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**The Decision making patterns between men and women in  
Sugarcane and other food crops  
A case of Madibo Sub location, Western Kenya**

**Research Project Submitted to  
Van Hall Larenstein University of Applied Sciences  
In Partial fulfilment of the requirement for  
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*Dedication*

*To my wife Lucy and son Sammy;  
Thanks for your moral support and encouragement. You enabled me make a step in my  
life and career.  
May God's blessing forever dwell upon you*

## *Acknowledgement*

*I would like to thank the Netherlands Fellowship Programme (Nuffic) for offering me the financial support for my master study and subsequently this work.*

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*Sigrid Weevers, a great lady, your support made me feel at home away from home. Finally thanks to the entire staff of Van Hall Larenstein University for your support throughout my stay in the Netherlands.*

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## **Abbreviations**

SACDEP	Sustainable Agriculture Community Development Programme
MSC	Mumias Sugar Company
GoK	Government of Kenya
EPA	Economic Partnership Agreements
GMO	Genetically Modified Organisms
NGO	Non Governmental Organization
PELUM	Participatory Ecological Land Use Management

## **Abstract**

Decision making in agriculture is crucial in achieving food security. Many studies have shown that men are more associated with cash crops or rather crops destined for the market, while women normally concentrate on crops meant for household consumption and nutrition. Therefore, for organizations and departments working in the area of food security, increasing women's decision making within the households is most likely to contribute to food and nutritional security of the families.

This study was undertaken in Madibo sub-location to establish how sugarcane farming is influencing decision making between men and women within the households, and potential implications of this influence to food security of this area. The findings of this study were to form the basis of recommendations on how this situation can be improved through enhanced involvement of women in decision making.

Thirty respondents (15 men and 15 women) were randomly selected from this sub location and interviewed. Semi-structured interview was used to collect data on who mostly decides on the respective activities along the production chain of six major crops grown in the area: cowpeas, potatoes, bananas, maize, beans and sugarcane. The production chain elements included the following: who decides the acreage and location on the farm and why, who weeds the farm and why, who buys the seeds and why, who decides the quantity for sale and why, and who decides the use of money and why.

This study found out that women make most of the decisions in cowpeas and potatoes, including decisions on acreages. For bananas maize and beans, their decisions get limited. It is either men who decide or an agreement is reached. However in sugarcane, which is the largest farm investment, almost all the decisions are made by men especially decisions on adoption of sugarcane, acreage and location. Most women however weed the sugarcane farms with their husbands. The money, though given exclusively to husbands by the company, there exist a few households where the husband and the wife agree on the use of the money. This also happens for beans and maize. For sugarcane however, increased number of women in weeding was established to be a strategy for accessing their husband's income from the same enterprise.

Factors that were found to be contributing to these kinds of decision making patterns are gender division of labor, ownership and control of economic resources, organizational gaps in sugarcane farming by the Sugar Company and weaknesses in the state policy. These factors strengthen the bargaining power of men by giving them a stronger fallback position. This study therefore concluded that introduction of sugarcane farming as a cash crop has contributed to weaker positions of women in decision making at the households.

Recommendations to improve this situation included strengthening the production and marketing of products where women make most of the decisions, initiating trainings that improve women's optimal acquisition to information, developing learning networks amongst the women-men and women-women farmer groups and finally, initiating organizational alliances for effective advocacy for policy change. These options may increase the level of decision making of women and most likely, may also lead to improvements in food security levels of households.

# **CHAPTER ONE**

## **BACKGROUND**

### **1.1 Introduction**

This report presents the findings of the research study that was carried out in Madibo Sub-location, Western Kenya from July to September 2010. It was undertaken as part of the requirement for the fulfilment of master study in Management of Development with specialization in Social Inclusion, Gender and Rural Livelihoods, offered by Van Hall Larenstein University of the Netherlands. It came after nine months of the taught course of the same specialization. Besides being a requirement for the master study, this research was also expected to generate information for Sustainable Agriculture Community Development Programme in Kenya (SACDEP Kenya), for improving its programmes through strengthening the decision making levels of women in agricultural programmes and subsequently improve the food security status of the households

The report is divided into six chapters as follows;

Chapter one introduces the report and gives an outline on how the whole document is organized. More importantly, this chapter also highlights how this study was designed in terms of the study problem, objective and research questions that were to be answered. The chapter also states the relevance of this study to SACDEP's work. After highlighting how the concepts used in this study are related to each other, the chapter concludes by presenting a process that was undertaken in conducting this research.

Chapter two is exclusively a presentation of other related literature or studies that were reviewed for the purpose of getting a broader understanding of the subject under study. It focuses on decision making between men and women in the perspective of cropping or farming systems. Different theories that hold different perspectives on decision making are also discussed.

Chapter three focuses on methodological approaches that were used in conducting this study. It discusses four major elements; the study design, respondents, sampling procedure and data collection methods. It ends by explaining how the data collected was analysed.

Chapter four presents the results of the study. These results are mainly presented in text, charts, and tables with brief comments on these presentations.

Chapter five discusses results presented in chapter four. It tries to explain why the results are the way they are and how different variables are co-related. Potential implications to women's decision making is emphasized. This discussion is also compared to the findings of other studies discussed in chapter two(Literature review).

The report concludes with chapter six. This chapter mainly presents two elements. First, the conclusions of this study, and secondly, the recommendations for SACDEP.

### **1.2 Institutional background**

Sustainable Agriculture Community development programme in Kenya (SACDEP Kenya) has over the last 14 years been promoting rural development through promotion of sustainable agriculture practices. The organization's target groups are the resource limited and marginalized members of the society (rural unemployed youth, children, women, older people and the handicapped). One of the principles of sustainable agriculture is that the agricultural technologies promoted to farmers should be socially and culturally inclusive, so

that they don't benefit one particular social group and disadvantage another one (Reijntjes, C., Haverikort, B. and Waters-Bayer, A.,1992, p.3).

