

**GOVERNANCE AND PARTICIPATION OF SMALLHOLDER FARMERS IN
COLLECTIVE MARKETING OF MAIZE IN UASIN GISHU COUNTY,
KENYA**

BY

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DECLARATION

Declaration by Candidate

I declare that this is my original work and has not been presented in higher learning institutions for a degree or any other award. No part of this research may be reproduced in any form without prior permission of the author and Moi University.

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ABSTRACT

Small-scale farmers face many constraints that impede them from taking advantage of market opportunities. The successful adoption of collective marketing techniques depends on farmers' willingness to adopt decision-making and management systems based on trust and shared goals. However, it has been noted and reported that over half of the collective action groups in Kenya fail due to poor governance. Few studies have attempted to address the effect of governance on smallholder farmers' participation in collective marketing, thereby leaving a dearth gap in the existing literature. The study's primary purpose was to identify and analyze the effect of governance on participation and extent of participation of smallholder farmers in the collective marketing of maize in Uasin Gishu County. The specific objectives were to establish the effect of gender-inclusive leadership, evaluate the effect of participatory leadership, determine the effect of leadership training and the effect of level of cooperation on participation and extent of participation of smallholder farmers in collective marketing. The study was guided by the theories of Collective Marketing and Collective Bargaining. The study population was 512 members drawn from 21 Farmer Organizations (FOs) that participate in collective marketing of maize in Uasin Gishu County. The sample size of the study was 156 members. This sample was picked from the FO in proportion to their population. Primary data was collected through questionnaires. Quantitative data were analyzed using descriptive statistics such as mean, percentage, standard deviation, ratio and frequency distribution. The Heckman two-stage selection model was used to determine the effect of governance on participation and extent of participation of small holder farmers in collective marketing. The findings showed that the level of cooperation had a significant positive effect on collective marketing ($\beta=0.796$, $p=0.034$) and participation ($\beta=0.117$, $p=0.041$). Leadership training positively affected market participation ($\beta=0.507$, $p=0.015$) and had no effect on the level of market participation ($\beta=-0.066$, $p=0.231$). More findings showed that participatory leadership had no effect on market participation ($\beta=-0.015$, $p=0.282$) but had a positive effect on the level of market participation ($\beta=0.029$, $p=0.003$). However, gender inclusivity did not affect both market participation and the level of market participation. Thus, the study concluded that the level of cooperation, leadership training, and participatory leadership are vital determinants of market participation. It is therefore prudent for members of farmer organizations to have the knowledge and to fully participate in marketing activities. Leaders need to work with members to realize the collective potential of the group. There is a need for collective marketing, management, and organizational development training programs to align skills with the marketing strategies to improve the process of marketing among smallholder farmers

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DEFINITION OF TERMS

Collective marketing	Voluntary action taken by a group of individuals, who invest time and energy to pursue shared objectives in marketing whereby they spread costs, have bargaining power and create large presence in the marketplace, Fischer, & Qaim, (2014).
Farmer organization	A social unit of farmers that is structured and managed to meet a need or to pursue collective goals.
Gender inclusive leadership	Leadership that include both men and women. Proportion of women members in the committee
Governance	An exercise of political and administrative authority at all levels to manage a country's, group's or organization's affairs
Leadership training	Activity that enhances the quality of leadership within an individual or organization. Proportion of committee members with management training
Level of cooperation	Process of working together to the same end. If the members respond to FOs meetings, contributions and activities= 1, 0 = otherwise
Participatory leadership	Style of leadership where the leader involves subordinates in problem solving and team building but retains the final decision-making authority. If member participate in decision making = 1, 0 = otherwise
Small holder farmers	Marginal and sub-marginal farm households that own or/and cultivate less than 2.0 hectares of land (Vignola et al., 2015)

LIST OF ACRONYMS

ASDS	Agricultural Sector Development Strategy
FOs	Farmer Organizations
FAO	Food and Agriculture Organization
GoK	Government of Kenya
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
KNBS	Kenya National Bureau of Statistics
P4P	Purchase for progress
SD	Structured Demand
SHFs	Smallholder farmers
SST	Small scale traders
WFP	World Food Programme

CHAPTER ONE

INTRODUCTION

1.0 Overview

The chapter has highlighted background to the study variables, statement of the problem, general objective, specific objectives and research hypotheses. In addition, significance of the study, scope of the study and limitation of study.

1.1 Background to the Study

Many developing countries are still directly or indirectly dependent on agriculture for their livelihoods, most of them smallholder farmers. In addition to building the production potential of farmers, enhancing their access to markets has become a key element in rural development and poverty reduction strategies. In order to be successful, development programs must resolve the numerous market failures experienced by the small-farm sector (Jayne et al., 2010). Nevertheless, smallholder farmers face several constraints that prohibit them from taking advantage of market opportunities. Often living in remote areas with weak infrastructure, they face high transaction costs that significantly reduce their incentive to participate in markets (Barrett, 2008; Key et al., 2000), resulting in the creation of collective market access acts among smallholder farmers. Participatory diagnosis of agricultural systems research is essential for understanding the goals of farmers, management strategies and resource constraints. It is particularly vital for the identification and subsequent shaping of solutions, including improved technologies (Collinson 2001).

Governance is the creation of an entity government. It involves the process of decision-making (such as majority voting) and how it is implemented. How decisions are taken often becomes the key power point in a community, and hence a possible source of structural conflict. Effective decision-making in good time is also critical for

maintaining FOs. The governance structure for a group company needs to balance expediency with collecting feedback and building support for group decision-making (Gilbert, 2011)

Focusing on governance mechanisms and processes in farmer organizations that decide how policies are adopted and implemented is essential to understanding how FOs will engage with the state and the private sector in order to set a new political and economic agenda. Weak governance within FO results in poor policy or poor policy execution, which in turn affects the involvement of smallholder farmers and the level of participation in marketing or overall decision-making processes (Vorley, 2002).

Effective corporate governance structures enable shareholders to fund value-creating assets (Castañer & Kavadis, 2013). On the other hand, poor governance structures are stifling the development of the company. Governance structures influence that controls and manages the FOs to which officials and managers are accountable, and the ease and degree to which they can be kept accountable for decisions that damage development. In FO governance, the tasks they conduct and the external support they receive must be mutually 'appropriate' and the organizational and agro-economic challenges they face. FO governance requires a difficult balance between local adaptability, diversity and accountability to members and centrally established clear, stable and standardized rules, procedures and structures, with effective and appropriately rewarded but low-cost professional management (Chirwa et al., 2010).

Most of the governance mechanisms in FOs do not decide the relationship between voting rights or power, equity investment and the use of FO resources need to change to meet the vital market and resource opportunities and constraints faced by FOs. Alternative models include, for example, conventional cooperatives, 'new generation

cooperatives' (with, for example, improvements to voting rights and share transfer mechanisms) and FO or co-ownership of private service providers (Knight et al, 2003; Escobal et al, 2000)

Farmer associations and collective action are also seen as crucial factors in improving farmers' access to markets. Often too little attention is paid to the most suitable types of organizations, whether the public and/or private sectors are ideally positioned to help their formation and the conditions required to ensure their economic viability (Hellin et al, 2007). Market access advocates argue strongly that, for smallholders and emerging farmers to succeed in the global economy, an entrepreneurial culture in rural communities is required (Lundy et al, 2002). This means changing the emphasis from production-related services to more market-oriented initiatives. This has given renewed attention to collective action institutions, such as farmer organizations, as an efficient mechanism for improving marketing efficiency (Kariuki and Position, 2005). Sustainability of collective marketing is important for long-term pro-poor development. This requires both business or market participation, and the stability and durability of the group for sustainable collective action (Markelova and Meinzen-Dick 2009).

In sub-Saharan African countries, governments previously used to play a crucial role in assisting farmers with marketing of agricultural produce. During the 1980s and 1990s, most of these countries liberalized their economies, to create open market-led exchanges, aimed at boosting economic growth (Dorward et al., 2005).

Collective action has recently re-emerged to mobilize smallholder farmers in developing countries following the liberalization of the agricultural sector. In Kenya, collective action to promote the empowerment of farmers' organizations would help them to resolve unique barriers to being part of the market economy. Smallholder

farmers should therefore use the wave of support for cooperatives and organized farmer organizations to improve their access to the input and product markets. Relevant investment in capacity building by farmer organizations is required to provide relevant services that encourage smallholder farmers to engage actively across value chains through a collective action approach that operates at grassroots level. If farmers market their produce collectively, they can attain economies of scale and bargaining power to negotiate for better market arrangements and prices (Mukindia & Mutai, 2012).

The goal of agricultural market liberalization was to increase the competitiveness of commodity markets. Maize farming in Kenya has been hailed as a success story until the beginning of the 1990s, when smallholder farmers started to agitate for market reforms in the sector to have a greater say in the marketing of their goods. Proponents of market liberalization argue that liberalization leads to both greater efficiency and faster economic growth. It has been pointed out that successful liberalization has a positive effect on both traditional and non-traditional exports, such as increasing the efficiency of export production by increasing the size of the market and thus enabling greater exploitation of economies of scale (Himics, M., et al., 2018). The World Bank on the other hand reports that the period before liberalization produced an accelerated growth of the agricultural sector (Kassim, 2015). Most of the reviewed studies are of macro nature, for instance Chumba's study of 2004 used time series national data, and her main findings were that smallholder tea farmers' income had significantly increased due to liberalization.

Kenya's Agricultural Sector Development Strategy (2009-2020) identifies the major challenges facing the agricultural sector as: declining productivity, problems of land use, difficulty in accessing markets, inefficient market supply chains, lack of post-harvest services, poor access to inputs and affordable credit. Marketing of agricultural

produce is critical to increasing productivity and commercialization of farming enterprises.

The Ministry of Agriculture, Livestock and Fisheries, World Food Programme (WFP) and various development agencies in Kenya have encouraged and supported the formation of farmer organizations (FOs) by smallholder farmers to access and competitively engage in markets. Their interventions are aimed at enhancing the impacts of supply-side interventions whereby smallholder farmers can produce surpluses but find it difficult to directly market their commodities. In addition, farmer organizations can provide important platforms for capacity building, information exchange and innovation in rural setting (Bingen et al. 2003)

World Food Programme (WFP) is the world's largest humanitarian agency and a major buyer of staple food. In 2009, WFP structured a five-year initiative, called Purchase for Progress (P4P) whose main objective was to link farmers to markets. P4P in Kenya used WFP's purchasing power to leverage the introduction and uptake of structured trade by smallholder farmers (SHFs) and small-scale traders (SSTs). The first step in developing the marketing capacity of farmers by WFP was through the smallholder farmers selling to WFP's market. Due to the low level of collective marketing among small scale farmers in 2009 in Kenya, and sparse distribution of those that existed in some areas, WFP decided to use a multi-pronged approach by buying from small scale farmers through farmer organizations (FOs) and SSTs.

Across the programme, WFP expected to transition FOs from informal to structured trade so that they can reap the benefits of selling large volumes of higher quality. At the time of their recruitment, all the FOs had low marketing capacity, but they received capacity development support from WFP and cooperating partners, in the form of

training, equipment and support for store construction, market linkage support, exchange visits between FOs, and food procurement by WFP (WFP Kenya 2014).

The primary aim of this study was to identify and analyze the effect of governance on participation and extent of participation of smallholder farmers in collective marketing of maize. The effects of farmer organization participatory leadership, gender inclusive leadership, level of cooperation and leadership training in marketing activities were examined to analyze how they impact governance to ensure participation of smallholder farmers in collective marketing of maize in Uasin Gishu County. The major principles of good governance include participation, consensus-orientation, accountability, transparency, responsiveness, equity and inclusiveness, effectiveness and efficiency and consistency with the rule of law.

1.2 Statement of the Problem

In Kenya, about 27% of agricultural produce from smallholder farmers is often lost after harvesting due to spoilage and inability to access the markets (ASDS 2010-2020). This is mainly because most smallholder and emerging farmers are faced with a range of technical and institutional factors influencing marketing. Whereas the marketing infrastructure is poorly developed, smallholder and emerging farmers lack supportive organizations that represent and serve them. These factors reduce smallholder and emerging farmers' incentives to participate in formal markets. A reduction in formal market participation, in turn, makes it difficult for these farmers to shift into commercial farming and thus, a reduction in economic development. Kenya faces an acute shortage of smallholder marketing organizations, since 50% of them collapse after one year of initiation due to poor governance and corruption which have resulted in negative performance (KNBS, 2009).

The successful adoption of collective marketing techniques depends more than anything on the willingness of farmers to adopt decision-making and management systems based on trust and common goals. However, Mukindia & Mutai (2012) reported over half of the collective action groups in Kenya are failing due to poor governance. In addition, a study on the formation of producer organizations for marketing pigeon peas in two semi-arid districts (Mbeere and Makueni) from 2003 to 2006 realized lack of trust in the groups' leadership resulting from mismanagement of the group's resources and an average low net gain for individual farmers participating in the group (Shiferaw et al., 2007).

