness. Boehlje (2000) supports that CAA is necessitated by changes in agriculture like development of differentiated products, the rise in biological manufacturing and also the formation of food supply chains (Kirsten and Sartorius 2002).

Kirsten and Sartorius (2002) also made some important observations that justify need for CAA and these help parties to appreciate a number of issues. The present day consumers demand quality, consistency and value. There is also an increasing global market participant competition among business players. Economies of size and scope in production and distribution are now vital. There is an inevitable need for risk mitigation and management strategies of buyers and suppliers. Finally, the strategic
positioning and market power or control strategies of individual businesses all justify the need for CAA (Kirsten and Sartorius, 2002).

Around 60 to 80% of Swedish farms engage in machinery and labour sharing arrangements as part of collaborative farming arrangements through mergers in pig, dairy and crop production sectors as noted by Larsen (2008). The author pointed out that the average efficiency is greater among partnership farms when compared to the non-partnership farms thus indicating benefits of collaborative farming arrangements. Larsen (2008) also noted that larger farms were more likely to be program participants but also observed that regardless of the size of the farm, participants of such arrangements showed positive impact on performance or profitability of their farming enterprises.

A number of authors like Hollingsworth (2004) and Hingley (2005) among others have researched on the dynamics of producer processor relationships in the agribusiness supply chain and the changes in the food retailing sector. Insch (2008) however, argues that these studies overlooked the vital aspects of triggers that altered the value creation process over time in the agribusiness sector. The author focused on Australia’s chicken meat industry to analyse patterns in agribusiness value-creation process where conclusions were made to show that coordinated marketing and contracting in bird procurement and processing were some of the triggers.

Dries, Gorton, Urutyan and White (2014) observed that degree of exclusivity of buyer-supplier relationships, supplier cooperation and supplier’s initial capital among other factors were determinants of positive supplier support programs such as collaborative arrangements.

Reynolds et al. (2009) showed that in many countries, the response to economic pressures influenced efforts by individual firms to coordinate with others vertically and horizontally. The same sentiments were shared by Gong et al. (2006) in a paper on China’s beef industry marketing systems where reports were made to show that economic pressures were behind the reason to greater vertical and horizontal coordination. Gong et al. (2006) however added another aspect of social pressures as
another factor. Under the economic and social pressure umbrella, Gong et al. (2006) noted the key drivers as the increasing concerns about food safety from consumers and the requirements for low-cost and differentiated products from highly competitive retail sector. This opinion is also supported by Insch (2008) in an article denoting recent changes where the Western consumers are demanding delivery of assortment of low cost standardised food products and ‘convenience’ food to the mass market (Manning and Baines, 2004). Insch (2008) noted that application of some management principles such as the collaborative arrangements have set a platform for the agribusiness sector to deliver an assortment of low cost, standardised food products to the mass market.

To deal with serious impact of increasing consumer awareness influencing concerns on food safety regulations brought forward by globalisation and to exploit opportunities, agro-food producers in Germany for example improved farmer, processor and retailer collaborations. Reynolds et al. (2009) also showed that cooperation in the food sector was relevant to address such demands for safe, high quality food produced in consideration of environmental and animal welfare calls. Enterprises responded to this call by transforming their marketing functions to higher value offerings through synchronisation to raise production and quality standards as what happened for example in the Australian poultry supply chains (Insch, 2008). Having organisations come together in the efforts to provide products that meet differentiated customer needs, resulted in significant benefits in economies of scale in terms of improved technological, intellectual and production resources thus leading to the consolidation and evolution of transnational companies (Manning and Baines, 2004).

Factors such as the growth of high-value agriculture, expansion of agricultural processing, consolidation in the retail food sector and the increasing demand for quality and food safety have all contributed to the need for CAA in the agribusiness supply chain (Gulati, Minot, Delgado and Bora, 2006).

In general, proponents of CAA have seen it as a solution to challenges of access to information, credit and market risk faced by smallholder farmers while the critics of
CAA have seen it as a way through which large firms take advantage of the land and smallholder farmers’ lack in order to take control of their farms while paying them less (Minot, 2011). Singh (2002) considered it a negative trend for smallholder farmers to integrate into commercial agriculture siting issues of increasing indebtedness, higher risks and income inequality.

2.10 BENEFITS OF COLLABORATIVE AGRIBUSINESS ARRANGEMENTS

Literature reveals that economic logic would suggest that farmers who are not well informed would not voluntarily participate in CAA unless they believe there will be benefits (Minot, 2011). Governments are encouraged to allocate resources to the CAA as it is a fruitful policy venture. The paper concludes that CAA showed significant impact on improving farm efficiency and productivity.

Collaborative agribusiness farming arrangements sparked interests of both researchers and policy makers due to their potential to solve the smallholder farmers’ constraints. Often in such arrangements the smallholder farmer is provided with technical assistance, inputs such as fertiliser, seeds, feed and medications on credit and also there is a guaranteed price for the output (Eaton and Sherperd, 2001). The collaborative arrangements in farming are therefore seen to possess the benefits of improved credit access, better production methods, tolerance of risk, lower implicit labour costs and improved incentive structures (Minot, 2011).

There are many different ways in which the smallholder farmers can benefit in CAA.

2.10.1 Increased revenue

Warning and Key (2002) undertook a study at a private cooking-oil manufacturer in Senegal contracted with 32000 groundnuts growers producing around 40000 tons of the produce annually. They found out that farmers participating in the scheme had their revenues significantly higher at more than 55% than those of non-contracted farmers. Bolwig, Gibbon and Jones (2009) also compared farmers in coffee
production in Eastern Uganda whose collaborating partner provided technical assistance and organic certification. Results showed positive revenue effects from scheme participation as compared to the control group. Ten thousand smallholder farmers grew vegetables on contract to an exporter in Madagascar (under strict quality standards) and supporting evidence from Minten, Randrianarison and Swinnen (2009) was that participating farmers had higher, more stable incomes and a shorter ‘lean’ season in comparison to their counterparts.

During an examination of contract production of vegetables and milk in India, Birthal et al. (2005), found out that the contracted vegetable farmers received prices that were 8% higher than those received by non-participating farmers. Similar findings from Simmons, Winters and Patrick (2005) were noted in Indonesia where the authors concluded that poultry and seed maize contracts resulted in increased income and welfare thereby reducing absolute poverty.

Though Ramaswami, Birthal and Joshi (2006) observed that there were similar gross margins between poultry contract growers and non-contract ones, the regression analysis for their study indicated significant gains from contracting. This can be explained through the fact that contract growers gained more from management assistance and credit provided by the contracting firm as compared to the others. The authors also went on to show lower variability of gross margins for contract growers than independent ones, revealing merit for CAA.

### 2.10.2 Inputs and production services provision

Benefits to the farmers according to the MAMI (2014) include reduction of production and marketing risks in a way that uncertainties associated with input availability, quality and costs are eliminated as the inputs are provided by the contractors.

Production support and basic inputs provision usually comes as a package in most contractual agreements in CAA (FAO, 2011). The support and input basics include
seed, fertiliser, land preparation and sometimes harvesting and also training and extension. This helps to achieve the desired quantity and quality of the produce. CAA therefore comes as a solution to the smallholder farmers as they can gain access to inputs in this way. Parastatals, agencies and the private sector also stand to benefit through bulk ordering of inputs by these farmers (FAO, 2011).

2.10.3 Access to credit

Access to credit is enhanced through provision of inputs, investment credit for machinery, buildings and other capital facilities (MAMI, 2014).

In many developing countries in Africa, the collapse or restructuring of a lot of agricultural development banks and export crop-marketing boards has made it more difficult for farmers in their industry. It has become difficult to obtain credit or production inputs on credit. Through CAA, producers can have access to credit to finance production inputs and in most cases, the contracting firms support them with advance credit or the contract serves as collateral with commercial banks. Substantial investments for example packaging, tobacco barns and grading sheds or heavy machinery require guarantees from the contracting firm for farmers to get advance credit from banks. Problems of side marketing, also known as extra-contractual marketing, have however influenced contracting firms to reconsider supplying most inputs thus resorting to providing only the basic essential inputs such as the seed and some important chemicals (FAO, 2011).

2.10.4 Diversification

CAA has been shown to increase profit opportunities through greater product range or differentiated products and diversification into high value crops (versus traditional crops) thus increasing income. CAA overcomes barriers of entry into specific crop and animal sectors that require high levels of specialization. Collaborative arrangements are a crucial vehicle to keep small and medium enterprises (SMEs) involved in markets for high value crops and animal products (Kirsten and Sartorius, 2002).
In another view, by-products and residues from one contracted farming activity are used in complimentary farm activities. By-products like poultry and piggery manure can be used in horticulture production, animal feed and biogas energy production to run engines and pumps on the farm (MAMI, 2014).

2.10.5 Introduction of appropriate technology

To upgrade agricultural commodities for markets that demand high quality standards, new techniques are required. New production techniques help increase productivity as well as to ensure that the commodity meets market demands. Due to the possible risks and costs involved, small-scale farmers are frequently reluctant to adopt new technologies. Introduction of new technology will be successful if initiated within well-managed and structured farming operations such as those often found in CAA (FAO, 2011).

Safe handling processes like specialized production, packaging techniques and refrigerated transport of perishable farm produce require large capital and research investments that the small and medium enterprises can hardly afford hence the need for collaborations in the production and marketing activities with skilled partners in the respective areas (Kirsten and Sartorius 2002).

2.10.6 Learning and transfer of skills

A vital dimension for decision to collaborate is for learning purposes (Blundel and Hingley, 2001), where the participants’ knowledge and business horizons has potential to expand especially for entrepreneurial farm ventures (Cameron, 2007). Dries et al. (2014) also supported this dimension elaborating that small enterprises use such networks jointly, thus overcoming challenges of information, quality, size and distribution channel limitations.

Record keeping, efficient use of farm resources, improved methods of applying
chemicals and fertilizers, a knowledge of the importance of quality and the characteristics and demands of export markets are some of the skills that can be transferred to the smallholder farmers through CAA. By following strict timetables imposed by the extension service, farmers can gain experience in carrying out field activities and spillover effects from contract farming activities eventually lead to investment in market infrastructure and human capital. This will improve the productivity of even farm activities other than the ones for which the arrangement was specific for (FAO, 2011). It also simplifies production and marketing decisions thus improving effectiveness (Hudson, 2000). Minten et al. (2009) also found evidence that the vegetable growing scheme in Madagascar contributed to technology adoption and had some spillover effects with respect to increased rice yields for the participating farmers.