Fourteen years of SACDEP's experience in sustainable agriculture training show that women are the most active participants in rural agricultural activities and hence need greater opportunities in decision making and also agricultural technologies that are appropriate for them. For example in the Water, Livestock and Gardens(WLG) project that SACDEP has been implementing for the last four years(2006-2009), there were 1,132 women who registered to undertake this project as compared to men who were 392(WLG 4 Annual report 2008). This translates to 74% to 26% women to men respectively. Whichever the context, agricultural technologies need to be scaled depending on the interests of all. Small scale technologies in rural Kenya for example can be more appropriate because they can be managed by the women themselves and have low investment costs. This is also the principle of economic feasibility in Sustainable Agriculture.

Part of the challenges that the Organization has experienced is the wide-scale promotion of cash cropping by private companies and subsequent support of this "modernization" of agriculture by the government (Vision 2030, Government of Kenya (GoK), 2008., p. 51). As such, the organization has actively engaged in lobbying and advocacy for policy change. It advocates for promotion of agricultural technologies that are geared towards increasing food crop production for small scale farmers, and which can enhance the food security of the families. Some of the recent policy areas that the organization has engaged itself in include the following; lobbying against Economic Partnership Agreements (EPA) and advocating for legislation against introduction and domestication of Genetically Modified Organisms (GMOs) in Kenya.

It is against this background that this study is geared to contribute to. As highlighted in section 1.4, cash cropping seems to be gaining momentum. The key questions that need to be raised for example include; do these commercial crops benefit both men and women in an equal way and what are their implications in terms of food security for families? If these questions are not addressed in a critical way, the development and particularly food security status of rural communities in Kenya still remains either hanging in the balance or bound to create more inequalities at the individual, household, and community levels.

### 1.3 Terms and definitions

**Commercial sugarcane farming.** In the context of this study, commercial sugarcane farming will refer to the sugarcane grown by the farmer under the contractual terms with the Mumias Sugar Company(MSC). As such, this sugarcane is supposed to be sold to MSC.

**Farming Household.** In this study, a farming household will refer to a family which comprises of a woman, her husband and children and either the man or woman or both are in contractual terms with MSC and they have the same farm which they own or farm.

**Food security.**, This is a situation where all people have access to sufficient, safe nutritious food to maintain a healthy and active life (World Health Organization, 2010). However as mentioned in section 1.5, this study doesn't investigate food security elements but rather, on the basis of other studies discussed in sections 1.4 and 2.4, increased levels of decision making by women may enhance food security for families. This study focuses on decision making.

**Decision making.** This will refer to a choice opted for by either a man or a woman among other options within the activities in sugarcane farming, other crop enterprises and use of incomes earned from them.

#### 1.4 Relevance of the study

Kenya has developed a mega development blue print called the vision 2030, which aims to transform Kenya into a prosperous and competitive global economy by the year 2030. One of the strategic targets under the economic pillar is agricultural transformation, and it states that the vision for the agricultural sector is to be “*innovative, commercially-oriented and modern farm and livestock sector*” (Vision 2030, GoK, 2008. p. 51). To this regard, Mumias Sugar Company (currently in Madibo sub-location) is expanding its area of coverage towards Teso District. There are also plans to introduce a new sugar factory called Busia Sugar Company near the research area. The government is also in the process of introducing commercial sugarcane farming in the Tana Delta, South Eastern Kenya. The biofuel farming focusing on the *Jatropha curcas* has also hit the road into the country. Many companies are introducing it to farmers as a commercial crop, and the government is also supporting this adoption (Muok, B., 2008, p.20).

Some rural development organizations under the umbrella of Participatory Ecological Land Use Management, (PELUM; a network of agricultural NGOs working with rural farmers) of which SACDEP is a member, are however sharply opposed to these moves. They argue that cash crops have no guaranteed markets, and even where these markets are well established, farmers are exploited because in most cases, they do not have or have limited market bargaining power. Furthermore, farmers commit their farms to cash cropping and divert most of their labour to these crops at the expense of food crops. This trend becomes a threat to food and nutritional security of the families.

Indeed, studies show worrying trends. Farmers for example in Matungu Division Western Kenya, devoted at least 56% of their total land area under sugarcane (Waswa, F., Mcharo, M. and Netondo, G., 2009, p.1409), but farm Income levels have continued to reduce from Kshs 145,379 (USD 1,817) in the year 2000, to only Kshs 87,758 (USD 1,097) in the year 2007 (Jaetzold, R., Schmidt, H., Hornetz, B. and Shisanya, C., 2005, p.98). Today, Nyanza and western provinces, known for sugarcane growing are among the poorest regions in Kenya (Society for International Development (SID), cited in Waswa et al., 2009., p.1407). Reports also indicate that food prices have remained over 100% high. 35% of children younger than five in the country are malnourished up from 18% in the 1990s, and food deficit is increasing at 3% on average per year (Thompson Reuters Foundation 2010)

#### *Can increasing women's levels in decision making contribute to food security?*

As highlighted in section 1.2 above, SACDEP's role is to improve the food situation of the rural farmers. Several studies show that women play a major role as farmers and mothers in ensuring that their families have adequate food and better nutrition. According to Peters, P., (1992, p.1077 & 1079) although the incomes of female headed households in Kenya and Malawi were low to male headed households by 13% and 11% respectively, the nutritional status of these female headed households were better than the male headed households. Guyer and Eagle (1980 & 1988 respectively cited in Peters, P., 1992, p.1079) also show similar findings in their studies. In Nepal, when women were supported to engage in an irrigation projects for the vegetables, they were found to be extensively contributing to the vegetable farming (Upadhyay, B., 2004, p.315). Women in Ghana are more heavily involved in cash crop production and sale of all the major food crops while men focus on cash crops (Doss, R. C., 2002, p.1999).