Although the trend in sales to other markets has been positive, they are somewhat slower in Uasin Gishu County compared to other counties (Government of Kenya, 2010). This could be attributed to the level of these markets. In Uasin Gishu, SHFs tends to market individually as opposed to collectively which is assumed to be the ideal marketing strategy. It appears that Uasin Gishu farmers have more market options close to them and collective action when selling to the structured demand (SD) markets is very demanding. The officials of the FOs have a heavy work load as members delegate all supply related processes to them. Members have a wait and see approach as the concept of collective marketing which was relatively new, and no one was willing to take on responsibility. Inadequate/lack of storage facilities inhibits storage of large quantities of produce. The procurement procedures for SD markets, especially those guided by government policies are not smallholder friendly as they require huge volumes and farmers must provide bid and performance bonds among other requirements (WFP Kenya, 2014).

Despite constraints of collective marketing, there are limited studies that has addressed issues of governance and its effect on participation and extent of participation in

collective marketing, thereby leaving a big gap on the existing literature. Previous studies have only attempted to address social and economic factors affecting participation of smallholder farmers in collective marketing. Therefore, this study investigated the effect of governance on participation and extent of participation of smallholder farmers in collective marketing of maize in Uasin Gishu County, Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

To determine the effect of governance on participation and extent of participation of smallholder farmers in collective marketing of maize in Uasin Gishu County

1.3.2 Specific Objectives

- i. To establish effect of gender inclusive leadership on participation and extent of participation of smallholder farmers in collective marketing.
- ii. To evaluate effect of participatory leadership on participation and extent of participation of smallholder farmers in collective marketing.
- iii. To determine the effect of leadership training on participation and extent of participation of smallholder farmers in collective marketing.
- iv. To determine effect of level of cooperation on participation and extent of participation of smallholder farmers in collective marketing.

1.4 Research Hypotheses

H₀₁: Gender inclusive leadership has no significant effect on participation and extent of participation of small holder farmers in collective marketing

H₀₂: Participatory leadership has no significant effect on participation and extent of participation of small holder farmers in collective marketing

H₀₃: Leadership training has no significant effect on participation and extent of participation of small holder farmers in collective marketing

H₀₄: Level of cooperation has no significant effect on participation and extent of participation of small holder farmers in collective marketing

1.5 Significance of the Study

This study is of importance to several users including: government officials, Non – Government organizations, farmers, consultants, and academicians in various ways. Government officials especially those working in Ministry of Agriculture, Livestock and Fisheries and the envisaged County Governments, shall find the results of this study useful in their quest to formulate policies aimed at strengthening the capacity of smallholder farmers’ organizations. NGOs may find this study useful as a source of knowledge and specifically in their efforts to identify the limiting factors to efficiency and possible improvements that they may initiate and implement successful collective marketing among smallholder farmers’ organizations. Specifically, this study shall be useful to find out whether incidences of financial literacy and trust have been proactively dealt with, how tactical decision making has been improved and how accessibility to market by farmers has been strengthened through the oversight role of collective marketing in the respective farmer organizations.

Agricultural Consultants and professionals pursuing agricultural marketing and development as a profession may find this study helpful in their search for knowledge and facts on the role of governance on participation and extent of participation of smallholder farmers in collective marketing in Uasin Gishu County and delivery of objective, quality and professional advice.

Academicians may also find the results of this study useful for further research in their quest to establish more facts on the studied area.

1.6 Scope of the Study

In Uasin-Gishu County, many of the farm enterprises and farmer organizations are associated with low incomes due to price fluctuation, poor utilization of scarce production resources and increasing land sub-division. Small holder maize farmers face widely different sets of issues and constraints to market participation. The study analyzed the effect of governance on participation and extent of participation of smallholder farmers in collective marketing in Uasin Gishu County. The study unit of analysis was members and leaders of the 21 FOs that participate in collective marketing of maize in the County. All FOs were visited during day time hours.

1.7 Limitation of Study

During the questionnaire administration process, some traditional leaders and households still expected free seed assistance. Although efforts were made to clearly explain the purpose of the survey and that no assistance was going to be given for responding to the questionnaire some respondents were not clearly convinced that the survey had nothing to do with free seed or other form of handouts. Given this observation there might be some biases, however, very limited, on total crop production and marketing levels and challenges faced.

Conversion of farmers' units of measurement into standard measures such as kilograms or tons. Since different maize would weigh differently for say the same size bucket, it was difficult for these conversions to be done in the field by the enumerators. The problem was reduced by a series of trainings before and during fieldwork. Enumerators

were also encouraged to record the unit of measurement as given by the farmer, and then follow-up conversions were done during data analysis

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

Literature on concepts and theories of governance and collective marketing are discussed in this chapter. This is followed by review of previous studies on participatory leadership and small holder farmers' participation in collective marketing, gender inclusive leadership on participation of small holder farmers in collective marketing, level of cooperation and participation of collective marketing, leadership training and participation of smallholder farmers in collective marketing and extent of participation have been presented. The research gaps were also elaborated. Finally, in the chapter the link between the independent variables and dependent variables is diagrammatically shown in the conceptual Framework.

2.1 Introduction

The chapter highlights the global, regional and national trend in relationship between governance and participation of collective marketing. The chapter will also review previous studies on collective marketing, highlight theories and conceptual framework of the study.

2.2 Concept of Governance

Governance is defined as the exercise of political and administrative authority at all levels to manage a country's affairs. It comprises the mechanisms, processes and institutions, through which citizens and organizations articulate their interests, exercise their legal rights, meet their obligations and mediate their differences (Harris, 2009). Specific reference is made to democratic governance as a process of creating and sustaining an environment for inclusive and responsive political processes and settlements. The institutional and human capacities for governance determine the way

in which the effectiveness of public policies and strategies is attained, especially in-service delivery (Guest, 2000). However, an analysis of the governance of collective marketing has mostly been limited to the role of the SACCOs.

A lot of discussions about the definition of good governance has centered on what makes institutions and rules more effective and efficient, in order to achieve equity, transparency, participation, responsiveness, accountability, and the rule of law. These aspects are crucial for human development and the eradication of poverty since ineffective institutions usually result in the greatest harm to those who are poor and vulnerable (Gurven and Winking, 2008). Nevertheless, the above argument has no reference to a universal standard for governance; the notion of what is good is thus defined by the desired outcome, which varies from one situation to another.

In addition, two broad governance issues can be discerned. The first pertains to institutions of governance, including public administration and public services connected with the sound management of resources, delivery of and equitable access to public services, responsiveness to the views of citizens and their participation in decisions that concern them. Strategies adopted in response including better personnel management, transparency in public finance, a curb on corruption, citizen participation and enhanced accountability have since become common currency in public administration dialogue (Diao, 2011). A study argues that performance norms have been the subject of debate in the fields of education, health, finance and other development sectors. Targeted goals within each functional area tend to echo emergent aspects of administration applicable to all government functions, namely transparency, accountability, integrity, equity, efficiency and responsiveness (Hazel & Diao, 2004).

The second broad governance issue is concerned with concepts of democracy and the rule of law, including with rights-based claims to equality before the law, judicial independence, participation in the conduct of public affairs, electoral integrity, political plurality, freedom of expression and media independence. These claims include demands for gender equality and the inclusion of youth and marginalized groups (Grandin, 2001).

Integral to effective implementation is an informed and empowered citizenry engaged in transparent and accountable governance processes. Free and pluralistic media are considered essential to such ends as is the right to freely access information held by public bodies. The commitment to democratic and accountable systems of governance was reaffirmed at the World Summit in 2005, and again by Heads of State and Government in 2010. The blending of transparent, accountable and capable institutions of governance with concepts of democracy and the rule of law is common in governance debates as they are closely connected and mutually reinforcing. Member States consider progress in these areas to be essential for the realization of social and people-centered sustainable development (EU, 2001)

Another study defines governance as a government's ability to make and enforce rules and to deliver services, regardless of whether that government is democratic or subject to the rule of law (Karl, 2000). The idea of 'good governance' is given different meanings by different organizations, but is generally characterized as referring to openness, participation, accountability, predictability, and transparency. Governance is the act of governing (Bernard, 2001). However, governance relates to decisions that define expectations, grant power, or verify participation. It consists of either a separate process or part of decision-making or leadership processes. In modern nation-states, these processes and systems are typically administered by a government

When discussing governance in organizations, the quality of governance within the organization is often compared to a standard of governance. In the case of a business or of a non-profit organization, governance relates to consistent management, cohesive policies, guidance, processes and decision-rights for a given area of responsibility. For example, managing at a corporate level might involve evolving policies on privacy, on internal investment, and on the use of data (Hart, 2003)

As a process, governance may operate in an organization of any size: from a single human being to all of humanity; and it may function for any purpose, good or evil, for profit or not. A reasonable or rational purpose of governance might aim to assure (sometimes on behalf of others) that an organization produces a worthwhile pattern of good results while avoiding an undesirable pattern of bad circumstances (Barham, 2006)

There is a study which argues that the moral and natural purpose of governance consists of assuring, on behalf of those governed, a worthy pattern of good while avoiding an undesirable pattern of bad (Johnson 2001). The ideal purpose, obviously, would assure a perfect pattern of good with no bad (Jones, 2000). A government comprises a set of inter-related positions that govern and that use or exercise power, particularly coercive power. A good government, following this line of thought, could consist of a set of inter-related positions exercising coercive power that assures, on behalf of those governed, a worthwhile pattern of good results while avoiding an undesirable pattern of bad circumstances, by making decisions that define expectations, grant power, and verify performance.

2.3 Concept of Collective Marketing.

Collective action is defined as voluntary action taken by a group of individuals, who invest time and energy to pursue shared objectives (Markelova et al., 2009). It plays an important role in the context of family farms and agricultural production (Valentinov, 2007). However, this definition might not relate to cooperative organization because it has helped to maintain the dominance of family farms in developed countries by offsetting some of their disadvantages related to size and bargaining power.

In developing countries, the disadvantages of family farms are further exacerbated by various forms of market failure, which are particularly severe in areas with poor infrastructure and communication networks. As a result, smallholders face high transaction costs that significantly reduce their incentives for market participation (Poulton et al., 2010). Nevertheless, through achieving economies of scale, farmer organizations can countervail some of these disadvantages, particularly those related to high external transaction costs and market power.

But the success depends on member commitment. Commitment can be described as acting towards fulfilling mutual, self-imposed or explicitly stated obligations. It has received much attention in the social sciences, particularly in the literature strands of organizational behavior and rational choice (Robertson & Tang, 2005). Organizational behavior focuses on the factors influencing the quality of an individual's participation and performance in organizations. It includes attitudes, identification with the group, its objectives and values, as well as loyalty and affection. Rational choice theory focuses on how an individual's decision to engage in collective action depends on a comparison of the expected benefits and costs (Fulton & Adamowicz, 2003). Rational, self-interested individuals will act to achieve their personal rather than group interests and have an incentive to free-ride if they can (Hall, M. (2018)). Therefore, groups

should implement mechanisms that punish opportunistic behavior; otherwise they will cease to exist if enough members are disloyal.

The success of collective action depends on the ability of individuals to make credible commitment (Doward et al., 2003). Therefore, rational choice theory also acknowledges the presence of informal social mechanisms, such as norms, shared values, and conventions, which make individuals, not renege on a commitment. Underlying both strands of literature is the notion that individuals with higher levels of commitment to collective action are more likely to contribute towards the achievement of shared goals.

Some important insights into the dilemma of collective action are provided from a rational choice perspective, particularly about the relationship between group size and the behavior of individual members. The main function of organizations is the provision of collective goods for their members. A collective good is defined as any good in which a group of individuals is interested and the consumption of which is non-excludable. A formal model is proposed, in which individual group members produce a certain amount of a collective good. The total amount is the sum of all individual contributions. While individuals derive utility from the collective good, they also bear costs from its production. Individuals will only participate if their gain in utility exceeds the costs of participation. Based on utility maximization, the individual will produce the collective good up to the point where the marginal utility gain equals the marginal cost (Hall, M. (2018)).

As individuals maximize their own net utility without considering utility gains of other group members, the model implies that the collective good is undersupplied. The problem of undersupply increases with group size. Moreover, the problem of free-riding

is more pervasive in larger groups, where individuals have a higher incentive to get out. The free-rider does not bear the full cost of reducing his or her contributions, which leads to collective good provision below the optimal level (Esteban & Ray, 2001). However, the negative relationship between group size and effectiveness in collective good provision depends on the assumption that the good must be divided between group members, or that the private cost of collective good provision increases with group size. Other researchers have pointed out that the relationship between group size and effectiveness is reversed when the collective good produced is public; in other words, the individual's payoff is unaffected by the number of group members.

A farmer organization is seen as a possible institutional solution to overcome high transaction costs and other market failures in developing countries (Markelova et al. 2009). In addition, farmer organizations can provide important platforms for capacity building, information exchange, and innovation in rural settings (Bingen et al. 2003). Recently, the promotion of farmer collective action has gained high popularity in the context of the agri-food system transformation, as a response to stringent quality and food safety standards and new procurement systems (Narro et al. 2009). For example, group contract arrangements can improve smallholder market power and ensure a more equitable distribution of benefits.

Moreover, peer pressure through farmer organizations may reduce the likelihood of opportunistic behavior in contracting, such as side-selling (Fafchamps 2004, Markelova et al. 2009; Poulton et al. 2010). However, farmer organizations are not always successful, and there is a need to better understand under what conditions collective action is useful and viable.