The collaborating firm will provide technological assistance that favours production of high value, riskier crops and livestock where most farmers have limited expertise. Educational experience of interacting in CAA with agribusiness partners enable farmers in developing countries to convert from subsistence to commercial farming (Sofranko et al., 2000).

2.10.7 Guaranteed pricing structures

The prevailing market prices determine the prices that farmers get on spot markets. Their ability to negotiate with the intermediaries also determines the prices. In CAA, the price at which the produce is bought is indicated prior to production in the contracts. This helps to eliminate the price uncertainty element that the spot markets have (FAO, 2011). The same view on the issue that contracts specify projected prices and price models at the initial stages thus price uncertainty is reduced is shared by the MAMI (2014). Sofranko et al. (2000) added that CAA reduces produce market risk and stabilizes income and the integrator or contracting firm provides a form of insurance.
2.10.8 Access to reliable markets

To ensure survival and growth of the small and medium enterprises in the changing economic environment, there is need to explore opportunities of networking or clustering and other forms of collaborative arrangements with other small firms, growers and large enterprises that have already overcome major market entry barriers. Collaborative agribusiness arrangements provide ways of integrating small and medium enterprises in developing countries into exporting processing markets in the modern economy (Kirsten and Sartorius 2002). CAA ensures self-sustained development. Such arrangements lead to successful income generating projects for small and medium enterprises and bring in the important foreign currency in developing countries.

CAA offers potential in reduction of transaction costs involved in search for markets through guaranteed market (MAMI, 2014). Limited marketing opportunities restrict smallholder farmers in agribusiness to limit their diversification into new crops and livestock production. CAA offers potential solution to a situation where farmers may not produce unless they know that the product has a market and neither will contracting parties invest in farming ventures unless they are also sure of consistent production of the required commodities. Farmers benefit greatly from such arrangements, as they do not have to incur negotiation costs with potential buyers. In addition, farmers in CAA do not sometimes incur transport costs to market because the contracting firm collects the produce at farm gate (FAO, 2011).

Produce whose markets are thin can benefit from CAA through reduction of marketing risk. High perishability of produce is possible high risk of not having guaranteed processor market. High value to weight ratio also poses greater risks in marketing and more specialized clientele. In such cases, CAA makes economic sense (Kirsten and Sartorius, 2002). CAA also makes sense in the cases where there is absence of domestic markets especially for export items. It becomes risky therefore, to produce outside a marketing structure that can handle these items. In addition, items like flowers, vegetables and so on exported to Europe and other perishables require economies of scale in marketing (Kirsten and Sartorius, 2002).
2.10.9 Risk sharing

Bogetoft and Olsen (2002) cited by Larsen (2008), revealed that coordination of production and coordination of risk through collaborative farming arrangements result in maximization of total profit and minimization of the cost of risk. Larsen (2008) mentioned that collaborative farming arrangements were beneficial in terms of providing a risk-sharing platform for risk averse partners. The author emphasised the reduction of risk associated with introduction of new technologies because of such collaborative arrangements. There is also diversification, biological effects, cost savings on machinery (capital costs) and labour and general improvement of farm efficiency.

AFDA (2013) emphasised benefits in economies of scale through reduced capital costs and risk sharing, improved skills through sharing of best farming and business management practices and also benefits in the social aspects where farming becomes a more attractive occupation through the address of the ‘one man farm’ model which is a social challenge.

In the case of poultry farmers in India, the coefficient of variation (CV) of collaborating farmers’ profit was found to be lower than that of non-participating farmers due to reduced variations in yield and price volatility brought about by risk sharing between producer and purchaser (Birth et al., 2005).

2.10.10 Other benefits

Competitive advantage creation is a good reason to vertical inter-firm cooperation in potato firms. Hendrikse (2007) believes that collaborative agribusiness from the strengthened vertical coordination encouraged competitive advantage of partnerships through reduced uncertainty, higher business productivity and improved accessibility of raw materials, capital and specialized skills. Gary and Jaramillo (2006) however disagree with this and point out that as coordination produces partners rather than competitors, the agribusiness industry will then improve through creation of trust and more business stability.
Gong et al. (2006) also includes opportunities of easier implementation of traceability programs that are beneficial to China’s beef industry. In order to provide products that meet differentiated customer needs development of food-chain clusters and coordination deliver increased purchasing power and greater intellectual, technological and production resources for an organization to draw upon (Cox, Chicksand and Palmer, 2007).

Kirsten and Sartorious (2002) observed that vertical integration is becoming unsuccessful due to typical problems in the labour market with respect to issues such as shirking, supervision costs and so on. Vertical integration provides diseconomies of scale and inefficient outcomes especially where there are high labour input requirements like in plantations. CAA on producer-processor level reduces the need for labour supervision while on the other hand increasing access to the required inputs and skills by the producers.

Kirsten and Sartorius (2002) summed up the benefits of CAA and concluded that farmers are prepared to relinquish their autonomy so as to produce, reduce costs, gain access to information, technology, marketing channels, managerial skills, technical expertise, access plant and equipment and potential production procedures and also to improve access to capital and credit.

2.11 CHALLENGES TO COLLABORATIVE BUSINESS ARRANGEMENTS

Despite numerous studies confirming benefits gained from participation in CAA, there is a relatively high rate of failure in collaborative arrangement schemes especially in developing countries (Sartorious, Kirsten and Masuku, 2004). In particular, Kenya has a high rate of turnover in schemes as they collapse and new ones get launched (Minot and Ngigi, 2004). Seijaaka (2004) looked at policy constraints on CAA in Uganda and observed that the country’s regulations prohibited direct tobacco purchases from farmer in preference for cooperatives thus forcing tobacco exporters to procure from the latter. However, the transactions were marred with corruption activities as there was political interference and appointment of civil servants in managerial activities and producers received late payments and quality suffered. Economic reforms later authorized direct purchases from farmers that
brought about improved quality and payments and the smallholder tobacco production trebled in the following six years since 1997.

While Gary and Jaramillo (2006) mentioned cultural differences as a major obstacle for coordination at global level, Manning and Baines (2004) identified a number of factors as challenges facing coordination of sectors in the food supply chain. Some of the highlighted factors are to do with the relative strength of currencies and the technological transfer speed to developing nations. Regulatory burden and tax in trading groups, capital and labour costs and related effects on competitiveness also add on to the factors. The growing concerns over production methods, food safety and hygiene standards also made up the list. The same authors wrapped up the list of factors by including greater differentiation between domestic and international meat trade.

2.11.1 **Increased risk**

The prospects of higher returns and the possibility of greater risk need balance, as such, risk is more likely when the agribusiness venture is introducing a new crop for the smallholder farmers. This may be due to inadequacies in research of success of crop or venture in a new area leading to reduced productivity. Inaccurate forecasts of quantities and price levels may also bring about market risk. Conflicts may arise when producers perceive that the contracting firm is unwilling to share any of the risk, even if the firm is partly responsible for the losses. An example is a company in Thailand that contracted farmers to rear chickens and charged a levy on farmers’ incomes to offset the possibility of a high mortality rate in the chickens. This did not go down well with the farmers, as they believed that the poor quality of the day-old chicks supplied by the company was one reason for the high mortalities (FAO, 2011).

Another challenge in CAA erupts when the contracting firm itself is dishonest or corrupt. In such cases, farmers who make investments in production and primary processing facilities run the risk of losing everything and mistrust between the collaborating partners emanates leading to all sorts of breach of contracts (FAO, 2011).
2.11.2 Unsuitable technology and crop incompatibility

New technologies may have possible adverse effect on the social life of the community and the introduction of sophisticated machines such as for transplanting may result in loss of local employment and overcapitalization of the contracted farmer (FAO, 2011). There is also a possible risk that a farmer may invest in highly specific fixed production assets and non-assurance of permanent contract or chance of default by the integrator for example building poultry houses, or tobacco barns (Kirsten and Sartorius, 2002).

Disruption to the existing farming system can erupt due to introduction of production of a new crop and livestock ventures under conditions controlled by the contracting firms. Land traditionally reserved for food crops for example, maybe the most suitable for the contracted crop, harvesting of the contracted crop may coincide with the harvesting of food crops. This will thus cause competition for scarce labour resources (FAO, 2011).

CAA proved less likely successful in small-scale farming in developing countries, as it is limited to certain types of commodities and markets. There are few successful CAA in production of staple grains and root crops for food production (Sartorious et al., 2004).

2.11.3 Manipulation of quotas and quality specifications

Inefficient management can lead to production exceeding original targets. For example, failures of field staff to measure fields following transplanting can result in gross overplanting. The contracting firms may have unrealistic expectations of the market for their product or the market may collapse unexpectedly owing to transport problems, civil unrest, change in government policy or the arrival of a competitors. This leads to the firm reducing farmers’ quotas as few contracts specify penalties in such circumstances. In some situations, contracting firms are tempted to manipulate quality standards in order to reduce purchases while appearing to honor the contract. Sponsor-farmer conflicts usually erupt in such situations and usually farmers have no
basis to dispute the grading irregularities (FAO, 2011). There is also potential for high
level of manipulation of the contract in terms of both legal and tacit arrangements
(Kirsten and Sartorius, 2002). These same authors also explained a problem that
arises when market prices fall, that processors are tempted to import or purchase from
open market then impose strict quality standards on contracted farmers to avoid
purchasing from them at agreed prices.

2.11.4 Domination by monopolies

In cases where there is only one purchaser of the agricultural produce, monopolistic
tendencies erupt and this usually occurs where farmers are locked into a fairly
sizeable investment, such as with tree crops and cannot easily switch to other crops
(FAO, 2011).

Farmers may get reduced incomes due to increased market power of contracting firms
who offer lower prices than those of spot market giving reasons of reduction in
marketing risk to the farmer. In cases where the contractor supplies all the inputs,
production guidelines and instructions, the contractor then subtracts all the costs from
the producer payment at time of delivery, this amounts to displacement of decision-
making authority from the farmer therefore leaving the farmer as just like an
employee or a hired hand (Kirsten and Sartorius, 2002). This is because the farmers
are now required to meet the contractual obligations of the integrator.