These studies imply that one of the ways to improve food security is to enhance the decision making power of women within the households. As such, this study is expected to help SACDEP become more effective in the following two ways;

First, it will generate information that will help SACDEP redesign its approaches in promoting agricultural technologies. These approaches will put into consideration the current factors that determine men and women's power in influencing decisions within the farming systems. This move may lead to more appropriate ways of strengthening women's ability in decision making and hence improving the food security status as highlighted above.

Second, it will inform SACDEP through concrete data about the influence of the sugarcane farming to decision making in the households. This will be an important basis of lobbying for better policies, so that women are also more involved in the decision making within the sugarcane production chain for example by influencing the organization of the sugarcane farming. This is most likely to contribute to improved food security. For example, if women will have more decisions on the utilization of incomes, they may allocate more to household food production, or divert much of their labour towards food crop production rather than sugarcane production.

## **1.5 Research issue**

### **Research problem**

SACDEP lacks sufficient information on how commercial sugarcane farming influences decision making between men and women in the farming households, and therefore, it's unable to develop appropriate programmes and lobby for better policies that would otherwise enhance women's levels in decision making and thus contributing to improved food security.

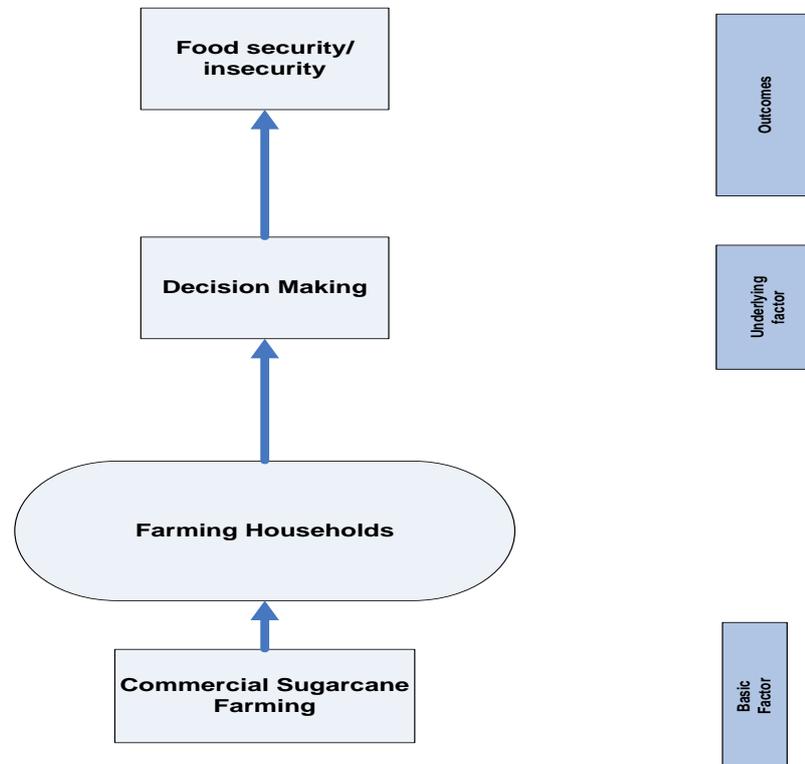
### **The Research Objective**

The objective of this research is to generate information on how commercial sugarcane farming is influencing decision making between men and women in Madibo sub-location, Western Kenya.

### **Main and Sub questions**

1. In what ways does the sugarcane farming influence decision making in the agricultural households?
  - 1.1. What are the differences in decision making between men and women in sugarcane and other non commercial crop enterprises and the consequences of these differences?
  - 1.2. What factors determine whether a man or a woman will make decision at the household?
  - 1.3. What would be the preferences of men and women in the allocation of resources to sugarcane and food crops?
2. How is sugarcane farming organized?
  - 2.1. What are the roles of the MSC and the farmer within the sugarcane farming?
  - 2.2. In which ways does the organization of sugarcane farming influence the balance between men and women in decision making and what are the possible consequences of this balance or imbalance?

Figure 1.1 The Conceptual framework



Source: Own 2010

Figure 1.1 shows how terms used in this study are related. When commercial sugarcane farming is introduced to the farming households, they change the decision making patterns. These changes in decision making are most likely to affect the food security of the household on the basis of other studies as discussed in section 1.4. It is also important to note that this study doesn't focus more on how commercial sugarcane farming influences food security but rather how it influences decision making between men and women within a household.

### 1.6 Research area

Madibo sub location is one of the sugarcane growing areas of Kenya. It is located in Western province, the region known for Sugarcane production in Kenya(see appendix 3). Sugar cane farming was introduced in this area in the year 2000 by Mumias Sugar Company (MSC). The area is typically rural with poorly developed infrastructure. All the inhabitants of the area are small scale farmers with average acreages of 2 hectares per household. Since the year 2000, the main cash crop of the area has been sugarcane, while the major food crops are maize, beans, cassava, bananas, kales, cowpeas and cassava. The sub location has three villages Khayo, Mwenge and Madibo. The religion of the area is exclusively Christian.