Several recent studies have analyzed related issues. One literature strand has examined determinants of group membership, focusing on farm and household characteristics, such as farm size, wealth, education, or gender (La Ferrara 2002; Bernard & Spielman 2008). This partly overlaps with studies on the impacts of group membership in terms of market access, prices, and income (Wollni & Zeller 2007; Bernard & Spielman, 2008; Roy & Thorat 2008).

Another literature strand has scrutinized structural and institutional aspects of farmer organizations, such as group size, stringency of rules, commodity focus, and market conditions (Hellin et al. 2009; Barham & Chitemi 2009; Narrod et al 2009). Yet, one aspect that has hardly been analyzed empirically is the intensity of participation of individual members in different group activities. This is considered a research gap, which is addressed in the present study. Since active members contribute much more to shared goals than passive members, the intensity of participation may crucially affect group success.

Costs and benefits of collective action may be perceived very differently by farmers, so that varying intensities of participation are observed, even among those who have decided to formally join a group. In addition, without adequate sanction mechanisms, group members may have an incentive to free-ride on the efforts of others (Jones, 2003). For example, a group may provide certain services to its members, which are financed through a tax on collective sales. When members do not honor this reciprocal agreement, the viability of collective action may be seriously threatened

Moreover, market access is facilitated through the exploitation of economies of scale, which depends on the extent of member participation. Low volumes were identified as one of the major limiting factors for the success of smallholder marketing groups in

Kenya (Shiferaw et al., 2009). Hence, understanding the factors that contribute to high or low participation in collective marketing and other group activities is important to predict and enhance group performance. Krishna (2001) in his study argues that collective marketing is where several growers work together to sell their combined crops. This may require additional storage, processing or packaging of the crop, with the costs shared collectively. Collective marketing has the advantage of spreading costs over a larger crop volume, creating a larger presence in the marketplace, and focusing marketing and selling efforts. Successful marketing requires a significant investment of time into: monitoring and understanding markets and consumer preferences, networking with potential buyers, building relationships with existing buyers and translating market signals to farm production.

Marketing activities need to translate into increased profit through market access, higher sale prices or additional crop being sold than would otherwise have occurred. Many small businesses find the prospect of increasing their marketing activities onerous, expensive and difficult. Improving marketing is a medium to long-term project. It involves some expenses and having the right skills. Often these skills will be employed through a consultant, or staff member (Menzel, 2001). It makes sense that several small businesses might work together to employ the appropriate skills to: share the costs, market a larger crop than would be possible individually and add profit to all businesses

The clearest example of achieving a benefit from collective marketing in the past has been in the processed potato industry, which 'marketed' the entire Tasmanian crop to processors (Wollni and Zeller 2007). This collective approach then resulted in 'collective bargaining' with the potato processors so that all growers could achieve a single price for the crop. The benefit was that all growers were able to market a single

large crop and achieve a price that would not have otherwise been possible. However, even on a smaller scale, there are benefits available to groups of vegetable growers. (Lundy et al., 2002).

Smallholder farmers are -by definition- scattered and, therefore, generally there is a need to bulk their produce in order to access urban markets or the processing industry. Bulking can be done through different modalities and by different types of actors, like middle-men and traders, processing companies, state marketing boards or collective marketing arrangements (Place, 2006). This bulking has a strong logistic component and a need for working capital (trade finance) and requires a cost-efficient way of organization and control of transactions.

2.4 Theoretical Framework

2.4.1 Theory of Collective Marketing

The theory of collective action is based on the institutional approach to the solution of societal problems and is thus concerned with the conditions under which groups of people with a common interest will perceive that interest and act on it (Gyau, A et al., (2012)). The foundational work on collective action in the economic sense was by Hall, M. (2018). Collective action often leads to creation of people's organizations, commonly referred to as groups which bring together individuals with common problems and aspirations and who cannot, as individuals, meet certain goals as effectively, if at all.

By pooling their capital, labor and other resources, members are able to access certain resources or carry out profitable activities, which if undertaken by individuals alone, would involve greater risk and effort. This implies that group members have a common objective and means to achieve those objectives. In the context of communal livestock

breeding programs, a breeding bull from a nucleus herd may be purchased by a group for use within the group on a rotational basis. The breeding bull then becomes a collective good. (Napolitano, Serrapica, & Braghieri, 2013)

A collective good is non-excludable; therefore, if it is provided to one member of the group, it cannot be withheld from any other member. Any attempt to acquire this good is considered collective action. If only few members of the group pay for the collective good, yet it is provided to the whole group, then the free-rider problem develops‡. The free-rider problem can be overcome through peer pressure from the group members and by having smaller group sizes. The classic study by Hall, M. (2018) suggests that collective action is more difficult to organize in larger groups relative to smaller ones.

2.4.2 Theory of Collective Bargaining

The intrinsic nature of collective bargaining is not a matter of universal agreement. The retained rights doctrine holds that before the advent of collective bargaining, the nature of the employee-employer relationship vested all rights regarding the composition and direction of the work force exclusively in management; that the negotiation and execution of a written labor-management agreement results in a loss of some of the traditional and inherent rights of management; and that all matters not taken away by collective bargaining and set forth in the agreement are retained by management to be unilaterally exercised. (Guest & Peccei 2001).

Another approach stresses two types of property rights. These include the property rights of a worker in the ownership of his personal services, and the property rights of an employer in the ownership of the physical and other assets of the business. Collective bargaining is conceived as a process in which inherent property rights of workers regarding the use of their personal services, and inherent property rights of employers

regarding the operation of the firm and composition of the force, are mutually recognized and voluntarily restricted through the codetermination of terms and conditions of employment. Major areas of codetermination are set forth in the written labor-management agreement. Matters not submitted to codetermination are retained by each respective property owner (Harn, 2001).

2.5 Gender Inclusive Leadership and Participation in Collective Marketing

In a US study among 50 respondents, it was found out that there are significant evidences that women and men have different approaches to leadership in collective marketing engaged by small holder farmers (Clark & Baldwin, 2000). These differences do not arise from differences in their nature; rather, they arise from the fact that women experience discrimination in all aspects of their lives. The discrimination they face as leaders forces them to adopt a style of leadership that is more collaborative and therefore in keeping with the stereotypical view of how women should behave. Moreover, women leaders adopt a more consultative and inclusive approach to leadership because such an approach allows them to compensate or counter-act their lack of power in union structures. Gender inclusive leadership affects the participation of these farmers in collective marketing.

Briskin, (2006) in his study on Equity Bargaining in Toronto among 20 respondents argues that small holder farmers' organizations are realizing that, in order to adequately address human resource concerns, they must develop long-term as well as short term solutions to gender and leadership issues. Most importantly, the collectivity which emerges out of such organizing encourages women leaders to maintain transformational leadership practices inside the mainstream labor movement in the face of often conflicting pressures, and simultaneously demands accountability from them hence increasing the participation of these farmers in collective marketing.

Building strong women constituencies within smallholder farmers unions also allows the development of women leadership to be about more than getting more women into leadership positions. Organized women's constituencies help keep the pressure on both women and men leaders to lead in a way that addresses the particular concerns of union members in the workplace, as well as in the union. Organized women's constituencies can also provide an on-going support for union that is inclusive of other equity-seeking groups, which inevitably will include large numbers of women hence increasing the number of farmers participating in collective marketing (Grogan, 2000).

A study using a random sample of 10 respondents argues that the role of women in collective marketing is highly undermined, women are less opposed than men to have opportunities for promotion for career advancement, cases where they are employed, restrictions are given to them and sometimes it was discovered that women especially in the banking sector are used as instruments to attract customers and to maintain their high capital base (Ledwith & Golgan, 2000).

In another fascinating study done in US on 50 respondents, Renee and Daniel (2009) provided evidence that the collective intelligence of a group was not mostly determined by the average or maximum intelligence of the individuals within the group but was better explained when there were more women in the group, specifically, women are typically more socially sensitive identified as better at reading other people's thoughts than men and hence more active at increasing the participation of farmers in collective marketing.

Women leaders are taking active roles in collective marketing by modeling behavior for other women and openly discussing social issues that traditionally are not discussed, including domestic violence and abuse. Multiple women indicated that their confidence

increased since learning new skills, particularly in literacy, but also in agriculture. Most women in interviews said they were pleased with their increased incomes and attribute the gains to the new skills they have learned from participation in collective marketing and farmers' groups (Hersch & Farrel, 2005)

2.6 Participatory Leadership and Participation in Collective Marketing

A study done in Africa on a random sample of 60 respondents argues that the art of participatory leadership or the art of hosting relies on the principles of self-organization, participation, ownership and nonlinear solutions because they are the keys for both individual and collective discoveries. It is essential in sustaining collective marketing because it aids in bringing together people to act collectively. This is different and complimentary to more traditional ways of working that are often based on rational planning and full control of the progress (Meinzen, 2009).

In a study done in New Zealand on a random sample of 50 respondents, art was found to refer to the fact that people don't work with pre-determined methods but rather approach each conversation from a design perspective, offering the best design for the context based on the simple principles of good conversation (Shepherd, 2007). The host part refers to the new role of the leader whose work with people is based on inclusion, cooperation and augmenting the collective potential of the group needed for the change and development. Besides having knowledge and courage to ask the right question in order to engage the group into a meaningful conversation, a new leader must be a skillful facilitator of conversations that lead to creation of enduring solutions.

Zeller, (2007) in his study argues that participative leadership style, which is defined as joint decision making, or at least shared influence in decision making and on directive

leadership, which is defined as providing the team members with a framework for decision making and action in alignment with the superior's vision (Stogdill, 2004).

In a study by Kahai et al, (2007) on 60 respondents, it was found that focusing on participative and directive leadership styles is important for several reasons. First, both participative and directive leadership can be associated with high levels of team outcomes (Sagieet. al, 2002). For example, establishing clear rules for behavior in work teams (directive leadership) and soliciting new ideas from team members (participative leadership) have been associated with high-performance work teams (Katzenbach & Smith, 2003). Second, a study of participative and directive leadership styles can form the basis for examining more complex leadership styles in teamwork.

Third, being effective, participative and directive leadership styles induce team members to devise effective work processes (Kahai et al., 2007; Sagie et al., 2002). Finally, examining these two leadership styles simultaneously responds to a call in the organizational behavior literature to researchers to move from a traditional approach, thus making it possible for us to see management behavior in genuinely new ways (Quinn, 2005). Accordingly, suitable measures would assess each style separately, rendering it empirically possible for managers to go back and forth between contrasting styles of a behavior (Lewiset et al., 2002).

Team reflection is defined as the extent to which team members collectively reflect upon the team's objectives, strategies and processes (West, 2006). A reflective model of team processes incorporates the idea that group-task processes are circular or spiraling. Team reflection involves behaviors such as questioning, debating, planning, exploratory learning, and analyzing, divertive exploration, making use of knowledge

explicitly, reviewing past events, and coming to terms over time with new awareness hence significant collective marketing (Li, G., Kou, G., & Peng, Y. (2016)).

In a study done in Birmingham, Argyris, (2002) asserts that by encouraging the cognitive processes of team reflection, team members might challenge each other on task issues and thereby foster the development of constructive interactive practices to get work done. Accordingly, by encouraging questioning, debating, and reanalyzing, the process of team reflection might serve as a powerful tool to use the heterogeneity of knowledge, expertise, and skills to enhance team outcomes (West et al., 2002).

2.7 Leadership Training and Participation in Collective Marketing

Jara-Rojas et al., (2017) in a random sample of 20 respondents in the Technical Marketing Training Program asserts that one will learn how to be a leader in one of the sales, business development, marketing or application engineering teams hence improving the collective marketing action among small holder farmers. This role will afford leaders the opportunity to bring about change, growth, and success.

Howard, (2003) among a random sample of 10 respondents argues that leaders need leadership training in order to enhance growth of collective marketing strategies, because marketing needs highly talented and skilled leaders who will ensure that everything is done accordingly. A lot of leaders need a coach both as a skill supplement and as a sounding board to work through the complexity around the process of succession to ensure that all the dimensions of collective marketing are catered for effectively and in order to ensure success of the process of marketing among small holder farmers (Burr et al., 2007).

A collective marketing leadership development program from a good business management school is a great way to improve both the collective marketing skills and

leadership skills. A good marketing course will give the leaders the latest tools and techniques for developing the best marketing strategies. A marketing leadership development program has the additional benefit of developing people skills that will prepare for marketing leadership roles hence ensuring effective collective marketing among the smallholder farmers (Urey et al., 2002).

A study among a random sample of 10 respondents in Mozambique argues that collective marketing leadership development and training program should align skills with the challenges of competing successfully in a market environment that has dramatically changed in recent years in order to improve the process of marketing among small holder farmers (Baughton et al, 2007). Marketing training among market leaders has necessarily responded in recent years to the emergence of web and the phenomenon of social media. Even for experienced marketers, a marketing leadership development program is an invaluable way to keep up to date with new developments in both traditional and new marketing disciplines hence effective collective marketing.

In a US study among 50 respondents it was asserted that marketing leadership should incorporate a leadership development plan that is a useful tool that can help guide them throughout their career. A marketing leadership development program can be part of their personal leadership development plan. By helping to provide leaders with stronger marketing skills as well as developing skills for leading individuals and teams more effectively, a marketing leadership development program can prepare them for more challenging responsibilities' and higher positions hence ensure quality and effective collective marketing (Bauer & Green, 2007).