2.11.5 Indebtedness and overreliance on advances

Availability of credit provided by a company directly or through a third party is a
major attraction to participation in CAA. If there are production problems, if the
company provides poor technical advice, if there are significant changes in market
conditions or if the company fails to honor the contract, the smallholder farmers can
end up in facing considerable indebtedness. Where advances are not controlled, the
indebtedness of farmers can increase to uneconomic levels. In one venture,
“compassionate” advances for school fees, weddings and other things resulted in
farmers receiving no payments at the end of the season leading to high dropout rates as the farmers thought CAA did not pay (FAO, 2011).

2.11.6 Side marketing

This is the sale of contracted output to other buyers and this often happens when farmers try to take advantage of market prices when they are higher than the contracted prices. In cases where the agreements made between producers and buyers are not legally enforceable, the only gain the buyer has is not to provide assistance in the future. Lax enforcement in government-run credit programs increase rate of defaults as noted by Minot (2011). All this eventually works to the farmers’ disadvantage as the schemes fail.

Opportunistic behavior poses as a challenge to coordination Dries et al., (2014), where for example credit given to enhance supplier to procure inputs could be diverted to other activities. Where there are high transaction costs incurred in monitoring and enforcing contracts, opportunistic behavior becomes a serious problem. Dries et al. (2014) also cited opportunism due to poor legal enforcement, as hindrance to successful coordination.

2.11.7 Other challenges

CAA undermines traditional structures and support system associated with higher levels of family conflict (Kirsten and Sartorius 2002). A more skeptical view focused on a set of studies on CAA in sub-Saharan Africa focused on historical and political context of CAA. The studies also focused on other issues such as conflicts between farmers and contracting firms, power imbalance between collaborating parties, increasing inequalities and household tensions over division of labour (Minot, 2011). The results showed serious social problems brought by CAA and that income from such arrangements was not enough to live on hence farmers relied on other non-farm income. Singh (2002) in the same line also added to the list by identifying a series of
issues associated with CAA in vegetable production in Punjab, India such as violation of terms of agreements, social differentiation and environmental unsustainability.

Increased contract farming may lead to high land use intensity that leads to pollution. Concentration on contract crops can lead to decreased food production and increased food security problem especially in developing countries (Kirsten and Sartorius 2002).

The resource providing forms of CAA often provide high cost package inputs (inputs are over-priced) that require financing facilities and this dilutes the effect of increased revenue (Kirsten and Sartorius 2002).

Additional costs incurred by farmers through the need to coordinate production to suit integrator requirements and through liaising for use of company inputs and services (Kirsten and Sartorius 2002) also come as a challenge.

Poorly developed judicial systems in developing countries render problems in contract enforcement thus disadvantaging CAA (Kirsten and Sartorius 2002).

Non-flexibility of contractual arrangements and price inconsistency usually pose as major problems (Musara et al., 2011). Minot (2011) pointed out that there existed some form of exploitation of small farmers due to unequal relationship between farmers and large agribusiness firms.

Minot (2011) perceived that CAA excludes smallholder farmers, as the contracting firms prefer working with medium to large-scale farmers for reasons of reducing transaction costs.
2.12 CONCEPTUAL FRAMEWORK

PERCEIVED BENEFITS:
- Increased income
- Provision of inputs
- Access to credit
- Introduction of technology
- Learning
- Risk sharing
- Improved quality etc

PERCEIVED CHALLENGES
- Increased risk
- Unsuitable technology
- Indebtedness
- High cost package inputs
- Coordination costs
- Non-flexible contracts etc

Smallholder farmers’ participation in collaborative agribusiness arrangements

Figure 2.3: Conceptual Framework

2.13 CHAPTER SUMMARY

This chapter gave information on agribusiness aspects and the role of smallholder farmers in agribusiness. It gave a detailed explanation on the different forms of collaborative agribusiness arrangements from the global perspective to the local views. Theories underpinning the research study were reviewed. A detailed critic of the perceived benefits and challenges of collaborative agribusiness arrangements concentrating on producer-processor level was done with local, regional and global examples given.
A conceptual framework was created depicting the influence of perceived benefits and challenges to participation in collaborative agribusiness arrangements.

The next chapter deals with the research methodology employed by the researcher for this study. Included in this will be the research philosophy, strategies and sampling techniques and so on.
CHAPTER THREE

3 RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter on research methodology describes the methods used to obtain and analyse data for this research. Research methodology was defined by Kothari (2004) simply as a way to solve the research problem systematically.

The following aspects are addressed in this chapter, the research design, philosophy, research purpose, research approach, research strategy, population and sample considerations and data collection instruments.

3.2 RESEARCH DESIGN

The strategy and the complete scheme or program of this study is covered under the research design. The design provides a layout of the areas the research will cover and the operational implications to the final data analysis. The design takes into account the philosophy, approach and strategies to be adopted and provides a framework that specifies the relationship among variables being studied.

A descriptive study was carried out and this helped to assess the perceived benefits and challenges to CAA participation. This section will go in depth on the research philosophy, the method, the approach and the strategy this researcher adopted during the course of the research.

3.3 RESEARCH PHILOSOPHY

Saunders, Lewis and Thornhill (2007) lists the main research philosophies as positivism and phenomenological approaches. Positivism approach is deductive and
seeks to explain causal relationship between variables whilst interpretivism or phenomenological approach is inductive and seeks to understand human experience within a research context. The phenomenological concept is focused on realising human behaviour from the applicant’s own frame of reference making it ideal for qualitative research which is concerned with generation of theories and use of small samples (Collis and Hussey, 2003).

For this study the positivist paradigm or philosophy was adopted. This paradigm is concerned with gathering information about facts in an objective and detailed manner (Blanche, Durreihem and Painter, 2006). The importance of doing things in a systematic way and obtaining observable facts is of emphasis in this study. Positivism tries to find the facts or causes of social phenomena. It also works with social reality and the end result of such research are law like generalisations making it ideal for quantitative studies which require large samples and is concerned with hypothesis testing. Methodologies usually followed by positivists are experimental, quantitative and test hypotheses (Blance et al., 2006).

This paradigm is ideal for the research on assessing the benefits and challenges to participation in collaborative agribusiness arrangements because it makes use of quantitative indices and is interested in discovering and confirming causal laws. This study has two independent variables benefits and challenges and one outcome variable which is participation in collaborative agribusiness arrangements being tested under certain hypothesis.

3.4 RESEARCH STRATEGY

Strategies can be qualitative or quantitative with the latter including strategies such as surveys, experiments, observation whilst the former includes case studies, focus groups, ethnography, action research, grounded theory and so on. This study used a survey research strategy that is very common in business and management research and is often used for exploratory and descriptive research (Saunders et al, 2007). There was need to collect information about the cases in a sample on which raw data
had to be obtained. The strategy is usually associated with deductive approach handling amounts of data from a sizeable population in a highly economical manner (Collis and Hussey, 2003). It also allowed collection of data to be analysed quantitatively using descriptive statistics permitting generalisation of results to the whole population.

3.5 POPULATION AND SAMPLING TECHNIQUES

The population, which is the total collection of elements about which the researcher wishes to make some inferences, has population elements such as persons, organisation, customer data base or amount of data on which measurement is taken.

The population for the current research was the number of crop and livestock farmers registered with the Zimbabwe Farmers’ Union (ZFU). This population represents a section of the general farming population in the agricultural sector.

Sampling Technique

The sampling procedure is a systematic process of selecting a number of individuals for a study in a way that the selected individuals represent the large group from the original population. Sampling, which is the process of constructing and designing a sample, begins with a sampling frame, which is a complete or partial listing of items comprising a population. The sampling frame for the current research was done taking into consideration the time and resource limitations.

The researcher checked the meeting schedule of ZFU members in the period June to July and attended some of the gatherings to issue out questionnaires to the members to get imminent responses from them.

The farming sectors were classified into five sectors namely grains, oil seeds, tubers and cash crops, horticulture and livestock. Stratified convenience sampling was the incorporated to select 50 farmers from each sector to ensure adequate representation.
Sample size

For the purposes of this study, a sample size of 150 farmers was selected to be representative according to the proposition that a sample should have 30 or more units for quantitative purposes.

3.6 SOURCES OF DATA

For the purpose of this study the questionnaire was adopted as primary data source. This method has high reliability and it gives a realistic view to the researcher (Collis and Hussey, 2003). As it is original and relevant, primary data’s degree of accuracy is also high. Secondary data was also used in the study to allow for examination of whether information sourced from literature was suitable to meet the objectives of the study (Blaxter, Hughes and Tight, 2006). Secondary sources of data used included peer reviewed journals, textbooks and articles on collaborative agribusiness.

3.7 DATA COLLECTION PROCEDURE

The primary data component was collected from the farmer respondents using questionnaires as collection instruments. The questionnaires had structured closed ended questions. The opening section of the questionnaires comprised of the demographics such as gender, level of education, years of experience in farming and main farming sector. This was done so as to gather information on the business success factors like gender participation influencing African culture and to reflect the skill and literacy levels among Zimbabwe farmers. Section 2 dealt with perceived benefits of participation in collaborative agribusiness arrangements and the third section dealt with the perceived challenges to participation in agribusiness arrangements.

The researcher issued out questionnaires to respondents before the start of every meeting. Respondents were allowed to fill in the questionnaires and collection was done immediately. Time was allowed for respondents who spared extra time to fill in
at break and lunchtime and some questionnaires were collected soon after the meetings.

3.8 DATA ANALYSIS

Completed questionnaires were analysed and screened for completeness, errors and consistency before processing the responses. Coding of responses was then done to facilitate statistical analysis.

The Statistical Package for Social Sciences (SPSS) was used together with Microsoft Excel spreadsheets software for data analysis. Data analysis was tied to each study objective to ensure accuracy of the conclusions.

The first section of the questionnaire with demographics was analysed using percentages and frequency distribution tables. Section two and three with perceived benefits and challenges were analysed using Factor Analysis.

SPSS, MS Excel spreadsheets and importance ratings were used together with secondary sources like books and journals for data analysis to make conclusions and give recommendations. Frequency tables, charts, and other statistical figures were used to facilitate understanding.

3.9 STUDY LIMITATIONS

Although there were time and resource limitations for this quantitative study, this did not equate to failure of the research study. The use of Harare and surrounding areas for geographical setting was a limitation in that generalising results from this study to other ecological regions may be difficult. However, some of the farmer participants in the study were those coming from and hence representing other regions other than Harare which was the venue for most meetings. The major limitations in terms of respondents’ attitude and the survey environment were that because of the winter season, some members did not attend meetings held and also the busy schedules of
some farmers. However the researcher made appointments with some farmers outside the meetings and persuaded the gatekeepers to arrange conducive time for the survey to be carried out.