## 1.7 Research framework

This study was undertaken in four steps, a-d as shown in the figure below,

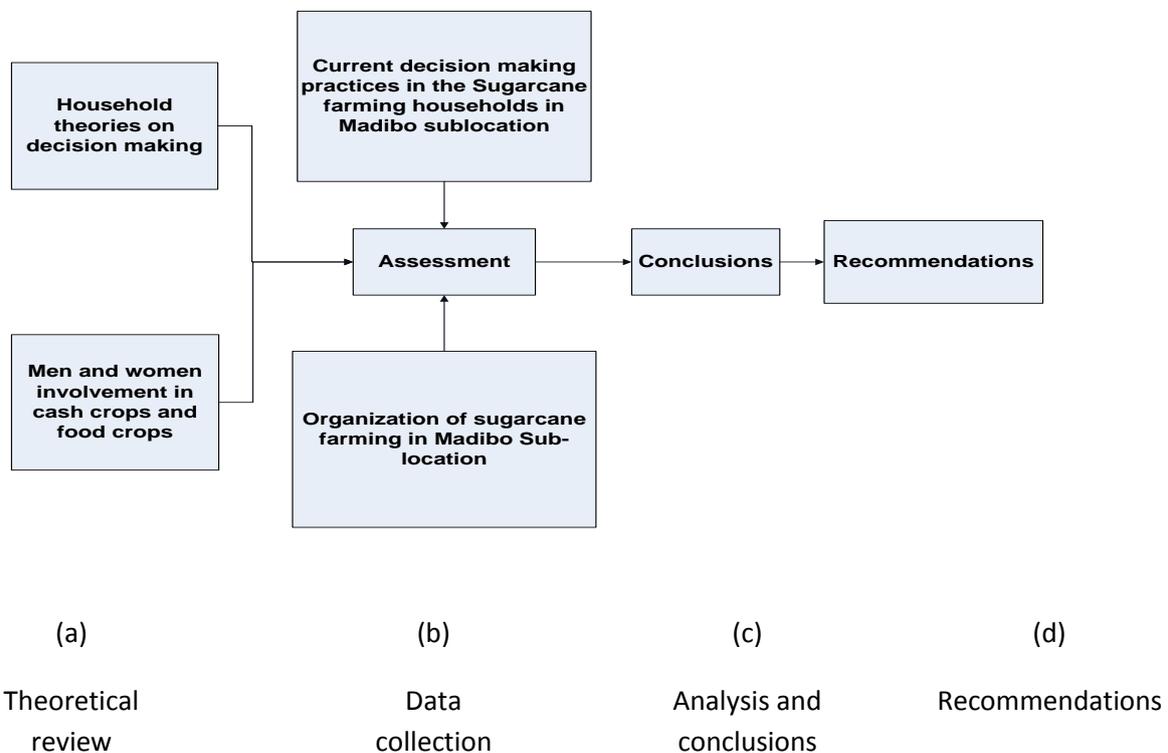


Figure 1.2 The Research framework

Source: Own research 2010

First, literature on household decision making theories was reviewed to find out the potential factors that are most likely to influence decisions between men and women in the household. Similarly, differences in involvement of men and women in both cash crops and food crops were also reviewed. A detailed presentation of this review is presented in chapter two.

Secondly, the data collection instrument was developed and the data collected. This data focused on how men and women make decisions within the sugarcane farming and how this is different in other crop enterprises. Data on how the sugarcane farming is organized was also collected. The results of this step formed chapters four and Five.

Analysis of this data was then carried out as described in section 3.6, after which the conclusions and recommendations were arrived at (Chapter six).

After having looked at the introductory part of this study, the chapter that follows is a theoretical exploration of decision making (step a).

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

Women's role in agriculture has widely been recognised not only in sub-Saharan Africa, but worldwide. Their two fold contribution through reproductive and productive roles contributes to the well being of families and overall economic development. Women provide labour to the farms and are mostly responsible for making sure that their children are well fed. This understanding has made many development practitioners and researchers consider gender dimensions in programmes. Over the last few years, new considerations have emerged from research. It has become clear that many activities, programmes and policies are gendered, including households where key decisions about the family's welfare take place. Theories and literature have been generated to demystify the complexity of the decision making phenomena particularly at the household level.

This chapter highlights some of the theories and other studies that have been undertaken in this subject of household decision making. This is followed by review of how cash cropping has been seen to impact on decision making. A brief conclusion highlighting the key findings of the review finalizes this chapter.

#### **2.2 Theoretical perspectives of decision making**

Various theories on household decision making exist. These theories explain possible ways by which decision making within the households take place. It is important to revisit these theories so that we can fully be informed at what has been discussed, and also see the stake that these studies may have for the purpose of this study. Although there may be others, this study has particularly focused at four theories; the unitary theory, cultural theory, resource theory and the bargaining theory of household decision making.

##### **The Unitary theory**

This theory looks at a household as a single unit of which the decisions reached represent a unified decision between the wife and the husband. In this case, the household behaves as if it were one or unitary agent (, Becker, 1981, cited by Basu, K., 2006, p.559; Rosenzweig, 1990, cited by Kiriti, W.T., et al, 2003, p.104). It overlooks the fact that men and women within the household have different needs and interests and therefore there is no contestation in relation to meeting the respective needs and resource requirements.

This theory however has been criticized for its assumptions. For example, the theory leaves decisions about allocation of resources within the households un-analysed (Becker 1981, cited in Francis, E., 1998, p.74), secondly, it assumes that prices of products can differ for various household members, but the household resources can be pooled, (Alderman, 1995, cited by Johnson III, L., 2003, p.6). Thirdly, it assumes that conflicts do not exist amongst the household members (Johnson III, L., 2003, p.6).