2.8 Level of Cooperation and Participation in Collective Marketing

In a study among a random sample of 120 respondents it was argued that the success of many economic endeavors depends on people's ability to refrain from individually profitable actions for the sake of the common good (Adam & Pomerol, 2001). Such collective action problems have the key characteristic that, because individual actions have externalities on others, private and social optima do not coincide. Key examples are the use of common property resources where the actions of individuals impose negative externalities on others, and the provision of public goods where the actions of individuals impose positive externalities on others.

Olson's (2005) in a study on The Logic of Collective seminal work among a random sample of 30 respondents highlights that self-interested behavior precludes cooperation when group rationality is in contradiction with individual rationality. Common resource management can therefore end up tragically, as Hardin (2008) put it, if each individual ignores the negative externality that his extraction choice imposes on other group members. However, while such pessimism may be justified in the case of anonymous and infrequent interactions, the folk theorem suggests repeated interaction between the same individuals might increase the likelihood of sustained cooperation in equilibrium. This is especially so if sufficiently harsh and credible punishments are available. Extensive socio-anthropological fieldwork indeed finds evidence that some communities manage to create effective informal institutions, namely rules that govern the use of common resources and contributions to local public goods (Barham & Chitemi, 2009)

Failure, however, occurs as frequently as success. Cooperation improves when subjects can communicate at the beginning of the game, and it increases even further if they can communicate at the end of each round. When available, discussion transcripts indicate

that subjects used the opportunity to communicate to calculate the optimal group strategy and to agree on a set of rules to achieve the group optimum. Subjects also used verbal sanctions to punish deviators (Cardenas 2003, Ostrom et al, 2004).

The ability to punish also increases cooperation and its effect is stronger if the same subjects play the game repeatedly as opposed to being matched with different people in each round. However, since subjects must pay a fee to inflict punishment, the ability to punish often reduces group welfare because punishment costs are larger than the gains from increased cooperation. The combination of punishment and communication on the other hand, dramatically improves (Bedeian, & Mossholder, 2000)

Markelova and Meinzen-Dick, (2009) in their study among a random sample of 300 respondents argues that without enough incentives, collective marketing will not be successful. An in-depth analysis of the products and markets available for smallholders as well as the overall analysis of the value chain for the specific product can reveal whether there are incentives in place for smallholders to organize around marketing of a particular commodity.

2.9 Extent of Participation

Jagwe (2011) using a two-stage Heckman model found that belonging to a farmer's group, household size and distance to the market significantly influenced extent of farmers' participation in banana markets. The author found that farmers who belonged to a farmers' group had cohesion in terms of gaining and sharing knowledge as well as capacity to produce more for a marketable surplus. Shepherd (2000) also suggested collective action in form of farmer cooperatives or groups to increase smallholder market participation (Njuki et al., 2006), however added that forming farmer groups though recognized as essential for efficient farmer learning, receiving external support

and achieving economies of scale, it must be accompanied by incentives to participate in markets. Jaleta et al., (2009) on the other hand, found that household crop market participation was determined by literacy of the head of household, nearness to the market place and household's market orientation, which is the making of production decisions based on market signals. Jagwe et al., (2009) found that transaction cost-related factors such as geographical location, market information sources, and travel time to the nearest market, labour availability, farming experience, gender of household head, off-farm income and household asset base affect smallholders' likelihood and intensity of participation in markets

2.10 Research Gap

From the review, it is evident that numerous studies have been done on market participation of smallholder farmers. However, there was limited evidence on participation of collective marketing particularly in Kenya maize farmers. Content wise (especially studies in Africa) less attention is focused on understanding the role of governance in market participation behavior of farm households.

Methodologically, previous studies have mostly used one model; the current empirical studies on market participation typically adopt two-step analytical approaches. The Heckman and the Double Hurdle Models have been less used in this kind of study. Most of the studies have given more attention to social and economic factors affecting market participation, however, studies on governance as a factor affecting collective marketing are scanty creating a research gap on the existing literature. Therefore, this research will investigate effect of governance on participation and extent of participation of maize farmers in collective marketing.

2.11 Conceptual Framework

There are countless factors, characteristics, and circumstances that affect farmers from FOs in participation and extent of participation in collective marketing. The object of the conceptual framework is to reduce the bewildering variety of factors to a few key ones, thus visualizing the main governance variables that are assumed to affect participation of collective marketing (Dorward et. al, 2005). The conceptual framework adopted for this study is described in Figure 2.1.

Gender inclusive leadership is considered a factor that could influence participation of small holder farmers in collective marketing since some studies have shown that male gender have advantage of participation in collective marketing.

Participatory leadership in FOs could determine participation as suggested by conventional collective action theory that leadership where all members can participate has a significant role in improving decision that relate to group market access.

Leadership training determines how management conducts day to day operations of the FOs in order to increase market access and if the farmer engages in long term relationships regarding the FOs operations.

Level of cooperation determines how members respond to the FOs meetings, studies have shown that the more the FOs respond to farmers needs the more they will participate in collective marketing.

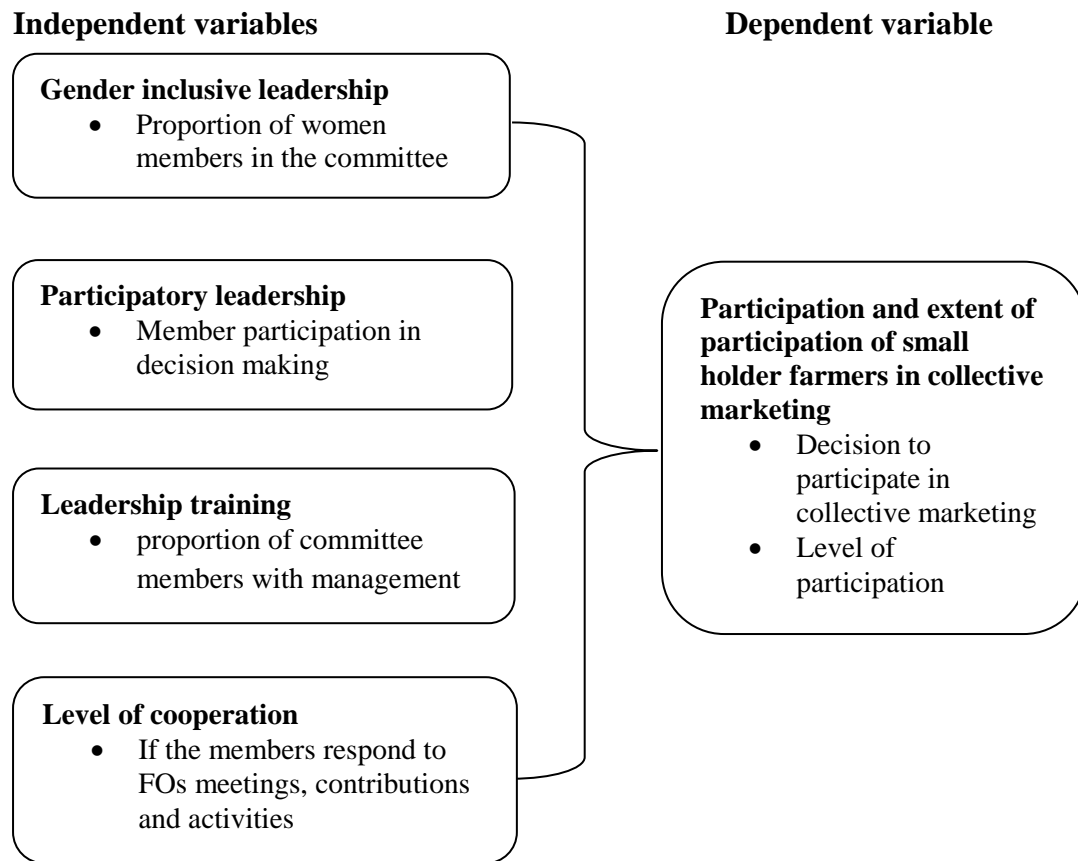


Figure 2.1: Conceptual framework of the study

Source: Author's, 2015

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Overview

This chapter presents the study area research design, target population, sampling frame, sampling procedures and the sample size, data collection procedure, data analysis and presentation.

3.1 Study Area

The study was conducted in Uasin Gishu County which is a cosmopolitan area. Uasin Gishu County is one of the 47 counties of Kenya. It measures 3,328 km². It borders Nandi, Kericho, Baringo, Elgeyo Marakwet, Trans Nzoia, and Kakamega counties. Eldoret is the capital and commercial city of Uasin Gishu county. The county has six Sub-Counties; Ainabkoi, Moiben, Kesses, Kapsaret, Soy and Turbo.

According to GoK (2010), census showed that Uasin Gishu has a population of 894,179 with 202,291 households and a population density of 269 people per km². The age distribution is 0-14 years 41.5 %, 15-64 years 55.7%, and above 65 years 2.9%. A young population signifies a high level of dependence, especially to cater for such needs as education and health (Uasin Gishu County website). It is estimated that 90 percent of the entire land area in the county is arable and can be classified as high potential. There are four major soil types in the area, all of which are suited for agricultural production. These include red loam, red clay, brown clay and brown loam. A total of 29,801.92 hectares is gazetted forest. Out of this, 13,183.54 hectares (44 percent) is under plantation, while, 16,618.38 hectares (56 percent) is under indigenous forest cover. Through the rural afforestation programme, there are woodlots scattered across the County. See map in the Appendix

The poverty level in the area under the county stands as 49% (Kenya National Bureau of Statistics, 2007). Forty percent (40%) of this is rural based while 54% is urban. Food poverty stands at about 41%. The major causes of poverty are unemployment, lack of markets for the farm produce, high cost of inputs and poor food storage facilities. A high rate of population growth has contributed to increasing poverty since social facilities such as health, education, and transport have been overburdened. Also, it has been noted from statistics that unemployment in either formal or informal or self-employment levels is at 30%. Data available in Uasin Gishu County Youth Office (2013) indicate that the percentage of unemployed youth is at 61%. Uasin Gishu County enjoys two rainy seasons with an annual rainfall ranging between 900 to 1200 mm. Sited on a plateau, the county has a cool and temperate climate, with annual temperatures ranging between 8.4 °C and 27 °C. The wettest season in Uasin Gishu County is experienced between the months of April and May while the driest season comes between January and February. Uasin Gishu's main economic activities are large scale wheat and maize farming, dairy farming, horticulture and sports tourism - the result of terrific performances of its world-famous athletes.

3.2 Research Design

The study employed descriptive survey research design with ex-post facto approach in which the effects of a naturalistically occurring treatment on a subsequent outcome were examined (Cohen et al., 2000). According to Punch, K. F., & Oancea, A. (2014), a survey involves studying a situation, as it is to explain why the situation is the way it is. Surveys, according to Punch, K. F., & Oancea, A. (2014) and Frankel & Wallen (2000) are important in research and have been found to be useful in describing the characteristics of a population under study. They are exploratory, enabling the researcher to make inferences into the level of cause and effect (O'Connor, 2002). Data

was collected at one point in time from a proportionate sample randomly drawn from all the FOs. The major weakness of the design is inability of the researcher to manipulate the independent variables and difficulties in controlling extraneous variables. This weakness was addressed by randomization and using large samples.

3.3 Population of the Study

The population for the study was 512 members drawn from 21 FOs that participate in collective marketing of maize i.e. Table 3.1 below summarizes the population for the study.

Table 3.1: Population of the Study

Sub-County	Number of FOs	Total Membership
Turbo	3	74
Soy	7	169
Ainabkoi	2	52
Moiben	4	94
Kesses	3	77
Kapseret	2	46
Total	21	512

Source: Author's, 2015

3.4 Sampling Procedures and Sample Size

All 21 FOs were purposively sampled because they were the only FOs dealing with collective marketing of maize. The study used Nassiuma (2000) sample size formula. According to Nassiuma (2000) in most surveys, a coefficient of variation in the range of $21\% \leq C \leq 30\%$ and a standard error in the range $2\% \leq e \leq 5\%$ is usually acceptable. Therefore, the study used a coefficient of variation of 30% and a standard error of 2%. Nassiuma (2000), gives the formula as follows: -

$$n = \frac{Nc^2}{c^2 + (N - 1)e^2} = \frac{512(0.3)^2}{0.3^2 + (512 - 1)0.02^2}$$

$n = 156$ members

Where $n =$ Sample size

$N =$ Population

$c =$ covariance

$e =$ standard error

Using this formula, a sample of 156 members was selected. Thereafter Neyman allocation formula was used to allocate members into the six sub-counties in Uasin Gishu County. Stratified simple random sampling was used to gather farmer organization members. The purpose of the method is to maximize survey precision, given a fixed sample size. With Neyman allocation, the "best" sample size for stratum h would be:

$$n_h = \left(\frac{N_h}{N} \right) n$$

Where, n_h is the sample size for stratum h ,

n is total sample size,

N_h is the population size for stratum h ,

N is the total population

Table 3.2: Sample size for the Study

Sub-County	Number of FOs	Total Membership	Sample size
Turbo	3	74	22
Soy	7	169	52
Ainabkoi	2	52	16
Moiben	4	94	29
Kesses	3	77	23
Kapseret	2	46	14
Total	21	512	156

Source: Author's, 2015

The FO membership registers clearly indicated that 90.5% of members were household heads, therefore purposive sampling technique was used to select respondents who were household heads as they are important in making critical decisions on resource allocation and on participation in collective marketing.