3.10 ETHICAL CONSIDERATIONS

The researcher ensured that there was no pressure on the intended participants. Objectives of the study were clearly highlighted and together with the covering letter, the researcher sought access from chairpersons of meetings and arranged for distribution of questionnaires with minimum disturbances to the meetings. Gatekeepers were treated with respect and informed of the intentions of the researcher so that there was no coercion. Upon direct contact with the respondents the researcher also took time to discuss the benefits of the study with the participants without overstating or understating. During opening remarks, the researcher gave brief description of the purpose and benefit of the research which put the participants at ease. The rights of the respondents to privacy were also taken into consideration so as to protect the participants and also for retention of validity to the research. Participants were made aware of their right to refuse to answer any questions or to participate in the study. Collected data was subjected to ethical handling by ensuring confidentiality, unbiased coding and the use of passwords on the computers that had the processed data to control access and avoid manipulation (Saunders et al., 2009).

3.11 DATA CREDIBILITY

Validity is concerned with accuracy and truthfulness of the findings, while reliability is with regards to consistency of the tool for measuring (Bryman and Bell, 2007).

3.11.1 Validity

Ten pilot tests were carried out for determination of face validity to figure out whether the questionnaire made sense. The purpose of the pilot test was to refine the questionnaire so that respondents would have no problems in responding to the questions and reduce data responding challenges. The pilot test also enabled
assessment of the questions, validity and reliability of data (Greener, 2008). Expert advice from the supervisor and a senior official in the Ministry of Agriculture were consulted to establish content validity.

3.11.2 Reliability
Reliability also refers to consistency or repeatability over time of a study (Greener, 2008) and for this study following a quantitative design approach with a questionnaire as the research instrument, internal consistency is of paramount importance.

3.11.3 Cronbach’s Alpha Coefficient
For reliability to be acceptable it must have a Cronbach’s Alpha coefficient of greater than 0.6 (Trochim, 2008). The Cronbach’s Alpha is a coefficient with values ranging from 0 to 1. Cronbach Alpha’s reliability values less than 0.6 are considered poor, those within range of 0.7 are considered satisfactory and above 0.8 are good (Sekaran, 2003). Reliability of the items was checked using Cronbach’s Alpha to ensure they were consistently measuring the same constructs.

3.12 CHAPTER SUMMARY

The research methodology was examined thoroughly in this chapter, with the population well defined and selection of the sample and sampling methods adopted discussed to great depth. The chapter highlights the research instrument used and it was administered taking into consideration the ethical issues. The instrument was also subjected to various tests in terms of validity and reliability to ensure accurate results. The chapter also highlights limitations to this study. Chapter four concentrates on the feedback from the respondents to the questions as instructed in the questionnaire and presents the results.
CHAPTER FOUR

4 RESULTS

4.1 INTRODUCTION

This chapter will present on the data collected and how it was processed, analysed and interpreted by the researcher. The Statistical Package for the Social Sciences (IBM-SPSS) version 20 was used to analyse data. The descriptive statistics adopted, factor analysis matrixes measuring different aspects of variables and later on, the basis for conclusions and recommendations are laid out.

4.2 QUESTIONNAIRE RESPONSE RATE

![Pie chart showing response rate]

**Figure 4.1: Response Rate**

A total of 150 questionnaires were distributed personally by the researcher and of these, 114 were completed properly and used for analysis. The response rate was therefore 76%. Considering the difficulty of getting respondents to participate
voluntarily and timely in field research, the response rate was good enough to ensure a valid research. The method of personal administration or distribution of questionnaires increased the response rate.

4.3 DEMOGRAPHIC CHARACTERISTICS

Statistics were obtained from the respondents indicating various demographic characteristics that included gender, academic qualification, farm size, main farming sector and years of farming experience. Below is the presentation of the results from the collected data.

4.3.1 Gender of respondents

Table 4.1 below illustrates that out of the 114 respondents, 63 (55.3%) were male and 51 (44.7%) were female.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>63</td>
<td>55.3</td>
</tr>
<tr>
<td>Female</td>
<td>51</td>
<td>44.7</td>
</tr>
<tr>
<td>Total</td>
<td>114</td>
<td>100%</td>
</tr>
</tbody>
</table>

These results indicate that there were more males in the study sample compared to females. This indicates the influence that African culture still has on the business platform. Many farms are run by the males with spouses and daughters providing assistance. This result is consistent with a number of studies in business like the study by Wee and Ibrahim (2012) on family business success factors in Malaysia that revealed that the activity of men in small to medium sized family businesses is 1.5 times higher than that of females where in the study 33 males against 22 females had participated in the study.
4.3.2 Respondents’ Education Level

Table 4.2: Education Level

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate</td>
<td>58</td>
<td>50.9</td>
</tr>
<tr>
<td>Diploma</td>
<td>28</td>
<td>24.6</td>
</tr>
<tr>
<td>Degree</td>
<td>18</td>
<td>15.8</td>
</tr>
<tr>
<td>Masters</td>
<td>10</td>
<td>8.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>114</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The education level results of the respondents revealed that the most prevalent levels of education attained by respondents were certificate (50.9%) followed by diploma (24.6%) levels. Degree and masters holders levels had fewer respondents with (n=18) 15.8% and (n=10) 8.8% respectively. This reflects of the literacy distribution curve among farmers in Zimbabwe agribusiness sector with a large chunk resorting to agriculture after attaining the Zimbabwe Junior Certificate (ZJC), Ordinary and Advanced level certificates and Master Farmer certificates. In this case, reliability of study results is regarded as high considering literacy level (being able to read and write) and that the respondents could understand the questions being asked.

4.3.3 Farm size

Table 4.3: Farm Size

<table>
<thead>
<tr>
<th>Farm size</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1ha</td>
<td>14</td>
<td>12.3</td>
</tr>
<tr>
<td>1-6ha</td>
<td>39</td>
<td>34.2</td>
</tr>
<tr>
<td>7-50ha</td>
<td>46</td>
<td>40.4</td>
</tr>
<tr>
<td>More than 50ha</td>
<td>15</td>
<td>13.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>114</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Among the respondents in the study, the majority (40.4%) are utilizing between seven and 50 hectares of land followed by A1 farmers between one to six hectares (34.2%).
These are the groups mostly targeted by firms for collaborative agribusiness arrangements with participants including individuals, irrigation schemes, cooperatives and associations.

4.3.4 Main farming sector

Table 4.4: Main farming sector

<table>
<thead>
<tr>
<th>Main Farming sector</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grains</td>
<td>31</td>
<td>27.2</td>
</tr>
<tr>
<td>Oil seeds</td>
<td>13</td>
<td>11.4</td>
</tr>
<tr>
<td>Tuber and Cash</td>
<td>25</td>
<td>21.9</td>
</tr>
<tr>
<td>Horticulture</td>
<td>28</td>
<td>24.6</td>
</tr>
<tr>
<td>Livestock</td>
<td>17</td>
<td>14.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>114</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Grains sector comprising crops like maize and wheat was the dominant sector (27.2%) followed closely by horticulture (24.6%), which includes vegetables, fruits, flowers and seedlings. The tuber and cash crop sector comprised of 21.9% of total respondents and crops under this sector include potatoes, sweet potatoes and tobacco. Only 14.9% of respondents were in the livestock sector, comprising beef, dairy, piggery and poultry while the least portion (11.4%) were in the oil seeds sector with crops such as soya beans and cotton.

The distribution of the respondents across these farming sectors may have been distorted by that one farmer maybe contracted to more than one produce sector like tobacco and poultry but for the purposes of the study the respondents had to pick only one response.

The results differ from observations made by FAO, (2011) that collaborative agribusiness arrangements have been successful for tobacco and cotton. FAO, ((2011) however pointed out that this has to be expanded to the grains and livestock sectors in order to increase food security. It would therefore be expected to have more people in
collaborative arrangements specialising in cash crops and oil seed crops as these are considered specialty crops where expertise has to be sort from sponsoring partners. This is according to observations made by Kirsten and Sartorius, (2002) that through collaborative agribusiness arrangements, smallholder farmers have the opportunity to venture into high value crops and animal sectors that require high levels of specialization.

4.3.5 Years of experience in farming

Table 4.5: Years of experience

<table>
<thead>
<tr>
<th>Farming experience</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1yr</td>
<td>15</td>
<td>13.2</td>
</tr>
<tr>
<td>2-5yrs</td>
<td>32</td>
<td>28.1</td>
</tr>
<tr>
<td>6-10yrs</td>
<td>30</td>
<td>26.3</td>
</tr>
<tr>
<td>More than 10yrs</td>
<td>37</td>
<td>32.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>114</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

When asked on the number of years of farming experience the respondents had, most of them (32.5%) indicated more than 10 years of experience. These results show that Zimbabwe has always been a farming nation and most of its people have been born and bred in farming communities.

4.4 Normality Test

The Shapiro-Wilk test was applied to carry out normality test for the data. This test was chosen as it is recommended when dealing with a sample size that is less than 2000.

The results after Test of Normality are shown in Table 4.6 below.
Table 4.6: Test of Normality

<table>
<thead>
<tr>
<th>Factor</th>
<th>Kolmogorov-Smirnova</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>Df</td>
</tr>
<tr>
<td>Knowledge transfer</td>
<td>0.197</td>
<td>114</td>
</tr>
<tr>
<td>Quality produce</td>
<td>0.091</td>
<td>114</td>
</tr>
<tr>
<td>Marketing benefits</td>
<td>0.274</td>
<td>114</td>
</tr>
<tr>
<td>Indebtedness</td>
<td>0.246</td>
<td>114</td>
</tr>
<tr>
<td>Exploitation of smallholder farmers</td>
<td>0.125</td>
<td>114</td>
</tr>
<tr>
<td>Unsuitable technology</td>
<td>0.135</td>
<td>114</td>
</tr>
<tr>
<td>High-cost package inputs</td>
<td>0.157</td>
<td>114</td>
</tr>
<tr>
<td>Increased risk</td>
<td>0.211</td>
<td>114</td>
</tr>
</tbody>
</table>

a. Lilliefors Significance Correction

At p<0.05, the results showed that the significant levels of all the 8 variables were 0.000 indicating that the sample is not normally distributed. This then requires need to conduct non-parametric tests.