Well, on the basis that a family could live together and hold for many years, the unitary model seems to assert some truth because it means that some agreements are reached. Otherwise a household would disintegrate. This can be equated to the theories of group dynamics where after the norming stage, there comes the performing stage where all the members of the group seem to be in agreement and also seem to have understood each other. Decisions at this level therefore get agreed upon. Observing the behaviour of households however especially in Africa, clear differences in roles between men and women are observed. Women are mostly known for home keeping activities, while men mostly engage in the activities outside the home. What this means is that, because men and

women engage in different activities, they need different resources which must be allocated within the home. For example, if a woman is mostly engaged in cooking, then resources like land, crops and labour are crucial to her than a man. The question then comes, how are these resources decided and agreed upon? These are critical issues that this theory doesn't address. This calls for need to explore other theories. Cultural and resource theories are discussed below.

#### Cultural and resource theories

Under cultural theory, the decisions within the household have nothing to do with other factors apart from culture where the power to make decisions is influenced by cultural norms of the society. This may include aspects like sex, age, and gender division of labour or the number and sex of children one may have, marital status and so forth. In short, the decision making power is influenced by cultural factors as defined by his/her society. For example in Nyeri Kenya, decision making power of women within the agricultural households is influenced by culture and not the resource or bargaining models as we will see them later (Kiriti, T.W. et al, 2003, p.103)

On the other hand, the resource theory asserts that the decision making power is directly related with the resources that an individual possesses and controls within a partnership. Other studies argue that spouse familial behaviour is greatly influenced and regulated by their relative resources (Blood and Wolfe 1960, cited by Kiriti, T.W. et al, 2003, p.105). This theory has also been supported by various studies. Carlsson et al, 2009, p. 19 in their study on household decision making contradicts Kiriti's findings. They support the resource theory by concluding that women who contribute relatively higher incomes or have communist party membership or rather have more education, have stronger influence on joint decision making. According to other studies also, there are systematic differences in the way that certain assets held by husbands versus wives influence household decision outcomes (Johnson III, L., 2003, p.10). All these therefore support that decision making power within a household is all about resource ownership. The person with higher resources, the more that person will influence the other in decision making.

These two theories however lack one aspect. They do not provide us with a situation by which the two factors(resources and culture) can interact and influence decisions at the same time. For example resources can be distributed to either men and women based on the cultural definitions. Similarly, differences in ownership of resources can propagate a culture by which one individual influences decisions. The point here is clear. It may not be logical to look at one single factor separately and declare that it influences decisions. Culture and resources as factors must be discussed interactively.

#### The bargaining theory

The other theory that has been studied is the bargaining theory. This one recognizes that gender symmetries or asymmetries are constructed and contested depending on a number of factors like income, acquisition to land and support of other social and legal structures (Doss, R.C., 2001, p.2084-2085, Agwaral, B., 1997, p.8). While criticizing the previous theories, Agwaral, B., (1997, p.7), holds the same opinion by arguing that the bargaining power is influenced by many factors i.e. ownership of economic assets, communal/external support systems, social norms and institutions or contributions and needs. To Agwaral, the interactions of these factors are complex and they have been ignored in many studies (p.35). This theory recognizes that households are made up of members particularly men and women with diverse interests and are in continuous conflicts over allocation of resources. The decisions therefore are always in contestation. The final outcome (decision) that is

made depends on who had the power to influence that particular decision. (Johnson III, L., 2003, p.8-9)

These studies suggest that there are factors which if they favour one person, she/he will most probably be the main agent of decision making within a household.

The bargaining theory has been applauded for various reasons. First, it provides a useful framework for analyzing gender relations and throwing some light on how gender asymmetries are constructed and contested. Secondly, it gives adequate attention to critical aspects of intra-household gender dynamics such as the factors that affect the bargaining power of an individual, (Agarwal, B., 1997, p.1). Lastly, they offer an opportunity for us to also think not only about the factors, but also about the conditions that influence these factors both at the household, community and state level.

As highlighted above, one element that features in bargaining theory is the fall back position. This is the position into which an individual is most likely to find him/herself in, in case the bargain fails to work out. People who have weaker fall back position will tend to give in and leave the other person make the decision because they may find themselves in a worse position than the current one. This means that factors that affect an individual's fall back position will also affect his/her bargaining power.

Looking at the bargaining model keenly, it can be termed as both a theory and analytical model. It can be a theory in the sense that, in general terms, it explains how the decision making takes place within the household in the perspective of conflicting interests, normally through bargaining. It is also a model in the sense that it recognizes the complexity of the household decision making dynamics and offers a platform of looking at these factors. For example it takes into consideration the household factors as well as factors outside the household as highlighted above. In this discussion therefore, I use it more like a model rather than a theory. This is because, this study also focuses on factors that influence the decision making patterns.

One good thing that the bargaining model offers is that it may elaborately allow us to explore the factors that are most likely to affect one's fall back position. Therefore in discussing decision making mechanisms within a household, regardless of the subject at hand, the person who decides is actually a reflection of who has the strongest fall back position. Of course, the fact that households are dynamic and operate in a complex environment, there need to be away of looking at how this complexity affects different members within a household.

Agriculture doesn't take place in a vacuum. It takes place in complex socio-economic, cultural and ecological environmental conditions. Therefore understanding how these factors interact and affect decision making within the household is key to effective design of programmes and policies that would raise the decision making levels of women and in turn improve the food security of households.

In summary, under cultural theory, culture defines who makes decisions. Under resource theory, ownership of resources defines who makes decisions. But looking at the bargaining model, it appears to combine that culture and ownership of resources are factors that interact and affect each other and this interaction is facilitated by conditions within and beyond the household. Having looked at these different theoretical views, let us then look at what factors affect the bargaining power in a much more detailed manner.

### 2.3 Factors that influence the bargaining power

Doss, mentions the following as key factors that would promote or inhibit women's bargaining position in agricultural production. First is the gender division of labour. Women, especially in Africa are known to concentrate on the domestic work including cooking for and feeding the family. Men are known for work outside the home which is normally paid labour. This division of labour makes women mostly grow subsistence crops for food like vegetables which are of lower economic weight and more "traditional" while men grow high value cash crops for sale (Doss, R.C., 2001, p. 2077). A similar finding was found in Ghana where men are often viewed as being responsible for producing cash crops, while women are viewed to be responsible for producing subsistence crops for home consumption, as well as cash crops (Doss, R.C., 2002, p.1987).