3.5 Data Collection Instruments and Methods

Primary data was collected using questionnaires.

3.5.1 Questionnaire

A pre-tested questionnaire consisting of both open ended and closed ended questions were used to collect data. Since information was collected directly from the farmers, a questionnaire was the most convenient instrument for the survey. A set of questions with fixed wording sequence of presentation as well as precise indications of how to answer each question was established. The questionnaire was presented to each respondent in the same way. This minimizes the role and influence of the interviewer thereby enabling a more objective comparison of the results (Engel, R. J., & Schutt, R. K. (2014)). The questionnaire was administered personally for the following reasons: it gives an opportunity to establish rapport and to explain to the farmers the purpose of the study, clarify meanings and interpretations.

Although the questionnaire has disadvantages associated with anonymity, time and costs, it was the most convenient survey instrument for a descriptive cross-sectional study. The questionnaire was used with other data collection methods such as the use of key informants as a triangulation method intended to validate certain survey results obtained from administering the questionnaire.

Table 3.3: Description and Measures of Variables

Variable	Description	Expected sign
<i>Dependent variable</i>		
Participation of small holder farmers in collective marketing (Y ₁)	If access to market =1, 0=otherwise	
Extent of participation(Y ₂)	Quantity of maize sold through the FO	
<i>Independent variables</i>		
Gender inclusive leadership (X ₁)	Proportion of women members in the committee	+
Participatory leadership (X ₂)	If member participate in decision making = 1, 0 = otherwise	+
Leadership training (X ₃)	proportion of committee members with management training	+
Level of Cooperation(X ₄)	If the members respond to FOs meetings, contributions and activities= 1, 0 = otherwise	+

Source: Author's, 2015

3.6 Data Analysis and Presentation

Both qualitative and quantitative techniques were used to analyze the data. Qualitative data was obtained by open ended questions using a questionnaire in the field. Quantitative data was analyzed using descriptive statistics such as mean, percentage, standard deviation, tabulation, ratio and frequency distribution using Stata version 13 and SPSS version 22. The Heckman two-stage selection model which best fits the

analysis for the role of governance on participation of small holder farmers in collective marketing was employed.

3.7 Model Specifications and Statistical Analysis

To determine the factors influencing participation and extent of participation in marketing, the Heckman two-stage selection model was used. The decision to either participate in the market or not and level of participation are dependent variables and were estimated independently. Heckman two-step procedure was identified as an appropriate model for such independent estimation. Heckman two-step model involves estimation of two equations: First, is whether a household participates in the maize market or not, and the second is the extent of market participation (quantity of maize sales). The quantity of maize sales was conditional on the decision to participate in the market. Heckman procedure is a relatively simple procedure for correcting sample selection bias with the popular usage of (Hoffman & Kassouf, 2005).

The model consists of two steps; firstly, selection equation was estimated using a probit model and secondly, an outcome equation was estimated using OLS regression. A Probit model predicts the probability of whether an individual household participated in the collective market for maize or not as shown.

$$pr(Z_i = 1|w_i\alpha) = \phi(h(w_i\alpha)) + \varepsilon_i \dots \dots \dots 3.1$$

Where Z_i is an indicator variable equal to unity for small-scale maize farmers that participate in the market, ϕ is the standard normal cumulative distribution function, $w_i\alpha$ is the vector of factors affecting the decision to participate in the maize market, α is the vector of coefficients to be estimated, and ε_i is the error term assumed to be distributed normally with a mean of zero and a variance σ^2 . The variable Z_i takes the

value of 1 if the marginal utility the household i get from participating in marketing of maize is greater than zero, and zero otherwise. This is shown as follows

$$Z_i^* = w_i\alpha + u_i \dots\dots\dots 3.2$$

Where u_i is the latent level of utility the small-scale maize farmers get from participating in the collective market, $u_i \sim N(0, 1)$ and,

$$Z_i = 1 \text{ if } Z_i^* > 0 \dots\dots\dots 3.3$$

$$Z_i = 0 \text{ if } Z_i^* \leq 0 \dots\dots\dots 3.4$$

In the second step, an additional regressor in the sales equation was included to correct for potential selection bias. This regressor is Inverse Mills Ratio (IMR). The IMR is computed as:

$$\frac{\varphi(h(w_i, \tilde{\alpha}))}{\varphi(w_i, \tilde{\alpha})} \dots\dots\dots 3.5$$

$$E = Y_i | Z = 1 = f(x_i, \beta) + \lambda \frac{\varphi(h(w_i, \tilde{\alpha}))}{\varphi(w_i, \tilde{\alpha})} \dots\dots\dots 3.6$$

Where E is the expectation operator, Y is the (continuous) proportion of maize sold, x is a vector of independent variables affecting the quantity of maize sold, and β is the vector of the corresponding coefficients to be estimated. Therefore, Y_i can be expressed as follows:

$$Y_i^* = \beta'x_i + \gamma\lambda_i + u_i \dots\dots\dots 3.7$$

Y_i^* is only observed for those maize farmers who participates in the collective marketing. Where $u_i \sim N(0, \sigma_u)$. ($Z_i = 1$), in which case $Y_i = Y_i^*$ the model can thus be estimated as follows; in the first step of deciding whether to participate in maize collective marketing or not. This can be specified as:

$$P_{(0,1)} = \beta_0X_0 + \beta_1X_1 + \beta_2X_2 + \dots + \beta_nX_n + e \dots\dots\dots 3.8$$

Where participation is denoted by 1 and non- participation is denoted by 0, β_0 is a constant, β_1, \dots, β_n are parameters to be estimated X_{1s} are vector of explanatory variables.

The Second step which involves a decision on the extent of maize collective marketing is estimated by use of an OLS as follows;

$$Y = \beta_0 X_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + e \dots \dots \dots 3.9$$

Where Y denotes the proportion of maize sales, β_0 is a constant, β_1, \dots, β_n are parameters to be estimated X_{1s} are vector of explanatory variables.

Since participation of small holder farmers in collective marketing is a qualitative dependent variable, it was necessary to use a qualitative model to test the hypothesis namely:

H₀₁: Gender inclusive leadership has no significant effect on participation and extent of participation of small holder farmers in collective marketing

H₀₂: Participatory leadership has no significant effect on participation and extent of participation of small holder farmers in collective marketing

H₀₃: Leadership training has no significant effect on participation and extent of participation of small holder farmers in collective marketing

H₀₄: Level of cooperation has no significant effect on participation and extent of participation of small holder farmers in collective marketing

Heckman (1979) proposed a two-step procedure which only involves the estimation of a standard probit and a linear regression model. The two equations for the two steps are specified as follows:

Step 1. (Selection equation)

$$P_i(0,1) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon \dots \dots \dots 3.10$$

$$P_i(0,1) = \beta_0 + \beta_1GL_1 + \beta_2PL_2 + \beta_3LT_3 + \beta_4LC_4 + \varepsilon \dots\dots\dots 3.11$$

Step 2. (Outcome equation)

$$\frac{\text{quantity of grainsales}}{\text{of participation extent}} (Y)_i = \beta_0 + \beta_1X_1 + \beta_2X_2 + \dots + \beta_nX_n + \varepsilon \dots\dots\dots 3.12$$

$$Y_i = \beta_0 + \beta_1GL_1 + \beta_2PL_2 + \beta_3LT_3 + \beta_4LC_4 + \varepsilon \dots\dots\dots 3.13$$

Where;

Y = participation of small holder farmers in collective marketing

α = alpha coefficient

β = beta coefficient

GL = gender inclusive leadership

PL = participatory leadership

LT = leadership training

LC = level of corporation

ε = error term

3.8 Validity

Fraenkel & Wallen (2000) define validity as the degree to which results obtained from the analysis of collected data represents the phenomena under study. To improve on the appropriateness, meaningfulness and usefulness of the findings and inferences of the study, the validity of the questionnaire was assessed by ensuring it captures meaningful information as intended by the researcher. The content, construct and face validity of the questionnaire was assessed by experts and peers from the Department of Agricultural Economics and Resource Management who validated the questionnaire developed by the researcher.

3.9 Reliability

According to Orodho (2004), reliability of instruments concerns the degree to which a measuring procedure gives similar results over a repeated trial. Because reliability is synonymous with consistency, the major source of unreliable measurements is random error. Two principal sources of random error that contribute to inconsistent measurements are the lack of instrument clarity and errors in data processing. This study will attempt to overcome lack of instrument clarity in two ways. First, questions on the questionnaire were reviewed by my supervisors and peers from the Department of Agricultural Economics and Resource Management to ensure the questions are relevant, appropriate and clearly written. Second, the questionnaire was pre-tested on 10 members drawn from three FOs in Trans Nzoia County.

Reliability of the questionnaire was estimated using the Cronbach's reliability coefficient, which is a measure of internal consistency (Fraenkel & Wallen, 2000). A reliability coefficient of 0.7 or higher is recommended and was used as the threshold for accepting reliability. In case a low coefficient was obtained, item-by-item analysis was done in order to improve weak points in the questionnaire.

3.10 Summary

The study assessed the effect of governance on participation and extent of participation of smallholder farmers in collective marketing of maize. This was done by collecting information from the farmers who are members of the identified FOs and a few from the committee. Specifically, this study has been useful in finding out whether incidences of financial literacy and trust have been proactively dealt with, how tactical decision making has been improved and how accessibility to market by farmers has been strengthened through the oversight role of collecting marketing in the respective farmer organizations.

CHAPTER FOUR

RESULTS, PRESENTATION AND INTERPRETATION

4.0 Overview

This chapter covers data presentation, interpretation, and discussion on analysis. To simplify the discussions, tables and figures have been provided that summarize reactions and views of the respondents.

4.1 Characteristics of Sample Smallholder Farmers

4.1.1 Distribution of respondents

Table 4.1 below shows the number of FOs and the frequency of the members who participated in the study. A total of 21 FOs participated in the study; the total number of participants was 116 representing about 74.1 per cent participation from the intended 156 smallholder farmers sampled. Soy sub-County had the highest response rate at 32.8 per cent.

Table 4.1: Number of respondents who participated

Sub county	FOs in the study	Number of respondents	Percent distribution
Turbo	3	17	14.7
Soy	7	38	32.8
Ainabkoi	2	10	8.6
Moiben	4	23	19.8
Kesses	3	18	15.5
Kapseret	2	10	8.6
Total	21	116	100

Source: Field Survey (December 2015)

The figures show that on average, the number of respondents from each farmer organization ranges between five and six participants. This illustrated that there was an even distribution of participants among the FOs. Implying that the data collected significantly represented all the FOs and was reliable in analysing the effect of

governance on participation and extent of participation of smallholder farmers in collective marketing of maize in Uasin Gishu County.

4.1.2 Gender of household head

The respondents of the study were drawn from 116 individuals who were heads of their households. Statistics further showed that 53.4 per cent female-headed households and 46.6 per cent were male-headed households. This ensured that the study captured the expected view or opinion of the household head as they are key in making important decisions on resource allocation and whether to join or market maize through an FO.

Table 4.2 Gender of household head

Gender of household head	Frequency	Percent	Cumulative Percent
Female	62	53.4	53.4
Male	54	46.6	100
Total	116	100	

Source: Field Survey (December 2015)

The findings are consistent with a study done by Mathenge et al., 2010, which concluded that male headed households have a higher intensity of participation in markets but are less likely to participate in collective marketing as compared to female headed households who had a higher likelihood of participating in group marketing but low intensity of participation. Gender is presumed to be an important variable that influence a farmer's decision to participate in collective action and in this study, women demonstrated the embeddedness of collective action in gender relations and the positive value of women's active participation for collective agricultural marketing.

4.1.3 Demographic statistics of the farmer

Table 4.3 show the inherent characteristics of the farmer involved in the study. The household head has an average age of 43.36 years. On average, the years spent in education by the farmers were 10 years. The most educated farmer had 19 years of education. The least educated farmer spent one year of education. This indicates that farming in the region is usually undertaken by individuals of age 43 years and above with secondary level of education

Table 4.3 Demographic statistic of the farmer

	N	Minimum	Maximum	Mean
	Statistic	Statistic	Statistic	Statistic
Age of the farmer	116	27.00	70.00	43.36
Years of education attained	116	1.00	19.00	10.01

Source: Field Survey (December 2015)

Human capital reflects the social aspect of the farmer and is represented by education. It also determines the ability of the farmer to access and evaluate the information on markets. A farmer with more years of education has a higher likelihood of accepting new technologies and initiatives and therefore assigned positive sign. The findings are in line with evidence from a study by Gicheha et al. (2015) which shows that age indicates years of experience and is linked to making of rational marketing decisions indicating how the youth stand to benefit from group marketing. Young farmers with high level of education will open to new approaches like use of internet. The increasing use of internet builds efficient communication between actors in joint initiatives and offers them an easy possibility to present their initiative to the public as well as new opportunities for collective marketing. With efficient communication and ease of access

to information young educated farmers are more willing to start or join farmer organizations and sell more maize through collective marketing

4.1.4 Income sources ranking

The figures on table 4.4, show that most farmers jointly ranked both livestock and field crops as the main source of income, followed by those farmers who planted vegetables. The statistics indicate that the nature of the farming in the study region is mainly livestock and field crop farming.