4.5 **ENSURING VALIDITY**

Content analysis with experts in academics from the Graduate School of Management and a pilot study were used for content validity. The experts examined the questionnaire checking for relevancy and the pilot study was done to also check for ambiguity in questions. Feedback from the experts and pilot study were used to edit some survey instruments and the resulting product produced results within acceptable levels.

4.6 **TESTING OVERALL RELIABILITY**

The instrument reliability was computed to verify internal consistency using Cronbach’s Alpha coefficient. Trochim, (2008) gives a value of not less than 0.6 as acceptable Cronbach’s Alpha.
Table 4.7: Overall reliability before Factor Analysis

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.832</td>
<td>26</td>
</tr>
</tbody>
</table>

The overall reliability was very high before the factor analysis at 0.832. However, Field (2005) recommends reporting reliability testing as part of factor loadings after factor analysis, hence the results of factor analysis are presented in the next section.

4.7 FACTOR ANALYSIS

Having established the reliability of the scale, the study carried out factor analysis to identify the benefits and challenges in collaborative agribusiness arrangements.

4.7.1 Factor analysis: Benefits of participation in CAA

The 12 items on the construct benefits of participation in CAA were run on the IBM-SPSS to determine the number of factors. Kaiser-Meyer-Olkin values between 0.5 and 0.7 are considered acceptable, values between 0.7 and 0.8 are good, between 0.8 and 0.9 are great and those values above 0.9 are superb (Field, 2005).

Table 4.8: Testing conditions to justify use of Factor Analysis

<table>
<thead>
<tr>
<th></th>
<th>KMO and Bartlett's Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</td>
<td>0.803</td>
</tr>
<tr>
<td>Bartlett's Test of Sphericity</td>
<td>Approx. Chi-Square</td>
</tr>
<tr>
<td></td>
<td>Df</td>
</tr>
<tr>
<td></td>
<td>Sig.</td>
</tr>
<tr>
<td></td>
<td>426.563</td>
</tr>
<tr>
<td></td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

The research data shown in Table 4.8 above produced KMO measure of sampling adequacy value of 0.803 and this falls under great values. There is thus great evidence that factor analysis is appropriate for this data.
The Barlett’s Test of Sphericity produced a p-value =0, which is smaller than 0.05 and thus indicates a significant correlation structure supporting the appropriateness of factor analysis for the data (Field, 2005).

### 4.7.2 Factor Extraction

Eigenvalues in terms of variance explained, associated with each linear component before and after extraction were listed by SPSS output for the data.

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
<td>Cumulative %</td>
</tr>
<tr>
<td>1</td>
<td>4.041</td>
<td>33.674</td>
<td>33.674</td>
</tr>
<tr>
<td>2</td>
<td>1.866</td>
<td>15.548</td>
<td>49.222</td>
</tr>
<tr>
<td>3</td>
<td>1.243</td>
<td>10.355</td>
<td>59.577</td>
</tr>
<tr>
<td>4</td>
<td>0.896</td>
<td>7.464</td>
<td>67.041</td>
</tr>
<tr>
<td>5</td>
<td>0.739</td>
<td>6.162</td>
<td>73.203</td>
</tr>
<tr>
<td>6</td>
<td>0.702</td>
<td>5.851</td>
<td>79.054</td>
</tr>
<tr>
<td>7</td>
<td>0.562</td>
<td>4.681</td>
<td>83.734</td>
</tr>
<tr>
<td>8</td>
<td>0.507</td>
<td>4.226</td>
<td>87.96</td>
</tr>
<tr>
<td>9</td>
<td>0.478</td>
<td>3.987</td>
<td>91.948</td>
</tr>
<tr>
<td>10</td>
<td>0.358</td>
<td>2.985</td>
<td>94.932</td>
</tr>
<tr>
<td>11</td>
<td>0.34</td>
<td>2.836</td>
<td>97.769</td>
</tr>
<tr>
<td>12</td>
<td>0.268</td>
<td>2.231</td>
<td>100</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.

From the table above, the first three factors with Eigenvalues greater than 1 indicate relatively large amounts of variance with a cumulative percentage of 59.577. After rotation, the explained variance of 33.674% for component 1 was optimized to 22.08%. Those for component 2 and 3 were also optimized from 15.548 and 10.355 to 21.222 and 16.275 respectively.
4.7.3 Scree Plot

In order to compare results with Kaiser’s recommendation of Eigenvalues >1, the scree plot was run.

Figure 4.2: Scree Plot for Benefits

The scree plot retains the same 3 factors as those extracted by Eigenvalues>1 (Kaiser’s criterion) thus the results are similar.
4.7.4 Communalities

The extent to which an individual item correlates with the rest of the items in a given dimension is termed communalities. Here, the variance associated with each item is the common or shared variance.

Table 4.10: Communalities

<table>
<thead>
<tr>
<th>Item</th>
<th>Initial</th>
<th>Extraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased Revenue</td>
<td>1</td>
<td>0.518</td>
</tr>
<tr>
<td>Provision Of Inputs and production services</td>
<td>1</td>
<td>0.47</td>
</tr>
<tr>
<td>Access to credit</td>
<td>1</td>
<td>0.706</td>
</tr>
<tr>
<td>Farm diversity</td>
<td>1</td>
<td>0.563</td>
</tr>
<tr>
<td>Introduction of appropriate Technology</td>
<td>1</td>
<td>0.522</td>
</tr>
<tr>
<td>Learning and transfer of skills</td>
<td>1</td>
<td>0.568</td>
</tr>
<tr>
<td>Guaranteed pricing structures</td>
<td>1</td>
<td>0.707</td>
</tr>
<tr>
<td>Access to reliable markets</td>
<td>1</td>
<td>0.631</td>
</tr>
<tr>
<td>Risk sharing</td>
<td>1</td>
<td>0.528</td>
</tr>
<tr>
<td>Competitive advantage</td>
<td>1</td>
<td>0.449</td>
</tr>
<tr>
<td>Improved quality of produce</td>
<td>1</td>
<td>0.766</td>
</tr>
<tr>
<td>Opportunity to become commercial</td>
<td>1</td>
<td>0.721</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.

Communalities below 0.40 are too low to be considered (Trochim, 2008) while a variance of close to 1 indicate that there is a high correlation of that item with the rest of the items. The strongest item had a value of 0.766 while the weakest item had a value of 0.449 and this shows that there is significant correlation of items with each other. Communalities for all the 12 retained items were reasonable.
4.7.5 **Factor Loadings**

**Table 4.11: Rotated Factor Matrix for each variable on to each factor**

<table>
<thead>
<tr>
<th>Rotated Component Matrix(a)</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Increased Revenue</td>
<td>0.392</td>
</tr>
<tr>
<td>Provision of inputs and production services</td>
<td>0.649</td>
</tr>
<tr>
<td>Access to credit</td>
<td>0.769</td>
</tr>
<tr>
<td>Farm diversity</td>
<td>0.591</td>
</tr>
<tr>
<td>Introduction of appropriate technology</td>
<td>0.67</td>
</tr>
<tr>
<td>Learning and transfer of skills</td>
<td>0.73</td>
</tr>
<tr>
<td>Guaranteed pricing structures</td>
<td>0.183</td>
</tr>
<tr>
<td>Access to reliable markets</td>
<td>0.132</td>
</tr>
<tr>
<td>Risk sharing</td>
<td>-0.049</td>
</tr>
<tr>
<td>Competitive advantage</td>
<td>0.112</td>
</tr>
<tr>
<td>Improve quality of produce</td>
<td>0.158</td>
</tr>
<tr>
<td>Opportunity to become commercial</td>
<td>0.249</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

The matrix shows shared variance due to relationship between factors and this shows information about the unique contribution of an item to a factor. Variables are listed according to factor loadings and the factor loadings that are less than 0.4 are not useful. The structure matrix is important because it provides information on the unique contribution of an item to a factor.
4.7.6 **Naming of Factors**

Below are the items that loaded highly on the three factors and the corresponding common themes. Common themes were deduced after examining the content of items that loaded onto the same factor.

**Table 4.12: Naming of Factors**

<table>
<thead>
<tr>
<th>Item code</th>
<th>Item</th>
<th>Loading</th>
<th>No.</th>
<th>Factor Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>B7</td>
<td>Provision of inputs and production services</td>
<td>0.649</td>
<td>1</td>
<td>Knowledge transfer and sharing</td>
</tr>
<tr>
<td>B8</td>
<td>Access to credit</td>
<td>0.769</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B9</td>
<td>Farm diversity</td>
<td>0.591</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B10</td>
<td>Introduction of appropriate technology</td>
<td>0.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B11</td>
<td>Learning and transfer of skills</td>
<td>0.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B6</td>
<td>Increased revenue</td>
<td>0.594</td>
<td>2</td>
<td>Improved produce quality</td>
</tr>
<tr>
<td>B15</td>
<td>Competitive advantage</td>
<td>0.603</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B16</td>
<td>Improved quality of produce</td>
<td>0.859</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B14</td>
<td>Risk sharing</td>
<td>0.532</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B17</td>
<td>Opportunity to become commercial</td>
<td>0.811</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B12</td>
<td>Guaranteed pricing</td>
<td>0.818</td>
<td>3</td>
<td>Marketing benefits</td>
</tr>
<tr>
<td>B13</td>
<td>Access to reliable markets</td>
<td>0.781</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Own Compilation
4.7.7 Importance Ranking

Table 4.13: Transformed Factor Ranking according to mean values

<table>
<thead>
<tr>
<th>Factor</th>
<th>Descriptive Statistics</th>
<th>N</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge transfer and sharing</td>
<td></td>
<td>114</td>
<td>3.7316</td>
</tr>
<tr>
<td>Marketing Benefits</td>
<td></td>
<td>114</td>
<td>3.6360</td>
</tr>
<tr>
<td>Improved produce quality</td>
<td></td>
<td>114</td>
<td>3.3586</td>
</tr>
</tbody>
</table>

Among the perceived benefits the smallholder farmers enjoy when participating in collaborative agribusiness arrangements, knowledge transfer and sharing was the most popular with the highest mean value of 3.7316. Respondents also perceived marketing benefits as very important benefit to participate in CAA with mean of 3.636. Improved produce quality was lowly ranked as a benefit with a mean of 3.3586.