The implication of this factor is that men get paid in cash crops especially when the markets are effective while women are not paid. This increases the men's power because they end up being in control over the major household economic resources. This means that if a programme improves the production and marketing of subsistence food crops, then this is most likely to increase the incomes for women and hence raising their bargaining power as opposed to cash crops.

The second factor which is linked to the above is ownership and control of economic resources. Kenya like many other developing countries heavily relies on agricultural economy. Land is a major resource in agricultural production and indeed, it is one of the resources that carry the greatest weight (Agwaral B., 1997, p.12). Ownership of land therefore is key in strengthening one's economic base. Regardless of this recognition, women are discriminated when it comes to ownership and control of land. In Kenya, by 1983, 97% of women in Luo land reported that their lands were registered under the names of men who had exclusive rights to allocate or sell it (Palla, 1983 cited by Doss, R.C., 2001, p.2081). The Kenya government had also inequitably distributed land between men and women, while land allocation by villages had been more equitable (Saito, 1994 cited by Doss, R.C., 2001, p.2081 ). In Kenya furthermore, culturally, land is transferred from the father to the son. It is until recently that the land has become a marketable property where women can buy and own land. It is also a cultural expectation that women do not claim land from their parents. The land belongs to their brothers. In fact it will be against the cultural norms of the society especially in western and many other parts of Kenya for a woman to claim her fathers land.

This trend may also form part of the complexity that can progressively increase the bargaining power of men and diminish that of women. If men own and control land the way they would wish to as opposed to women, it then implies that men can invest in the land in any way they wish, while women must get permission or rather directions on what they should invest. For instance, it may be possible for a man to grow any kind of cash crop on that land based on the gender division of labour, while a woman will request to have a place where to plant potatoes for the family food.

The fact highlighted above where the government allows registration of land on the men and not women is an external factor beyond the household that legitimizes men's control of land and reduces the bargaining power of women. This calls for a review of state policy on land tenure system, because even if women were to bargain on the ownership of land, they will not have any legitimacy for their claim.

The third factor that is still linked with the ones above is social norms, which is part of culture. In the cultural theory discussed in section 2.2, a case was seen where education of the women, their economic status, household incomes and employment outside the home

did not have significant influence on the decision making power of the women in Nyeri District, Kenya, but age had. (Kiriti et al, 2003, p.116-117). Perhaps this was because of the cultural norms that give older people much more power to make decisions than young ones. There is an old African saying that goes “you can remove a boy from the village, but you can not remove the village from the boy”. This statement is not meant to claim that people do not change from their social and cultural norms, what it illustrates is that where the norms are deeply entrenched in people, unless they are subjected to a different environment and they are also willing to change from these norms, it can be difficult for them to drop these norms even if they go to school or get wealthy.

This also brings in an aspect of attitudinal attributes where self esteem, confidence and emotional satisfaction can also be determinants of decision making power. Where people do not have the confidence to go over the social norms, they are most likely to stay dominated. (Johnson III, L., 2003, p.9). Perhaps a good example is the view of the African marriage, where when a woman gets married, she must do all that she can to prove to the new family that she is a “a good” wife. And part of the social norm is that she must respect and listen to her husband.

Other factors that have been mentioned to determine the bargaining power of individuals include; Kinship and social networks, legal structures, (Doss, R.C., 2001, p.2085), economic markets i.e. credits, access to employment, income earning means and finally, support from the state and NGOs (Agarwal, B., 1997, p.9)

Having looked at the factors that determine the bargaining power, how then does cash cropping influence these factors in various conditions? The following section reviews this dynamics.

## **2.4 Cash cropping and decision making**

Are there men’s crops and women’s crops? By asking this question, Doss’s study gives us the answer “no”, although he goes a head and says that in Ghana, men are more heavily involved in cash crop production and women are involved in the production and sales of all other major crops (Doss, R.C, 2001, p.1999). This statement may however imply that cash crops are mostly grown by men and vice versa, because if one introduces both crops in Ghana, the result may be gender re-orientation to specific crops, men going for cash crops.

Cash crops come with “modern” production technologies. Research centres are set up, demonstrations are conducted either on station or on-farm and extension services in most cases, is offered to farmers. Linares asserts as follows;

“Where as subsistence crops tend to be multifunctional and polivalent, having many social uses and diverse meanings in their social contexts, cash crops are often unifunctional and univalent. They mean money, pure and simple. They are frequently foreign in origin, politically alien, and ritually neutral. Cash crops also tend to increase the overall sexual division of labour.....they lack domestic association of social relevance within particular kinship contexts and facilitates processes of sexual and social separation”. (Linares, F.O., 1985, p.83)

African women farmers are less likely than men to adopt improved crop varieties and management systems (Doss R. C., 2001, p. 2075) which off course come with cash cropping and intensive systems with technical skills requirements like planting, fertilizer applications and pest control mechanisms. Although Doss does not explore the reasons why this was so, but their might be various reasons for this. First, perhaps women did not have adequate education as men to manage these new varieties. Secondly, perhaps women did not have enough money for the inputs. Three, perhaps women did not have adequate time as men to

work on these new varieties. Doss's study needed to have explored these aspects. From the discussion in section 2.3, the implication of this would be that because it is men who are believed to be major providers for the family, they are mostly likely to be the ones to take control over this and therefore increasing their bargaining power.