Table 4.4 Income sources ranking

	Responses		Percent of Cases
	N	Percent	
Livestock	92	29.3%	86.0%
Field Crops	93	29.6%	86.9%
Vegetables	70	22.3%	65.4%
Beer brewing	2	0.6%	1.9%
Trade craft	5	1.6%	4.7%
Causal labour	33	10.5%	30.8%
Formal employment	12	3.8%	11.2%
Other	7	2.2%	6.5%
Total	314	100.0%	293.5%

Source: Field Survey (December 2015)

This shows that smallholder farming families rarely earn from a single source and this makes it complex to improve their incomes. Farmers are likely to invest the extra income into the maize enterprise hence increasing production. Gicheha et al., (2015) observed that off-farm income increases marketable surplus and market participation if invested in farm technology to improve production volume. As there are many levers affecting smallholder farmers income, input from actors such as national government, international donors, financial institutions, local and multinational businesses are

required. Smallholder farmers need to improve their income and competitiveness if they are to achieve and sustain a decent standard of living and re- invest in their farms.

4.2 Characteristics and Activities of the FOs.

All study respondents were members of an FO and as such the statistics below shows the characteristics of the FOs.

4.2.1 Membership period

The statistics in table 4.7 indicates that some of the respondents had joined an FO as early as 1986 and there was an increase in the number joining an FO in the year 2008 through 2011. The increase in the numbers in 2008 through 2011 could be associated with the investments by the government and development organizations to organize smallholder farmers in cooperatives which pushed individuals into joining farmer organizations.

Table 4.5 Membership period

Year joined	Frequency	Percent	Cumulative Percent
1986	5	4.31	4.31
1997	5	4.31	8.62
2000	1	0.86	9.48
2002	8	6.90	16.38
2003	2	1.72	18.10
2004	5	4.31	22.41
2005	7	6.03	28.45
2006	5	4.31	32.76
2008	17	14.66	47.41
2009	15	12.93	60.34
2010	21	18.10	78.45
2011	16	13.79	92.24
2012	4	3.45	95.69
2013	4	3.45	99.14
2014	1	0.86	100.00
Total	116	100	

Source: Field Survey (December 2015)

Cooperative have started gaining popularity again among farmers as it improves their access to inputs, financial services, capacity building and product markets (Mukindia & Mutai, 2012). Bernard & Spielman 2008 concluded that effective strategies were key for mobilizing cooperative in Sub-Saharan African farmer cooperatives, which encounter market liberalization. From this study finding, the strategies are working as more farmers have joined organizations since 2008. More small holder farmers are gaining understanding of how collective marketing works are more willing and able to join farmer organizations and sell their maize through the FO.

4.2.2 Reason for joining

The results in table 4.6 shows that 43.10 per cent joined an FO for empowerment whereas 37.9 per cent saw it as a marketing vehicle. Other reasons given include collaboration, financing and development. Empowerment and marketing are key factors in pulling individuals to joining an FO.

Table 4.6 Reason for joining

	Frequency	Percent	Cumulative Percent
Collaboration	6	5.17	5.17
Development	5	4.31	9.48
Empowerment	50	43.10	52.58
Financing	11	9.49	62.07
Marketing	44	37.93	100
Total	116	100	

Source: Field Survey (December 2015)

This is in line with the study by Mukindia & Mutai 2012 which highlights that being members of a farmer organization allows farmers to be empowered, achieve economies of scale and bargaining power to negotiate for better prices and market arrangements. There should be increased support in formulation of relevant policies towards development of structured trading systems and enact the necessary legislative frameworks to ensure that smallholder farmers have access to markets and increase participation and extent of participation in collective marketing.

4.2.3 Activities of the FOs

According to the respondents, the activities of the FOs ranged from agribusiness, banking and marketing. The statistics in table 4.7 shows that 77.60 of the respondents viewed an FO as a marketing entity while 18.9 per cent saw it as a financial entity. The

statement is supported by the key reasons for joining an FO; empowerment and marketing.

Table 4.7 Activities of the FOs

	Frequency	Percent	Cumulative Percent
Agribusiness	4	3.45	3.45
Banking	22	18.97	22.42
Marketing	90	77.58	100.00
Total	116	100.0	

Source: Field Survey (December 2015)

The functions of an FO depend majorly on its objectives at formation which greatly linked by the need for most smallholder farmers to have better bargaining power, reduce transaction costs, access financial services and achieve economies of scale which increase their participation and extent in participation. The results are further supported by a study by Fulton & Adamowicz (2003), whereby organizational behavior focuses on the factors influencing the quality of an individual's participation and performance in organizations. It includes attitudes, identification with the group, its objectives and values, as well as loyalty and affection. Rational choice theory focuses on how an individual's decision to engage in collective action depends on a comparison of the expected benefits and costs

4.2.4 Intra-organizational characteristics of an FO

The statistics on table 4.8 below show the internal organization of an FO. As statistics show, the organizations have been operating for an average of 8.62 years while those established have been in operation for 18 years with nascent ones being in existence for three years. The number of years the FO has been in existence is often used as a proxy for experience-based trust. The largest FO had 28 members with the smallest having 19 members however on average an organization has a mean number of 24 members. The

average number of participating members for an organization is a minimum of 9, a maximum of 28 with a mean average of 13 members participating. Though the mean numbers for both female and male participants is 13 and 11 members respectively, the minimum number of male participants is zero when compared to female participants five. This can be explained by the presence of a one - gender organization which in this case is a women's organization. The results showed that most FOs are heterogeneous hence heterogeneous governing structure and this translated to better performance.

Table 4.8 Intra-organizational characteristics of an FO

	N	Minimum	Maximum	Mean
	Statistic	Statistic	Statistic	Statistic
Years of operation	116	3.00	18.00	8.62
Number of members	116	19.00	28.00	24.38
Male number of members	116	0.00	16.00	10.97
Female number of members	116	5.00	25.00	13.42
Average number of participating members	116	9.00	28.00	17.04

Source: Field Survey (December 2015)

According to Guryen (2008) individuals in older groups know what to expect from other group members because they have already built collective cognition associated with shared norms and values over time.

Larger groups can exploit economies of scale and thus be associated with positive incentives for collective action Hellin et al, (2009). On the other hand, increasing group size also increases transaction cost associated with monitoring the action of other group members and may thus lead to lower levels of new members joining and or selling through the group (Helin et al., 2007, 2009). Better performance with sound governance and accountable leadership of the FOs are incentives for more smallholder farmers to join and sell more maize through the FO. Incentives such as involvement of youth and

women in group leadership and improvement of group management practices through capacity building and training should be more aggressively addressed. It should also involve county level policies in exploring opportunities for young farmers within the devolved systems of governance on issues such as improved accessibility of credit which also influenced collective marketing participation.

4.3 Collective Marketing

4.3.1 Collective marketing components

As shown in table 4.9, on average most organizations have been selling their products for 4.65 years with some institutions being involved for 13 years. The FOs have been able to sign on average 3 contracts and successfully fulfilled the contract requirements. However, some of the organizations have not signed a contract for delivery of their maize whereas others have signed a total of eight contracts. In terms of maize sales, the average sales for 2012/13 was 856 bags with that number increasing by 25 per cent to 1,070 bags in 2013/14 and a further 227 per cent increase in 2014/15 sales to an average of 3,503 bags.

Table 4.9 Collective marketing components

	N	Minimum	Maximum	Mean	Std. Deviation
Years of maize sales	116	1.00	13.00	4.65	2.487
Contracts signed	116	.00	8.00	2.59	2.215
Successful contracts	116	.00	8.00	2.41	2.101
2012/13 Sales	116	.00	4,000.00	856.05	1,212.036
2013/14 Sales	116	.00	5,000.00	1,070.38	1,407.486
2014/15 Sales	116	.00	43,000.00	3,503.41	9,613.935

Source: Field Survey (December 2015)

Decision made by maize farmer regarding sale of maize through the FO influenced the intensity of participation in collective marketing. Poulton et al. (2010) observed that

groups have relatively higher potential of increased access to information that is important in making informed marketing decisions leading to increased intensity of participation by the members. This is in accordance with a study by WFP Kenya 2014, which highlights that once a farmer group can engage with a structured demand market, they are able to make increased and consistent sales to the market and are also able to diversify market outlets.

4.3.2 Access to markets

Table 4.10 shows the buyers of the FOs' produce. The figures show that the FOs sold 63.79 per cent of their produce to World Food Programme, 20.69 per cent to National Cereal and Produce Board with a further 7.76 per cent to schools and 6.03 per cent to traders.

Table 4.11 shows the statistics on the access to markets. About 63 per cent of the respondents used coordinated means of transportation as opposed to 37 per cent who preferred individualized means. The coordinated means of the transport was regularly used at 86% per cent. Though about 80% of the respondents affirmed that the time taken to reach the market was about fours or less, about 57 per cent of the respondents felt that the roads used to access the market were in poor condition, with the remaining 43.2 reporting as good.

Table 4.10 Buyers of the FO products

	Frequency	Percent	Cumulative Percent
World Food Programme	74	63.79	63.79
Schools	9	7.76	71.55
National Cereal & Produce Board	24	20.69	92.24
Local market	1	0.86	93.10
Traders	7	6.03	99.14
Wholesalers	1	0.86	100.00
Total	116	100	

Source: Field Survey (December 2015)

The figures indicate the preference to well established markets and institutions as opposed to the individual and business people. This factor could be driven by pricing decision by the institutional buyers, the institutionalized arrangements, that is the contracts and the time taken to receive payments. This observation conforms to what was reported by Narrod et al. 2009 that group contract arrangements can improve small holder farmers' productivity hence producing more maize in absolute terms such that proportion sold increases. Collective marketing improves small holder market power and ensure a more equitable distribution of benefits. Farmer organizations provide important platform for information exchange hence accumulates more networks that help members to fetch more markets for their produce and build a long-term steady cooperation.

Table 4.11 Market access

	Frequency	Percentage	Cumulative percentage
Mode of product transportation			
Individual	43	37.0	37.0
Coordinated	73	63.0	100.0
Total	116	100.0	
Regularity of coordinated transportation			
Non – regular	16	14.0	14.0
Regular	100	86.0	100.0
Total	116	100.0	
Road access to the market			
Poor	66	56.8	56.8
Good	56	43.2	100
Total	116	100	
Time taken to reach market			
Four hours and less	95	82.3	82.3
More than a day	1	1.0	83.3
More than a month	19	16.7	100
Total	116	100	

Source: Field Survey (December 2015)

Since the FOs are in different places, the condition of the road is subject to the terrain and the geographical aspects and thus the roads were either in good or poor states. According to Shiferaw et al 2009, for farmers in very remote rural areas, geographic isolation through distance and poor infrastructure creates a huge difference between farm gate and market prices. Use of coordinated means of transport and good infrastructure reduce transaction costs making it easier for farmers to participate in collective marketing. Collective marketing allows for sharing of costs across board and enhances bargaining power of groups, (WFP Kenya, 2014). Markelova et al., (2009), observes that a longer duration taken by FOs to reach markets might be associated with

higher search costs and more effort required to obtain market information. This may result in a higher dependency of isolated farmers on collective action to overcome pervasive market imperfections.

4.3.3 Commodity price determination

Nearly all the respondents affirmed that they had access to information about product prices before they transported their produce to the markets. The figures in table 4.12 shows that the media was the most significant source of product pricing information with 86.21 per cent, followed by friends at 6 per cent with neighbors and traders comprising the remaining percentage.

Table 4.12 Maize pricing determination

	Frequency	Percentage	Cumulative percentage
Access to product prices before marketing			
Yes	115	98.9	98.9
No	1	1.1	100.0
Total	116	100.0	
Source of product pricing information			
Friends	7	6.03	6.03
Farmers	1	0.86	6.90
Neighbors	5	4.31	11.21
Traders	3	2.59	13.79
Media	100	86.21	100.00
Total	116	100.0	

Source: Field Survey (December 2015)

Access to product pricing information is significant in providing relevant market information that increases the intensity of participation, Narrod et al., (2009).

4.4 Independent Variables

4.4.1 Gender Inclusive leadership

The maximum number of men in the committees' is six with the minimum being zero while the maximum number of women in the committees' is five with the minimum being one, meaning that some groups were exclusively women groups.

Table 4.13 Gender inclusive leadership

	Minimum Statistic	Maximum Statistic	Mean Statistic
Number of men committee members	0.00	6.00	1.67
Number of women committee members	1.00	5.00	0.86

Source: Field Survey (December 2015)

Women are noted to be taking more active roles in collective marketing by modeling behavior for other women and openly discussing social issues that traditionally are not discussed, including domestic violence and abuse. Despite this, there are still more men in leadership as compared to women. This coincides with findings by Hersch & Farrel 2005, who concluded that women confidence increased since learning new skills, particularly in literacy, but also in agriculture. Most women in interviews said they were pleased with their increased incomes and attribute the gains to the new skills they have learned from participation in collective marketing and farmers' groups.