4.7.8 Reporting Factor Analysis: Benefits of participation in CAA

Factor analysis was conducted on the 12 items on benefits of participation in CAA with orthogonal rotation (Varimax). A summary of the analysis is given with information on items that cluster on to the same factor, factor loadings after rotation, percentage of variance and corresponding Cronbach’s alpha and Eigenvalues.

According to Field, (2005), the KMO = 0.803 is considered great as the value is well above the acceptable limit of 0.5. The Barlett’s Test of Sphericity p < 0.001 indicated sufficiently large correlations to consider Factor Analysis. After running a preliminary analysis to get Eigenvalues for every item in the data, three factors had Eigenvalues over Kaiser’s benchmark of 1 with an explained cumulative variance of 59.577%. To compare results, the scree plot was done and results were in agreement with the Kaiser’s criterion on the three factors thus these factors were retained in the final analysis.
**Factor 1:** Knowledge transfer and sharing was the dominant benefit to participation in collaborative agribusiness arrangements that smallholder farmers clearly distinguished. This factor, knowledge transfer and sharing, comprised of items that loaded highly on to it like learning and transfer of skills (with a factor loading of 0.73), introduction of appropriate technology (0.67), provision of inputs (0.649), access to credit (0.769) and farm diversity (0.591). Some of the major benefits smallholder farmers enjoy in CAA like skills transfer through technical expertise provided by the contracting firms and the introduction of state of art technology on their farms have been shown to improve overall farm productivity. In view of this, such farms with improved governance system have been a target for credit provision in the form of inputs, machinery and finance by banks, input suppliers, non-governmental organisations (NGOs) and government departments. Knowledge spill-over effects to non-contracted produce on farms has also brought about farm diversity with improved efficiency. FAO (2011) also validate these findings when they concur that farmers gain from transfer of skills in record keeping, improved production methods, knowledge on importance of quality and demands of export markets from their sponsoring firms. Such benefits accrue to spill-over advantages as supported by Minten et al., (2009) in their findings in Madagascar where vegetable growing scheme benefited through technology adoption and spill-over effects with respect to increased rice yields for the farmers who were participating.

**Factor 2:** Improved produce quality comprised of items loading highly to this factor such as improved quality of produce (0.859), opportunity to become commercial (0.811), competitive advantage (0.603), increased revenue (0.594) and risk sharing (0.532). Stemming from knowledge transfer and sharing that the smallholder farmers are exposed to in CAA, an improvement in the quality of their produce is evident. An improvement in the quality has been linked to increased revenues for the farmers and this has resulted in opening up of opportunities to some smallholder farmers to become commercial businesses. This view is supported by Warning and Key (2002) in their study on a private cooking-oil manufacturer in Senegal where they found out that participating contract farmers had their revenues increased by 55% higher than
non-contracted farmers. Kirsten and Sartorius however found contrasting evidence that credit inputs are over-priced and this dilutes the effect of increased revenue.

Another opportunity for risk sharing on exposure to farmers in agribusiness arrangements offered competitive advantages to their businesses and resulted in growth and expansion of their empires. Hendrikse (2007) supports the assertion that participation in collaborative arrangements resulted in competitive advantage for farmers through reduced uncertainty, higher business productivity and improved accessibility of raw materials and specialized skills. In the same vain, Bogetoft and Olsen (2002) consolidate by revealing that coordination of risk or risk sharing result in minimization of the cost of risk and maximisation of total profit, which in these findings equate to increased revenue.

**Factor 3:** Marketing benefits comprised of two items loading highly to it namely guaranteed pricing structures (0.818) and improved access to markets (0.781). Findings in this study showed that smallholder farmers enjoy the marketing benefits such as improved market access for their produce, which limits the transactional costs they have to incur in sourcing and negotiating on the markets. Contracting firms usually indicate a guaranteed pricing structure thus the producers have guidelines of the returns that they will get before venturing into production. These findings are reinforced by those of Sofranko et al., (2000) who postulated that contracting firms provides some form of insurance for the producers through reduced market risk for produce whose markets are thin (Kirsten and Sartorius, 2002) and income stabilization. Farmers are also relieved of negotiation costs with potential buyers and transport cost to market as produce is collected at farm gate (FAO, 2011).
4.8  Factor Analysis: Challenges to participation in CAA

4.8.1 Challenges to participation

The 14 items on the construct challenges to participation in CAA were run on the IBM-SPSS to determine the number of factors. The research data produced KMO measure of sampling adequacy value of 0.757 and this falls under good values. There is thus great evidence that factor analysis is appropriate for this data.

Table 4.14: Testing conditions to justify use of Factor Analysis

<table>
<thead>
<tr>
<th>KMO and Bartlett's Test</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Olkin Measure of Sampling Aderacy.</td>
<td>0.757</td>
</tr>
<tr>
<td>Bartlett's Test of Sphericity</td>
<td></td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
<td>342.949</td>
</tr>
<tr>
<td>Df</td>
<td>91</td>
</tr>
<tr>
<td>Sig.</td>
<td>0</td>
</tr>
</tbody>
</table>

The Barlett’s Test of Sphericity produced a p-value =0, which is smaller than 0.05 and thus indicates a significant correlation structure supporting the appropriateness of factor analysis for the data (Field, 2005).

4.8.2 Factor Extraction

Eigenvalues in terms of variance explained, associated with each linear component before and after extraction were listed by SPSS output for the data.
From the table above, the first five factors with Eigenvalues greater than 1 indicate relatively large amounts of variance with a cumulative percentage of 63.464. After rotation, the explained variance of 26.987% for component 1 was optimized to 14.004%. Those for components 2, 3, 4 and 5 were also optimized from 10.966, 9.364, 8.847 and 7.299 to 13.138, 12.599, 11.892 and 11.831 respectively.
4.8.3 Scree Plot

Figure 4.3: Scree Plot for Challenges

The scree plot retained the same five factors as those extracted by Eigenvalues > 1 (Kaiser’s criterion) thus the results are similar.
### 4.8.4 Communalities

**Table 4.16: Communalities**

<table>
<thead>
<tr>
<th>Item</th>
<th>Initial</th>
<th>Extraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased risk</td>
<td>1</td>
<td>0.694</td>
</tr>
<tr>
<td>Unsuitable technology</td>
<td>1</td>
<td>0.634</td>
</tr>
<tr>
<td>Manipulation of quotas</td>
<td>1</td>
<td>0.707</td>
</tr>
<tr>
<td>Domination by monopolies</td>
<td>1</td>
<td>0.513</td>
</tr>
<tr>
<td>Indebtedness</td>
<td>1</td>
<td>0.666</td>
</tr>
<tr>
<td>Farmers’ overreliance on credit</td>
<td>1</td>
<td>0.605</td>
</tr>
<tr>
<td>Side marketing</td>
<td>1</td>
<td>0.78</td>
</tr>
<tr>
<td>Undermining traditional support structures</td>
<td>1</td>
<td>0.67</td>
</tr>
<tr>
<td>High land pollution and land-use intensity</td>
<td>1</td>
<td>0.523</td>
</tr>
<tr>
<td>High-cost package inputs</td>
<td>1</td>
<td>0.627</td>
</tr>
<tr>
<td>Additonal costs of coordination</td>
<td>1</td>
<td>0.537</td>
</tr>
<tr>
<td>Poor contract enforcement policies</td>
<td>1</td>
<td>0.511</td>
</tr>
<tr>
<td>Nonflexible contractual agreements</td>
<td>1</td>
<td>0.652</td>
</tr>
<tr>
<td>Preference for large-scale farmers</td>
<td>1</td>
<td>0.766</td>
</tr>
</tbody>
</table>

*Extraction Method: Principal Component Analysis.*

The strongest item had a value of 0.766 while the weakest item had a value of 0.511 and this shows that there is significant correlation of items with each other. Communalities for all the 14 retained items were reasonable.
4.8.5 Factor Loadings: Rotated Component Matrix

Table 4.17: Rotated Component Matrix

<table>
<thead>
<tr>
<th>Rotated Component Matrix(a)</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Increased risk</td>
<td>-0.141</td>
</tr>
<tr>
<td>Unsuitable technology</td>
<td>0.116</td>
</tr>
<tr>
<td>Manipulation of quotas</td>
<td>0.258</td>
</tr>
<tr>
<td>Domination by monopolies</td>
<td>0.684</td>
</tr>
<tr>
<td>Indebtedness of farmers</td>
<td>0.765</td>
</tr>
<tr>
<td>Farmers’ overreliance on credit</td>
<td>0.607</td>
</tr>
<tr>
<td>Side marketing</td>
<td>0.024</td>
</tr>
<tr>
<td>Undermining support structures</td>
<td>0.068</td>
</tr>
<tr>
<td>High land pollution</td>
<td>0.174</td>
</tr>
<tr>
<td>High cost package inputs</td>
<td>0.291</td>
</tr>
<tr>
<td>Additional costs of coordination</td>
<td>0.436</td>
</tr>
<tr>
<td>Poor contract enforcement policies</td>
<td>0.219</td>
</tr>
<tr>
<td>Nonflexible contractual agreements</td>
<td>0.226</td>
</tr>
<tr>
<td>Preference for large-scale farmers</td>
<td>-0.172</td>
</tr>
</tbody>
</table>

4.8.6 Naming of Factors and Interpretation

Below are the items that loaded highly on the five factors and the corresponding common themes. Common themes were deduced after examining the content of items that loaded onto the same factor.
Table 4.18: Naming of Factors: Challenges to participation in CAA

<table>
<thead>
<tr>
<th>Item code</th>
<th>Item</th>
<th>Loading</th>
<th>No.</th>
<th>Factor Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>C21</td>
<td>Domination by monopolies</td>
<td>0.684</td>
<td>1</td>
<td>Indebtedness</td>
</tr>
<tr>
<td>C22</td>
<td>Indebtedness of farmers</td>
<td>0.765</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C23</td>
<td>Farmers’ overreliance on credit</td>
<td>0.607</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C28</td>
<td>Additional costs of coordination</td>
<td>0.436</td>
<td>2</td>
<td>Exploitation of smallholder farmers</td>
</tr>
<tr>
<td>C30</td>
<td>Nonflexible contractual agreements</td>
<td>0.741</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C31</td>
<td>Preference for large-scale farmers</td>
<td>0.794</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C19</td>
<td>Unsuitable technology</td>
<td>0.603</td>
<td>3</td>
<td>Unsuitable technology</td>
</tr>
<tr>
<td>C25</td>
<td>Undermining support structures</td>
<td>0.774</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C26</td>
<td>High land pollution</td>
<td>0.685</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C27</td>
<td>High cost package inputs</td>
<td>0.532</td>
<td>4</td>
<td>High cost package inputs</td>
</tr>
<tr>
<td>C24</td>
<td>Side marketing</td>
<td>0.879</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C29</td>
<td>Poor contract enforcement policies</td>
<td>0.488</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C18</td>
<td>Increased risk</td>
<td>0.763</td>
<td>5</td>
<td>Increased risk</td>
</tr>
<tr>
<td>C20</td>
<td>Manipulation of quotas and quality specifications</td>
<td>0.493</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.8.7 Factor Ranking