In Turkey, when the government introduced the policy led technical change from subsistence within the sugar cooperation, it was not earlier realized that more men will take over the process under the auspices of technical knowledge, which was mainly controlled by men. With the introduction of modern irrigation systems, the men were relieved of most laborious task of the production process. Their work became more capital intensive while the work of women remained more labour intensive. In this case, unpaid intensified labour for women was perpetuated under technological change in cash cropping (Morvaridi, B., 1992, p.570)

Davinson J., (1988) cited by Francis, E., (1998, p.78-79) notes that crop production has continued to be culturally identified with women, while commercial crop production is seen as a family affair often orchestrated by the male household head. In both of her research areas in Kenya, Mutira and Chwele, she found that men's involvement in agricultural labour depends on the scale of commercialization. There were no cases where women were sole producers of cash crops and also none where men were sole producers of cash crops. However it was men who dominated access to the income brought by cashcrops.

There are however different findings which argue that cash crop farming which sometimes come with contract farming initiates struggles within the households with women asserting themselves and demanding the compensation for their labour. Does then the bargaining power of women increase with contract cash crop farming?

In the Dominican Republic, the introduction of contractual tomato growing had mixed outcomes. Although men were signing all the contracts, women were providing substantial amounts of labour, in tasks traditionally defined to be for women. It was found out that women were claiming compensation for their work, given the prevailing patriarchal conditions (Reynolds, T.L., 2002, p.200)

In the tea growing estates in Kericho Kenya, men's need for their wives labour in tea production created interdependencies that gave women some bargaining power.(*van Bullow*, 1992, cited by Francis, E., 1998, p.84), and when women perceived that they are not benefiting from the surplus, they withdrew their labour and retreated into food crop production. What this implies is that, in cash crop production, there may be needs from both sides of men and women. Men need the women's labour, while the women want access to the income earned from the crops. In such a case, there will be a possibility of cooperation with women capitalizing on their labour to increase their bargaining power.

Having looked at the different theories on household decision making and factors behind these theories and implications of cash cropping, the following section gives a brief highlight of the lessons we can draw from these studies. These are highlighted below in form of summary.

## 2.5 Summary

The above discussion has provided information that give key lessons from various places and studies about household decision making. Looking at this information, we get to understand the following;

First, women play an important role in agricultural production within the households be it cash cropping or food cropping systems. These households however are in continuous cooperative conflicts between men and women with each one of them pursuing particular interests. The unitary theories earlier developed therefore are insufficient to analyze decision making dynamics within the households as other studies highlighted.

Secondly, the cultural and resource theories as well are not sufficient because they fail to recognize that decision making processes are complex and dynamic. This leaves us with the bargaining theory which can also serve as a decision making analysis model.

Thirdly, in the bargaining theory, the person with the higher bargaining power will make the decisions. This bargaining power is determined by the person's fall back position. However, the bargaining power is determined by many factors. Some of these factors include economic ownership of resources, cultural factors like gender division of labour and social norms. Institutional factors like state policies also affect the bargaining power. In many studies, we have seen that these factors have favoured men's fall back position and hence strengthening their bargaining powers.

Regardless of these compounded and complex interacting factors that disadvantage women in many parts of the world, we also see women struggling to capitalize on possible opportunities like exchange of their labour for cash to increase their bargaining power. Therefore in the process of developing policies, agricultural programmes and structures, these factors are critical to consider in order to strengthen the bargaining power of women and subsequently their decision making power. This outcome is mostly likely to increase the food and nutritional status of families.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter highlights the overall methodology that this research adopted. In particular it highlights the following. The study design, respondents who were interviewed, the tools that were used to collect data, and how the data was analyzed to arrive at the results.

#### **3.2 Study design**

This research intended to explore the decision making patterns in the sugarcane farming between men and women at the household level. This required an in-depth study, exploration and comparative interpretation of the possible underlying factors that could give indications as to whether balance in decision making between men and women exists in sugarcane farming. With this in mind, this study adopted the case study method, where a sizably small and selective sample of respondents was selected as described in section 3.3. The data generated was also detailed to the extent of believe that the objective of the study is accomplished. (Verschuren, P. and Doorewaard. H., 2005, p. 163)

#### **3.3 Respondents**

This study targeted 30 respondents, all sugarcane farmers within Madibo sub location. The sample of 30 was based on the timeframe that was planned for this study. However, it was also taken to be enough to generate detailed information as highlighted in section 3.2. 15 of the respondents were men and the other 15 were women. This was so to ensure that the data collected represents both the information from men and women in an equal way. All were married(with husband or wife) at the time of data collection and practicing sugarcane farming at their farms. For each of the married couples, if the husband was interviewed, the wife was not interviewed and vice versa. All the respondents had practiced the sugarcane farming for at least four years at the time of this study. This was to enable this study to generate data related to the decisions and use of the incomes from sugarcane which takes approximately eighteen months to harvesting. Ten respondents were selected from each of the three villages of the sub-location (5 men and 5 women).

The entry to the population was through the sub-chief, Madibo sub location. This is the government administrator who heads a sub-location. He assisted in mobilizing meetings with the Village heads to whom i explained my research exercise and its purpose. Three meetings were held where the population lists were developed for sampling.

#### **3.4 Sampling procedure**

Three lists of the population were drawn, a list per village (Khayo, Mwenge and Madibo). The meetings said above were also held separately because meeting together would have made the gathering to be too large and unmanageable. The names on the list included both the name of the wife and the husband. This was counted as one person(household). These names were written on small papers, which were fold and put in the basket. They were then picked randomly one by one while shaking the basket before the next picking. The first ten papers became the respondents for that particular village. These 10 selected households were then subjected to the same procedure of which there was the first 5 and the last 5. Two people were selected and one person given the 5 names and another person given the rest. Two small papers were then written "M" and another one "W" indicating men and women.