4.4.2 Participatory leadership

75 per cent of the study participants were involved in making decision for the FOs' management activities with a high frequency of involvement. A further 79.6 per cent affirmed that they were informed in the marketing decisions. Since FOs are more of marketing entity, thus their mandate is also informational with regards to their markets.

As is evidenced in table 4.14, market prices comprise of 68.97 per cent of the information provided by the FOs, sales figures comprise 14.66 per cent and information on quality was at 9.48 per cent with financial information comprising of 2.59 per cent. The FOs also allowed their members to air their opinion as is confirmed by the affirmative response by 88.8 per cent.

Table 4.14 Participatory leadership

	Frequency	Percentage	Cumulative percentage
Involvement in FO management activities			
Participates	87	75	75
Doesn't participate	29	25	100
Total	116	100.0	
Frequency of involvement			
Often	43	37.0	37.0
Very often	73	63.0	100.0
Total	116	100.0	
Involvement in marketing decisions			
Never	23	20.4	20.4
Usually	83	79.6	100.0
Total	116	100.0	
Type of information provided			
Financial	3	2.59	2.59
Input prices	5	4.31	6.90
Market price	80	68.97	75.86
Sales	17	14.66	90.52
Quality	11	9.48	100.00
Total	116	100.0	
Liberty to air opinions			
Yes	103	88.8	88.8
No	13	11.2	100.0
Total	116	100.0	

Source: Field Survey (December 2015)

These results are augmented by Zeller, (2007) who argued that participative leadership style is a joint decision making which allows team members to have shared influence in decision making hence associated with high levels of team outcomes. This increases the ownership of FOs' goals and activities by members which increases the quality of

information, decisions made and participation in collective marketing. It has been shown that the role of women in collective marketing is highly undermined (see Ledwith & Golgan, 2000). For instance, building strong women constituencies within smallholder farmers unions also allows the development of women leadership to be about more than getting more women into leadership positions (see Grogan, 2000). In terms of the level of cooperation, based on the findings, the success of many economic endeavors depends on people's ability to refrain from individually profitable actions for the sake of the common good (Adam & Pomerol, 2001) of the entire group

4.4.3 Leadership training

Table 4.15 shows mean statistic on number of committee members trained indicating that more men at 0.95 than women at 0.57 participated in trainings. According to the respondents, leadership training comprising of 61.21 per cent, management at 18.97 per cent, group dynamics at 7.76 per cent with a further 12.07 being focused on book – keeping.

Table 4.15 Leadership training

	Minimum Statistic	Maximum Statistic	Mean Statistic
Number of committee members trained			
Number of men committee members trained	0.00	3.00	0.95
Number of women committee members trained	0.00	4.00	0.57
	Frequency	Percentage	Cumulative percentage
Types of trainings			
Group dynamics	9	7.76	7.76
Leadership	71	61.21	68.97
Management	22	18.97	87.93
Record keeping	14	12.07	100.00
Total	116	100	
Application of skills in management			
Yes	53	45.8	45.8
No	63	54.2	100
Total	116	100	

Source: Field Survey (December 2015)

Though they acquired the skills after the trainings, less than 50 per cent used the skills acquired in management. This could be due to a mismatch between the training and the requirements of the members of the FO. This confirms the findings of Boughton et al, (2007) that, collective marketing leadership development and training program should align skills with the challenges of competing successfully in a market environment that has dramatically changed in recent years in order to improve the process of marketing among small holder farmers. A marketing leadership development program is an invaluable way to keep up to date with new developments in both traditional and new marketing disciplines hence effective collective marketing. The provision of training and capacity building to committee member promotes relationship between cooperatives and private sectors hence increase production volume of maize by farmers,

meet quality and safety standards required by the markets and acts as an incentive for more farmers to participate in collective marketing. A group will be more likely to succeed if its group leaders are knowledgeable and skilled in collective enterprise, and motivated and trusted by the group members.

4.4.4 Level of cooperation

Table 4.16 shows the level of cooperation that is exhibited by the members and the farmer organization. The members affirmed that the organizations were very responsive to their needs and especially financial and marketing needs at the rate of 41.38 per cent and 43.97 per cent respectively. With respect to the regularity of attending meetings 96 per cent of the members attended the meetings on a regular basis.

Table 4.16 Level of cooperation

	Frequency	Percentage	Cumulative percentage
Organizational responsiveness			
Yes	115	99	99
No	1	1	100.0
Total	116	100.0	
Types of Needs responded to by the organization			
Financial	48	41.38	41.38
Marketing	51	43.97	85.34
Purchasing	11	9.48	94.83
Transportation	3	2.59	97.41
Total	116	100	
Regularity of attending meetings			
Yes	111	96.1	96.1
No	5	3.9	100.0
Total	116	100.0	

Source: Field Survey (December 2015)

The high levels of cooperation show high levels of perceived commitment which results to high marketing performance. This conforms with conclusion by Markelova & Meinzen-Dick (2009) which stated that without sufficient incentives, collective marketing will not be successful. Potential gains from organizing to supply to several markets can motivate cooperation.

4.5 Reliability Statistics

Reliability of the instruments was checked through the Cronbach's Alpha coefficient. The table 4.17 results presented according to the variable. The above figures show that the items used were adequate for a confirmatory study since the coefficient greater than 0.7

Table 4.17 Reliability coefficient

Reliability Statistics		
	Cronbach's Alpha	N of Items
Collective marketing	0.702	5
Participatory leadership	0.753	8
Leadership training	0.705	5
Level of cooperation	0.710	4

Source: Field Survey (December 2015)

4.6 Results on Effects of Determinants of Participation and Extent of Participation

The results on the effect of governance on participation and the extent of participation in collective marketing of maize are presented on the tables below. The probit regression model is most often estimated using the standard maximum likelihood procedure within the Heckman selection model. The findings were summarized and presented in Table 4.18.

Table 4.18 Probit regression model estimation

Probit model with sample selection Number of obs = 116

(regression model with sample selection) Censored obs = 0

Uncensored obs = 116

Wald $\chi^2(3) = 2.07$

Log pseudo likelihood = 58.8457 Prob > $\chi^2 = 0.0490$

The Heckman selection model is interpreted in a similar way to the normal regression model Wald $\chi^2(3) = 2.07$, $p = 0.0490$ indicates that the researcher model is statistically significant in explaining the market participation

Table 4.19 Heckman maximum likelihood estimates for factors that influence participation in collective marketing

	Coefficient	Std. Err.	Z	P> z	[95% Conf. Interval]	
Participation						
Constant	1.0836	0.0621	17.45	0.000	0.9620	1.2052
Level of cooperation	0.7961	0.0209	38.09	0.034	-0.0606	0.0214
Gender inclusive leadership	-0.0332	0.0721	-0.46	0.102	-0.0474	-0.0190
Leadership training	0.05073	0.0051	9.95	0.015	-0.0017	0.0003
Participatory leadership	-0.0154	0.0144	-1.07	0.282	-0.0436	0.0127
Level of participation						
Level of cooperation	0.1168	0.0210	5.56	0.041	0.0757	0.1579
Leadership training	-0.00662	0.0042	-1.58	0.231	-0.0743	-0.0580
Participatory leadership	0.0294	0.0039	7.54	0.003	0.0219	0.0370
Gender inclusive leadership	0.0089	0.0211	0.42	0.248	0.1796	0.3126
Mills (Lambda)	2004.558	690.9607	2.90	0.004	650.2994	3350.816
/athrho	-13.3903	-0.4907	27.29	0.000	-0.5872	-0.9427
/lnsigma	-1.9903	0.3381	-5.89	0.000	-2.6530	-1.3275
Rho	-0.4548	0.0393			-0.5879	-0.3851
Wald test of indep. eqns. (rho = 0): $\chi^2(1) = 99.43$, Prob> $\chi^2 = 0.0300$						

Furthermore, the Wald test of independence was used to assess the significance of each explanatory variable in explaining the variation in the response variable. The output revealed $\chi^2(1) = 99.43$, p-value = 0.030 which indicated that within the estimated model, each explanatory variable is independent in terms of their influence on the response variable. The inverse mills ratio (IMR) coefficient of 2004.558 was used to test for selection, since it represents the covariance between the errors between the two step regressions. The IMR coefficient is positive and significant which implies that

selection is important and that the two-step regression would recover the true effect by dealing with the selection.

4.6.1 Determinants of participation

In the estimation of the model coefficients, it is important to indicate that the estimated coefficients do not quantify the influence of the explanatory variables on the probability that the response variable takes on the value one and that the estimated coefficients are parameters of the latent model. From the findings in Table 4.19, it was shown that in relation to the response variable collective marketing participation, gender inclusive leadership (-0.0332, p-value = 0.102) and participatory leadership (-0.0155, p-value = 0.282) were not statistically significant in explaining the decision to participate in collective marketing.

The findings revealed that the level of cooperation has a positive and significant influence on collective marketing. This means that with each unit increase in the level of cooperation, there is a 79 percent increase in collective marketing. These findings are cognizant of the finding by Adam & Pomerol (2001) who indicate that the success of many economic endeavors depends on people's ability to refrain from individually profitable actions for the sake of the common good. This is however pegged on the fact that cooperation, specifically, improves when subjects can communicate at the start of the process and increasing at various levels. In addition, the aspect of having sufficient and appropriate incentives that would enhance the need to have a synergistic approach to marketing is critical based on these findings and the findings of Agrawal (2001) who notes that in the absence of sufficient incentives, collective marketing will fail. To ensure sustainable collective marketing there is need to establish structured trading systems, strengthening farmers and traders' organization for more effective and efficient vertical and horizontal linkages as well as linking the farmer organization and

cooperatives to appropriate credit systems. In this case, Markelova et al. (2009) notes that farmer organizations are a possible institutional solution to overcome high transaction costs and other market failures particularly in developing countries. In addition, farmer organizations can provide important platforms for capacity building, information exchange, and innovation in rural settings (Bingen et al. 2003). However, in addition, the success of collective action depends on the ability of individuals to make credible commitment (Doward et al., 2003).

Furthermore, the findings also indicated that leadership training has a positive and significant influence on the probability of collective marketing, 0.5073, p-value = 0.015. This clearly indicates that with each unit increase in leadership training, there would be 0.507 probability of increased collective marketing. This outcome affirms the findings of Jara-Rojas et al., (2017) who found out that through training programs, one will learn how to be a leader hence improving collective marketing action especially among small scale farmers. Other findings, for instance, Howard (2003), reveal that leaders need leadership training in order to enhance growth of collective marketing strategies while Burr et al. (2007), and Urey et al. (2002) confirm that leadership training, in collective marketing, would ensure success of the process of marketing among small holder farmers. This shows that there is need to step up initiatives towards training of leaders of cooperatives and farmer organizations on leadership skills. This can also be done by in line government ministries and private sector stakeholders.

4.6.2 Determinants of extent of participation

Table 4.19 also revealed the level of participation as a response variable given the influence of level of cooperation, leadership training, gender inclusive leadership and participatory leadership. The findings revealed that leadership training and gender inclusive leadership did not have a significant influence on the probability of level of

participation as an element of participation and extent of participation at, -0.0662 , p -value = 0.231 and 0.0894 , p -value 0.248 .

The findings also indicated that the level of cooperation has a positive influence on the probability of increased level of participation, 0.1168 , p -value = 0.041 . This indicates that with each unit increase in the level of cooperation, there would be 0.116 increased probability of the level of participation. Based on the findings in this study, there would be 2.9% increase in the level of participation, and this means that cooperation improves when subjects can communicate at the beginning. This means that it is based on appropriate and sufficient incentives that would lead to enhanced communication among members which would increase the level of cooperation in the long run.

The findings also showed that participatory leadership has a positive and significant influence on the probability of increased level of participation, 0.0294 , p -value = 0.003 . This means that for each unit increase in participatory leadership, there would be a 0.029 increased probability of the level of participation. These findings show that there is particular focus on the level of cooperation and participatory leadership through inclusivity at various levels in terms of cooperation and decision making. Literature has shown that participatory leadership relies on the principles of self-organization, participation, ownership and nonlinear solutions because they are the keys for both individual and collective discoveries. From the findings, participatory leadership is thus essential in sustaining collective marketing because it aids in bringing together people to act collectively and more specifically, it is associated with high levels of team outcomes (Sagie et. al, 2002), forms the basis for examining more complex leadership styles in teamwork and can induce team members to devise effective work processes (Kahai et al., 2007; Sagie et al., 2002). In addition, Argyris, (2002) asserts that through

participatory leadership team members might challenge each other on task issues and thereby foster the development of constructive interactive practices to get work done.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Overview

This chapter provides the summary of the findings from chapter four, and it also gives the conclusions and recommendations of the study based on the objectives of the study. The general purpose of the study was to determine the effect of governance on participation of smallholder farmers in collective marketing of maize in Uasin Gishu County.