Table 4.19: Transformed Factor Ranking according to mean values

<table>
<thead>
<tr>
<th>Factor</th>
<th>Descriptive Statistics</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>High cost package inputs</td>
<td>114</td>
<td>3.642</td>
</tr>
<tr>
<td>Exploitation of smallholder farmers</td>
<td>114</td>
<td>3.561</td>
</tr>
<tr>
<td>Indebtedness</td>
<td>114</td>
<td>3.491</td>
</tr>
<tr>
<td>Increased risk</td>
<td>114</td>
<td>3.254</td>
</tr>
<tr>
<td>Unsuitable technology</td>
<td>114</td>
<td>3.143</td>
</tr>
</tbody>
</table>

Among the perceived challenges the smallholder farmers are faced with when participating in collaborative agribusiness arrangements, high cost of package inputs were the most dominant with the highest mean value of 3.6462. Respondents also perceived exploitation of smallholder farmers and farmer indebtedness as major challenges to participating in CAA with mean of 3.5614 and 3.4909 respectively. Increased risk and unsuitable technology were not regarded as serious challenges with relatively low mean values of 3.2544 and 3.1433 respectively.

4.8.8 Factor Analysis Report: Challenges to participation in CAA

Factor analysis was conducted on the 14 items on challenges to participation in CAA with orthogonal rotation (Varimax). A summary of the analysis is given.

According to Field, (2006), the KMO = 0.757 was good as the value is well above the acceptable limit of 0.5. The Barlett’s Test of Sphericity p < 0.001 indicated sufficiently large correlations to consider Factor Analysis. After a preliminary analysis run to get Eigenvalues for every item in the data, five factors had Eigenvalues over Kaiser’s benchmark of 1 with an explained cumulative variance of 63.464%. To compare results, the scree plot was in agreement with the Kaiser’s criterion on the five factors thus these factors were retained in the final analysis.
**Factor 1:** High cost of input packages was the dominant challenge to participation in collaborative agribusiness arrangements that smallholder farmers clearly distinguished. Loading highly onto this factor were items such as side marketing (0.879), high cost of input packages (0.532) and poor contract enforcement policies (0.488). The idea that inputs are being provided to farmers on credit results in the packages calling for higher prices than normal and some farmers especially in high input farming sectors such as cotton and tobacco have registered high incidences of side marketing. This is caused by failure to pay back the sponsor due to inefficiencies. The lux in contract enforcement by the rule of law in the country has also resulted in failure of many CAA schemes as trust relationships between sponsor and producer sour as a result of side marketing. This particular view is shared by Minot (2011) indicating a high rate of defaults in government run credit programs. Kirsten and Sartorius, (2002) also found evidence of high cost of inputs that require financing facilities in these schemes lead to lower margins thus farmers are tempted to sale contracted output to other buyers (side marketing) if market prices are higher.

**Factor 2:** Exploitation of smallholder farmers also came up as a major challenge cited by most participants and items that loaded on to this included additional costs of coordination (0.436), non-flexibility of contractual arrangements (0.741) and sponsors’ preference for large-scale farmers (0.794). The negotiating powers of smallholder farmers are weakened as most contractual agreements are not flexible to suit the changing conditions farmers are faced with. Sponsors have strict quality, quantity and other specifications that result in ordinary farmers incurring additional costs in coordinating produce production and deliveries. The findings in this research point out that sponsors prefer to deal with small numbers of large-scale farmers. Minot (2011) confirms these findings after perceiving that contacting firms prefer working with medium to large-scale farmers to reduce transaction costs.

Huge exploitation of small farmers is also evident in cases where there are unequal relationships between farmers and large agribusiness firms (Minot, 2011). Here farmers may be left to incur additional costs of coordination to suit the integrator.
requirements and during liaising for use of inputs and services from the sponsor (Kirsten and Sartorius, 2002).

**Factor 3:** Farmers’ indebtedness was cited as a major concern to participating in CAA. Indebtedness with a factor loading of 0.765, over reliance on credit (0.607) and domination by monopolies (0.684), were the items contributing to farmer’s indebtedness. There are very few players in sector specific agribusinesses involved in CAA with smallholder farmers and this has resulted in domination of such arrangements by monopolies. Farmers thus are not provided with much choice on who to partner with. They resort to working with a few sponsors per sector and can be manipulated and end up in huge debts leaving them as mere employees of the sponsors without much benefits off the arrangements.

These findings are similar to those observed by FAO (2011) that monopolistic tendencies erupt when farmers are locked into big investments such as with tree crops thus cannot easily switch to other crops. Inefficiencies may also bring about over reliance on debt by farmers especially in cases where advances are not controlled. Indebtedness of farmers will then increase to uneconomical levels. These challenges also occur when the contracting company fails to honor its contractual obligations with the farmers.

**Factor 4:** Increased risk was also perceived by some farmers as a challenge under which items like high risk (0.763) and manipulation of quotas and quality specifications (0.493) loaded. Due to the strict specifications on produce quality and deliverables, participation in CAA can be very risky business and is even worsened by corruption on the side of sponsors who can manipulate quotas and quality specifications to suit own needs.

Greater risk is also more like when the agribusiness or sponsoring firm introduces a new crop for the farmers with little research done on the success rates of the crop in the new areas. Inaccurate forecasts of quantities and price levels then bring about market risk (FAO, 2011). Another challenge is when firms have unrealistic expectations of the market for their produce or there is an unexpected market
collapse. In these situations, the firm may reduce farmers’ quotas and in some cases manipulate quality standards to reduce purchase prices while appearing as if they are honoring contracts (Kirsten and Sartorius, 2002).

**Factor 5**: Unsuitable technology as a challenge had items loading on to it like undermining of traditional support structures (0.774), unsuitable technology (0.603) and high land pollution and land-use intensity (0.685). Unsuitable technology brought in by sponsoring firms and crop incompatibilities may affect the social support structures and raise conflicts in families. Some of the intensive production systems have resulted in high land-use intensities and pollution thus affecting the traditional set ups.

FAO (2011) and Sartorius et al. (2004) all agree with the findings on the adverse impact of new technologies on the social life of the community through introduction of sophisticated machines. These cause problems in different dimensions such as disruption of existing farming systems where land traditionally allocated for food crops is identified for the contracted produce. Also, loss of local employment due to use of machinery was observed by the authors to pose as a challenge. High land use intensity, land pollution and increased food security problems in developing countries due to concentration on contract crops all contribute to the challenges brought about by CAA.

### 4.9 Overall reliability testing

The internal consistency of the scales for the different factors was established by reliability tests and the results are presented in Table 4.20.
Table 4.20: Reliability testing on benefits and challenges

<table>
<thead>
<tr>
<th></th>
<th>Cronbach's Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benefits</strong></td>
<td></td>
</tr>
<tr>
<td>Knowledge transfer and sharing</td>
<td>0.65</td>
</tr>
<tr>
<td>Improved produce quality</td>
<td>0.71</td>
</tr>
<tr>
<td>Marketing benefits</td>
<td>0.69</td>
</tr>
<tr>
<td><strong>Challenges</strong></td>
<td></td>
</tr>
<tr>
<td>Indebtedness</td>
<td>0.68</td>
</tr>
<tr>
<td>Exploitation of smallholder farmers</td>
<td>0.66</td>
</tr>
<tr>
<td>Unsuitable technology</td>
<td>0.67</td>
</tr>
<tr>
<td>High cost package inputs</td>
<td>0.65</td>
</tr>
<tr>
<td>Increased risk</td>
<td>0.7</td>
</tr>
</tbody>
</table>

All the factors under benefits and challenges to participation CAA had reliabilities of Cronbach’s alpha close to 0.7, which is within the acceptable range (Trochim, 2008). For this reason, all the three factors on benefits and the five factors on challenges were retained as reliable.

Table 4.21: Overall Reliability Testing

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cronbach's Alpha</strong></td>
<td><strong>Number of Items</strong></td>
</tr>
<tr>
<td>0.704</td>
<td>8</td>
</tr>
</tbody>
</table>

The overall reliability after factor analysis was a high 0.704, which is above the acceptable levels and as a result, all the eight factors on both benefits and challenges were retained as reliable.
4.10 CHAPTER SUMMARY

In this chapter, a presentation of the results from a sample of 114 respondents was
done and the various analyses that were carried out by the researcher were displayed.
An analysis and evaluation of responses was done using the IBM-SPSS version 20
software. Use of factor analysis for the collected data was found to be appropriate and
the results of the factor analysis on perceived benefits and challenges to participation
in CAA were compared with literature findings.

The next chapter focuses on study conclusions and recommendations.
CHAPTER FIVE

5 CONCLUSION, RECOMMENDATIONS AND FURTHER RESEARCH

5.1 INTRODUCTION

Results and discussions of empirical findings for the study were dealt with in the previous chapter where benefits and challenges to smallholder farmers’ participation in collaborative agribusiness arrangements were extracted.

After a thorough analysis of the findings in the previous chapter, this chapter draws the conclusions, the recommendations and suggestions on areas for further study.

5.2 CONCLUSION AND ANSWERS TO RESEARCH QUESTIONS

Against each of the objective that was highlighted in Chapter One, the following conclusions were drawn;

5.2.1 Main Objective:
To assess the smallholder farmer’s perceived benefits and challenges in collaborative agribusiness arrangements in Zimbabwe.

5.2.2 Objective 1:

- To identify perceived benefits of smallholder farmers in agribusiness collaborations.

The perceived benefits to participation in collaborative agribusiness collaborations were identified through factor analysis. The main benefits identified were as follows:
5.2.2.1 Knowledge transfer and sharing
Under this category were elements such as skills learning, introduction of appropriate technology, farm diversity, access to credit and provision of inputs. These findings were consistent with observations by Blundel and Hingley (2001) that farmers decided to collaborate with agribusiness firms for learning purposes so as to have their entrepreneurial ventures expanded.