5.1 Summary of the Findings

This study sought to determine the effect of governance on participation and extent of participation of smallholder farmers in collective marketing of maize in Uasin Gishu County. The specific objectives were to establish effect of participatory leadership on participation and extent of participation of smallholder farmers in collective marketing, to evaluate effect of level of cooperation on participation and extent of participation of smallholder farmers in collective marketing, to determine the effect of gender inclusive leadership on participation and extent of participation of smallholder farmers in collective marketing and to determine effect of leadership training on participation and extent of participation of smallholder farmers in collective marketing

Based on study findings, members of farmer organizations are involved in decision making be it in marketing or airing their own opinion. This that revealed that the art of participatory leadership is key in sustaining collective marketing since it brings people together and in so doing, they act collectively can be associated with high levels of team outcomes. Member participation in decision making fosters the development of constructive interactive practices to get work done.

Additionally, higher level of cooperation has been evidenced by the members of the farmer organizations. Precisely, 96 per cent of the members attended the meetings on a regular basis an evidence of farmers' level of loyalty to the farmer organizations. The success of many economic endeavors depends on people's ability to refrain from individually profitable actions and without cooperation, collective marketing will not be successful.

Further, gender inclusive leadership though not significant can be associated with participation of smallholder farmers in collective marketing. Both men and women have different approaches to leadership in collective marketing engaged by small holder farmers and small holder farmers 'organizations are realizing the importance of developing long-term as well as short term solutions to gender and leadership issues in order to adequately address human resource concerns. Women who are typically more socially sensitive are better at reading other people's thoughts compared to men, as a result, they are more active in increasing participation of farmers in collective marketing however the role of women in collective marketing is highly undermined.

To sum up, leadership training enhances the participation of smallholder farmers in collective marketing. This is possible since management training prepares leaders for more challenging responsibilities thus enhancing collective marketing among smallholder farmers. Leaders need training in order to enhance growth of collective marketing strategies, because marketing needs highly talented and skilled leaders. Marketing leadership development program has the additional benefit of developing people skills ensures effective collective marketing among the smallholder farmers.

5.2 Conclusion

There is overwhelming evidence from the study indicating that participatory leadership significantly improves collective marketing. In fact, participative leadership style induces team members to devise effective work processes by ensuring that there is inclusion as well as augmentation of the collective potential of the group. This means that whenever members of farmer organizations have the knowledge and courage to effectively engage in the group, there is increased collective marketing together with creation of enduring solutions.

Further, the results on the level of members' cooperation in collective marketing revealed that farmers' organizations are responsive to needs of members especially those in the financial and marketing domain. In turn, members have reciprocated by regular attendance of meetings on a regular basis. As such, fines and sanctions are non-existent due to high levels of commitment among the members.

Additionally, gender inclusive leadership is key in enhancing participation of smallholder farmers in collective marketing. Gender inclusive leadership makes it possible for both men and women leaders to effectively address issues pertaining collective marketing. More importantly, women are in most cases more consultative and inclusive in their leadership approach. Therefore, they are more likely to increasing the participation of farmers in collective marketing.

Finally, leadership training provides leaders with stronger marketing skills which ensures quality and effective collective marketing. Through training, members improve both their marketing and leadership skills. Specifically, they are exposed to latest tools and techniques that are essential in the development of appropriate marketing strategies. In that way, participation of smallholder farmers in collective marketing is enhanced.

5.3 Recommendations

Based on the study findings, participatory leadership is instrumental in enhancing collective marketing. It is therefore prudent for members of farmer organizations to have knowledge and to fully participate in marketing activities. Particularly, leaders need to work with members in order to realize the collective potential of the group. As well, it is important for them to be skillful facilitators of conversations to enhance creation of enduring solutions.

The study has also exhibited high levels of cooperation among members regarding collective marketing. As a result, in situations where there are low levels of cooperation, it would be prudent to introduce sanctions and fines. There is also need for democratic-decision-making on one hand that empowers members to govern their cooperative as well as take disciplinary action against 'non-loyal' behavior. In so doing, collective marketing will be enhanced. An in-depth analysis of the maize markets available for smallholders as well as the overall analysis of the value chain for maize can reveal whether there are incentives in place for smallholders to organize around marketing of maize.

Additionally, despite gender inclusive leadership's lack of significance, it's prudent for farmer organizations to have a more gender inclusive leadership since women leaders are more consultative and inclusive in their leadership. Besides, gender inclusive leadership is needed since it encourages women to maintain transformational leadership when faced with conflicting pressures from labor movement. There is thus increased accountability which in turn increases participation of farmers in collective marketing.

There is need for collective marketing, management and organizational development training programs to align skills with the marketing strategies to improve the process

of marketing among small holder farmers. In order to improve the collective marketing action among small holder farmers, training is crucial in record keeping, market information systems, business development, financial management, post-harvest management and marketing.

To enhance participation in collective marketing there should be concerted effort between Government, marketing associations and development organizations to establish structured trading systems for maize by promoting relevant systems like Warehouse Receipting System and Commodity Exchange and strengthening farmer organizations for more effective and efficient vertical and horizontal linkages as well as linking to appropriate credit services. Further development of marketing and warehousing infrastructure for maize at grassroot and terminal market levels should augment efforts towards ensuring FOs intensively participate in markets and have a higher holding back power.

5.4 Further Research Recommendations

The study confined itself to members drawn from 21 FOs in Uasin Gishu County that participate in collective marketing of maize. This research therefore should be replicated in a larger scope in order to augment the findings of the study. It is further suggested that further research be done on the challenges facing participation of smallholder farmers in collective marketing of maize. It is also recommended that, as roadmap to development of collective marketing in Kenya, further studies can be done in different industry segments.

This work should feed into development of policies that advocate for support on collective action for smallholder farmers. There is need for greater recognition of the importance of linking with stakeholders and private sector as they are a potential source

of services, information, technical support and diverse market outlets. Further research on sources and causes of conflict in FOs to enable identification of interventions and strategies to address them.

Development organizations, national and county governments should encourage collective marketing through producer groups to enable smallholders to take advantage of new viable value chains and deal with existing market imperfections. However, certain conditions must be in place to create and sustain incentives for farmers to organize around marketing. Experiences have shown that the types of markets and products, characteristics of user groups, institutional arrangements, and external environment need to be considered in order to determine the effectiveness and sustainability of collective marketing for smallholders.

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APPENDICES

Appendix I: Questionnaire

My name is Rosemary Babu, a student of Moi University. I am doing a research on *Governance and Participation of Smallholder Farmers in Collective Marketing of Maize in Uasin Gishu County, Kenya*. I am collecting data to help in writing the final research report. I kindly request you to respond to the questionnaire so as to get information to help I achieve my study objective. All the information supplied will be treated confidentially and will be used to improve agricultural productivity in Uasin Gishu County and the economic welfare of the people.

Thank you in advance

Date: -----

Sub-county: -----

A: Household Characteristics

1. Gender of household head (*circle appropriate*) Male [1] Female [2]
2. Age in years.....
3. How many years of education have you attained?
4. Total number of permanent household members (*members stayed for 3 or more months continuously*)
5. Where do you get household income? Rank your income sources in order of importance

1= livestock, 2= field crops, 3= vegetables, 4= beer brewing, 5= trade craft, 6= casual labor, 7=formal employment, 8=other (SPECIFY)

Rank	Income source
1	
2	
3	
4	
5	
6	

B: FOs characteristics

6. When did you join the FO (*year and month*)? _____
7. Why did you join that FO? _____
8. What are the FO's activities? _____
9. How long has your FO been in operation? _____
10. How many members does FO have? _____
11. How many men are there in your FO? _____
12. How many women are there in your FO? _____

C: Collective Marketing

13. Do you participate in FO marketing? 1 = Yes 2 = No
14. For how long have you been selling maize through the FO (years)? _____
15. Who usually buys your maize (*list all buyers*)? _____
16. Did the organization sign any contract with the buyers above?
- a. If yes, how many contracts did the organization sign
- b. Of the total contracts signed, how many were executed successfully?
17. In the past three years, what is the total quantity of maize in 90 kg bags that you have sold to different markets through the FO (*complete table below*)?

Collective marketing of maize		
2012/13 sales	2013/14 sales	2014/15 sales

18. In the past three years, what is the total quantity of maize in 90 kg bags that the organization has sold to different markets (*complete table below*)?

Collective marketing of maize		
2012/13 sales	2013/14 sales	2014/15 sales

19. How do you transport your maize to the market? 0 = Individually 1= Coordinated transport

20. If coordinating with other farmers, how often did you do that in the past 3 years?

0 = Non-regular 1 = Regular

21. Would you rate your road access to the market to be poor or good? 0 = Poor 1 = Good

22. How much time do you take to get the maize to the market?

23. Do you usually know about your maize prices before going to the market? 1=Yes

0=No

a. If yes, where do you get information about prices (*list all market information sources*)? _____

24. On average, how many of your registered members market their commodities through the organization?

D: Gender Inclusive Leadership

25. How many men are there in your FO committee? _____

26. *How many women are there in your FO committee? _____

E: Participatory leadership

27. Are you involved in the FO's management activities? 1 = Yes 2 = No

a. If yes how often?

1. Very often 2. Often 3. Less often

28. How often are you involved in the making marketing decisions?

0= Never /few times 1 = Usually / Always

29. Are you provided with all the information that you need? 1 = Yes 2 = No

a. If yes what kind of information are provided with _____

30. Does the management allow you to give your own opinions? 1 = Yes 2 = No

E: Leadership Training

31. Are you a committee member? 1 = Yes 2 = No

a. *If yes, what percentage of committee members have attended any leadership training?

b. What were the training topics _____?

32. Have you applied skills you were taught in managing the group? 1 = Yes 2 = No

F: Level of cooperation

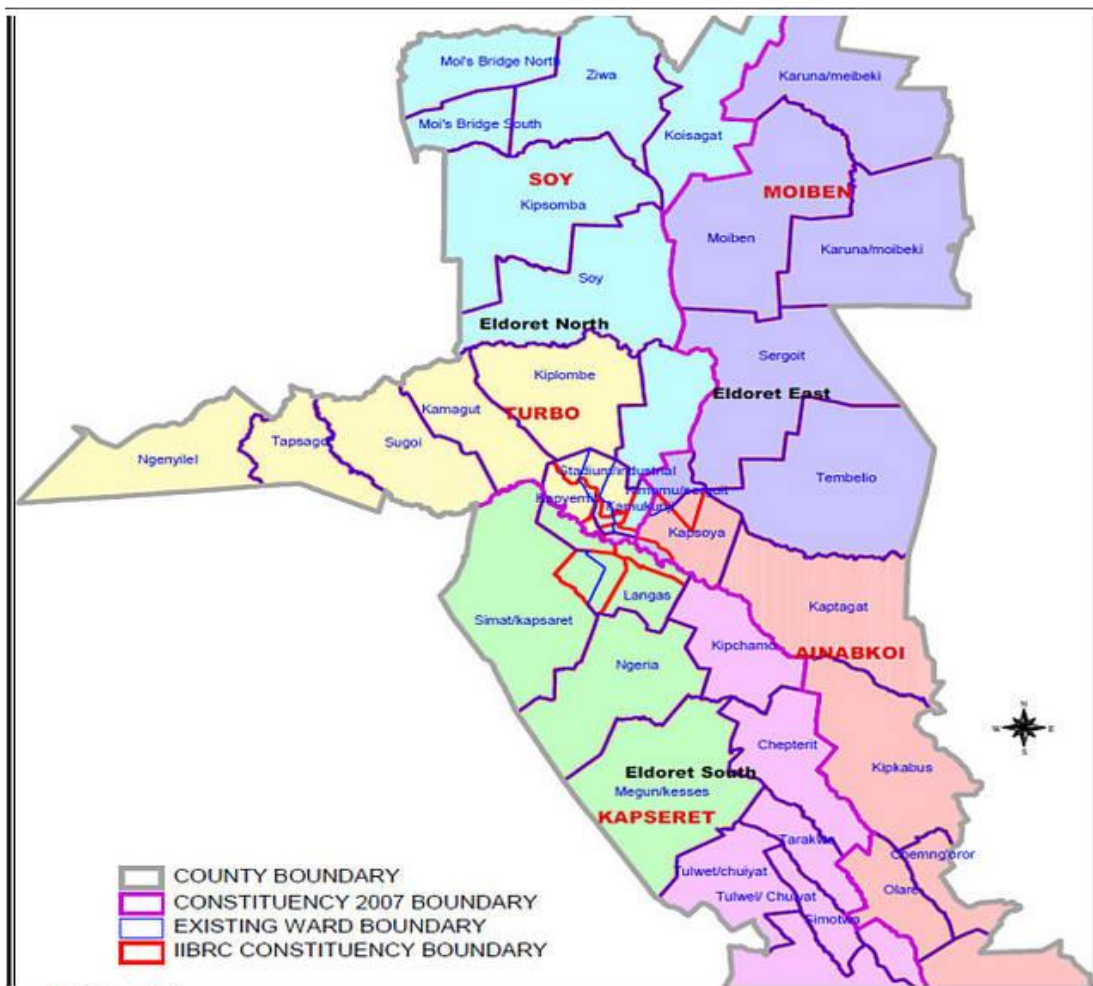
33. Does the organization respond to your needs? 1 = Yes 2 = No

a. If yes what kind of the needs _____

34. *Are you involved in organization's meetings, contributions and activities when needed?

1 = Yes 2 = No

Appendix Ii: Map of Uasin Gishu County



Source: Google Map, 2015