5.2.2.2 Marketing benefits
This benefit had elements from findings like guaranteed pricing structures and access to reliable markets. Literature suggests that prices at which produce will be bought at is indicated prior to production in the contracts thus helping to eliminate price uncertainty elements (FAO, 2011). Benefits have also been realized especially in the absence of domestic markets for export produce where it then becomes risky for farmers to produce outside the marketing structure to handle such items (Kirsten and Sartorius, 2002).

5.2.2.3 Improved quality of produce
Traceability and monitoring programs that are put in place by sponsoring firms help improve product quality and also the timely provision of inputs. The same sentiments are also shared by Gong et al. (2006). This is done to meet the customer requirements (Cox et al., 2007)

5.2.3 Objective 2:

- To identify perceived challenges faced by smallholder farmers in agribusiness collaborations.
Through factor analysis, the perceived challenges to participation in collaborative agribusiness collaborations were identified as falling under five categories:

5.2.3.1 High cost package inputs
This was highlighted from the findings as the major challenge in CAA and same
findings were revealed by Kirsten and Sartorius (2002) citing that inputs are over-priced thus diluting effects of increased revenue.

5.2.3.2 Exploitation of smallholder farmers
The elements under this factor like additional costs of coordination, non-flexibility of contractual agreements and preference by sponsors for large-scale farmers also tallied findings by Minot (2011), confirming these findings that contracting firms prefer working with medium to large-scale farmers to reduce transaction costs. The unequal relationship between the farmer and large business firms resulted in exploitation of the small farmers.

5.2.3.3 Farmers’ indebtedness
Farmers’ indebtedness was also found to be a major concern to participating in CAA. Indebtedness, over reliance on credit and domination by monopolies contributed to farmer’s indebtedness. These findings are similar to those observed by FAO (2011) who postulated that inefficiencies may also bring about over reliance on debt by farmers especially in cases where advances are not controlled.

5.2.3.4 Increased risk
Increased risk was perceived by some farmers as a challenge under which items like high risk and manipulation of quotas and quality specifications are classified. Risk comes from inaccurate prediction of success rates of produce and manipulation of quotas to suit sponsor’s need resulting in increased risk for the farmers (FAO, 2011).

5.2.3.5 Unsuitable technology
Unsuitable technology comprised of items like undermining of traditional support structures, unsuitable technology and high land pollution and land-use intensity. This was another challenge though not major according to findings from this study. Unsuitable technology brought in by sponsoring firms and crop incompatibilities affect social support structures and raise conflicts in families. FAO (2011) and Sartorius et al. (2004) both agree with the findings on the adverse impact of new
technologies on the social life of the community through introduction of sophisticated machines.

5.2.4 **Objective 3:**

- To draw lessons and give recommendations on successful participation in collaborative arrangements in agribusiness

The lessons and recommendations are given in Section 5.

5.2.5 **Hypothesis**

While the collaborative agribusiness arrangements have significant benefits for smallholder farmers, they also come with problems.

The results from this study showed that there are benefits for smallholder farmers in collaborative agribusiness arrangements but at the same time there are challenges that are encountered therefore the hypothesis was accepted.

5.3 **THEORETICAL CONTRIBUTION**

The contributions these findings have made to the existing body of literature and knowledge on participation in collaborative agribusiness arrangements are in terms of

Previously available literature restricted findings to single crop or livestock sector to describe functionality of such arrangements but little research has been done on assessing benefits and challenges for smallholder farmers in such arrangements. As a result of this study there is now some empirical data to build up on future studies on the issue of participation in collaborative agribusiness arrangements.
5.4 REVISED CONCEPTUAL FRAMEWORK

Fig 5.1 below shows a revised conceptual framework with respect to findings from this study.

PERCEIVED BENEFITS
- Knowledge transfer and sharing
- Improved produce quality
- Marketing benefits

PERCEIVED CHALLENGES
- High cost package inputs
- Exploitation of smallholder farmers
- Farmers’ indebtedness
- Increased risk
- Unsuitable technology

Smallholder farmers’ participation in collaborative agribusiness arrangements

Figure 5.1: Revised Conceptual Framework

The finding offer improved understanding of the main benefits and challenges that impact on smallholder farmers’ participation in CAA. Notwithstanding this, the study provides empirical evidence upon which future studies can be built upon.

5.5 POLICY RECOMMENDATIONS

The research makes the following policy recommendations:

To put in place effective contract enforcement policies
Policies need to be designed in such a way as to address issues of responsibilities and obligations of parties in contractual agreements and the manner through which such
agreements are enforced. Effective remedies in cases of breach of contracts should be clearly laid out.

**Support expansion and commercialisation of schemes**
The Zimbabwean government should allocate resources to collaborative agribusiness arrangements because it is a fruitful policy venture. This will go a long way in addressing issues of food security in the country.

5.6 **MANAGERIAL RECOMMENDATIONS**

The following are some of the managerial recommendations;

**Monitoring and evaluation**
To monitor produce quality especially in cases where traceability is vital such as chemical usage.

**Encourage flexibility in contractual agreements**
Production quotas should be tailor made to meet with the following requirements:

- The quantities of input support to ensure that realistic quotas are issued to the farmers.
- Ability of individual farmers or cooperatives to ensure that these can meet with the stipulated quota
- The sponsoring firm’s requirements to ensure that production does not exceed capacity of the company to store, process and market the produce.

**Organize farmers into grower groups as this will ease logistical and extension support from sponsors.**

It is hoped that these recommendations will assist the government and non-government departments, agribusiness companies and farmers currently or intending to get involved in collaborative agribusiness arrangements to consider the critical factors for successful collaborations. Adoption of findings will assist in redressing the current deficits and help in the delivery of the ambitious Zimbabwe Agenda for
Sustainable Socio-Economic Transformation (ZIMASSET). Food security for the country at large may improve and Zimbabwe could retain its status as the breadbasket of Africa.

5.7 GENERALIZATION OF FINDINGS

The study covered five agricultural sectors in Zimbabwe namely grain crops, oil seed crops, tubers and cash crops, horticulture and livestock. Findings can thus be generalised to other sectors such as woodlands. Findings can also be generalized to other settings like ecological regions one to six.

5.8 RESEARCH LIMITATIONS

The limitation is that the participants were drawn from a relatively small sample size with respect to the total population of participants in collaborative agribusiness arrangements although it accounted for most of the sectors in agriculture. The other limitation was in terms of time and resources constraints to enable an in depth study of the different sector participants’ views on the matter.

5.9 AREAS OF FURTHER STUDY

The study was based on a snap survey and it is recommended that a longitudinal survey be undertaken to establish if the findings remain the same.

Arising from the above research limitations, new avenues for research can be considered.
6 REFERENCES


developing world. Palgrave, Macmillan, Houndmills, UK. Ch 6, pp 111-123.


APPENDIX

QUESTIONNAIRE ON CAA

This questionnaire aids the assessment of perceived benefits and challenges of Collaborative Agribusiness Arrangements among smallholder farmers in Zimbabwe, a study being carried out in partial fulfillment of the Master of Business Administration (MBA).

Confidentiality Statement: This research is purely for academic purposes only and all responses given below will be anonymous.

Your participation in this study is greatly appreciated

Kindly indicate with X your ideal response.

A. DEMOGRAPHICS

1. Please indicate your gender
   Male [   ] Female [   ]

2. Education level

<table>
<thead>
<tr>
<th>Certificate</th>
<th>Diploma</th>
<th>Degree</th>
<th>Masters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Farm size

<table>
<thead>
<tr>
<th>Less than a hectare</th>
<th>1 – 5 ha</th>
<th>6 – 50 ha</th>
<th>More than 50ha</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Main farming sector

<table>
<thead>
<tr>
<th>Grain Crops (e.g. maize, wheat)</th>
<th>Oil Seeds (e.g. soybeans, cotton)</th>
<th>Tuber &amp; Cash Crops (e.g. potatoes, cassava, tobacco)</th>
<th>Horticulture (e.g. vegetables, fruits, flowers)</th>
<th>Livestock (e.g. beef, dairy, piggery, poultry)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Years of experience in farming

<table>
<thead>
<tr>
<th>Less than one year</th>
<th>2 – 5 years</th>
<th>6-10years</th>
<th>More than 10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Collaborative Agribusiness Arrangements are business relationships like Contract Farming and Agro-dealership that are possible between farmers (tobacco, cotton, poultry and dairy) and sponsors (such as private companies, government and NGOs). Below are statements about participation in Collaborative Agribusiness Arrangements (CAA). May you kindly indicate the extent to which you agree or disagree with the statements?

Please rank responses to the questions below by marking with X the appropriate box corresponding to your answer.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**B. When small scale farmers participate in Collaborative Agribusiness arrangements, they enjoy the following benefits**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Increased revenue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Provision of inputs and production services</td>
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<td>8. Access to credit</td>
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<td>9. Farm diversity</td>
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<td>10. Introduction of appropriate technology</td>
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<td>11. Learning and transfer of skills</td>
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<td>12. Guaranteed pricing structures</td>
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<td>13. Access to reliable markets</td>
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<td>14. Risk sharing</td>
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<td>15. Competitive advantage</td>
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<td>16. Improve quality of produce</td>
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<td>17. Opportunity to become commercial</td>
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**C. When small scale farmers participate in Collaborative Agribusiness arrangements, they are faced with the following challenges**

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<td>18. Increased risk</td>
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<td>19. Unsuitable technology</td>
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<td>20. Manipulation of quotas and quality specifications</td>
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<td>21.</td>
<td>Domination by monopolies</td>
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<td>22.</td>
<td>Indebtedness of farmers</td>
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<td>23.</td>
<td>Farmers’ overreliance on credit</td>
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<td>24.</td>
<td>Side marketing (sell of contracted produce to other buyers other than the sponsor – breach of contract)</td>
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<td>25.</td>
<td>Undermining of traditional support structures</td>
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<td>High land pollution and land use intensity</td>
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<td>High cost package inputs</td>
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<td>28.</td>
<td>Additional costs of coordination (trying to meet sponsor’s requirement like delivery dates and times)</td>
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<td>Poor contract enforcement policies</td>
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<td>Non-flexible contractual agreements</td>
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<td>31.</td>
<td>Sponsors prefer large-scale farmers</td>
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**End of Questionnaire**