The two papers were folded and shaken in a basket. The two people were told to pick them at random. For the person who picked “M”, men were interviewed for those households and vice versa. This random sampling was done to ensure that all the names listed had equal opportunity in the selection to avoid any biases.

### **3.5 Analytical frameworks**

There are various gender analytical tools which can be used to help in analyzing gender issues. This study borrowed from two tools of Harvard analytical framework. First is the Harvard tool one which helps in making an assessment on who does what, for example in agriculture or sugarcane production. In this case it is who decides what and at which level for every crop. Secondly is tool three, which looks at different influencing factors and how they affect men and women differently. March, C., Smyth, I. and Mukhopadhyay, M., 1999, p.33-35

### **3.6 Data collection and analysis**

#### **a) Semi structured interviews**

The data was collected using semi-structured interviews. A guiding questionnaire was developed specifically for this purpose (See appendix 1).

The data that was collected in this study included the following.

- How sugarcane was adopted. Whether it is the husband who decided or the wife or there was an agreement.
- On whose name the land is registered,
- Who makes decisions concerning six major crops; Maize, Beans, Bananas, Cowpeas, Potatoes and Sugarcane. These crops were chosen because they are the major crops grown in the area. These decisions were regarding who decides the following variables for each crop. Acreages, location on the farm, who weeds the farm, who buys the seeds, who decides the quantity for sale, who keeps the money after sale, who decides how the money should be spent, on what expenses is the money used.
- Roles played by the sugarcane company in terms of how it offers its services to the farmers.

#### **b) Observation**

This technique was used besides semi structured interviewing for two reasons. First, was to confirm the information given by the respondent against what could be seen on the farm. Secondly, some respondents and mostly women could not even give an estimate of acreages under some crops. Some could not even guess the approximate size of the total farm size. In such cases, the farm was observed.

This data was summarised on a spreadsheet for analysis (see appendix 4). The number of responses per variable then could be compared. Women and men were also grouped together on the spreadsheet so as to easily identify differences in responses.

Part of the data was also collected from the sugar company. This was majorly done so as to get information on how sugarcane farming is organized. The checklist used for collecting this information was developed and used (See appendix 2)

For presentation of results, individual responses were physically counted from the spread sheet, and percentages computed. These results were then presented in tables and charts in chapter four.

### **3.7 Methodological options, Challenges and limitations.**

There were two other different options that were considered to undertake this research. First, villages that grow sugarcane could have been compared with villages which do not grow sugarcane. The limitation of this method was that it needed more logistical requirements and much more time than the option that was used. The second option was to compare decision making in various areas of the household before and after introduction of sugarcane. The challenge with this method was how to justify that the changes found can actually be attributed to introduction of sugarcane and not other factors attributed to time (10years) for example educational changes, technological changes and even economic changes. The better option therefore was to carry out a spot check on how decision making takes place in a comparative way between sugarcane and other crops.

The challenge that was faced during data collection was the coinciding of this research and the national campaigns for the referendum on the new Kenya constitution. Gender was a key article for the campaigns. For the people who were against the constitution, they had spread rumours that if the new constitution passes, land will be shared between boys and girls and men will be equal to women.

The respondents therefore were reluctant to avail information freely on the decision making patterns because some thought that the government might use this information for the gender issues, a step they thought is a threat to the well being of families. As such some respondents might have given incorrect information.

To deal with this challenge, i had to re-assure the respondents that i have read the new constitution and there was no truth in what they had heard.

Similarly, the fact that i who am a man was interviewing women was also a limitation of the interviewing approach as compared to female interviewing women. However, getting a female interviewee could have demanded that she is technically qualified in interviewing and she understands the subject of gender. Otherwise, the whole study would be compromised by an unskilled person.

After having looked at how this study was carried out, what follows is the chapter that carries the results as they came out of this study.

## CHAPTER FOUR

### RESULTS

#### 4.1 Introduction

This chapter highlights the results of the data collected from the thirty respondents, all farmers from Madibo sub-location. It is arranged by displaying and describing the findings in form of charts and tables. The Harvard gender analytical framework tool one (March, C et al, 1999, p.33-35) is used to analyze who decided what at every level of production of various crops. The section begins by briefly describing the respondents. The results then follow and finally the findings on how the sugarcane farming is organized conclude the chapter.

#### 4.2 Respondent characteristics and adoption of sugarcane

##### a) Age

Table 4.1: The ages range of the respondents

<b>Age(Years)</b>	<b>Men (%) N=15</b>	<b>Women (%) N=15</b>
20-29	7	13
30-39	33	27
40-49	27	7
50-59	13	40
60-69	20	13
<b>Total</b>	<b>100</b>	<b>100</b>

Source: own research 2010

Table 4.1 shows that most of the respondents of this area range between ages 30-59 years old. Within this age range, the needs for the families are at increase for example childcare. It is at this age range that gender division of labour is most likely to exhibit itself as the couples strive to sustain the family. Indeed, the average number of children per family was approximated to be 6.6, with other families having 10 children. This is most likely to be the reason why this is the population that is growing sugarcane.

##### b) Educational levels

Education enables individuals be in a better position to acquire information for example through reading. In the Kenyan case, national television and radio stations transmit their broadcasts in either English or Swahili which are the national languages, although local stations are also coming up. All over the world, employment opportunities are mostly based on formal training. Even travelling especially in cities, need some basic reading and communication skills. This means that people with educational qualifications are most likely to have added advantages in skills and knowledge acquisition from the external world than those without. In the case of the household, this is most likely to increase the bargaining power of the individual with higher level of education. In Agricultural decisions, the person

with education is also most likely to acquire more skills and influence agricultural decisions. This study found out the following as the educational status of the respondents between men and women.

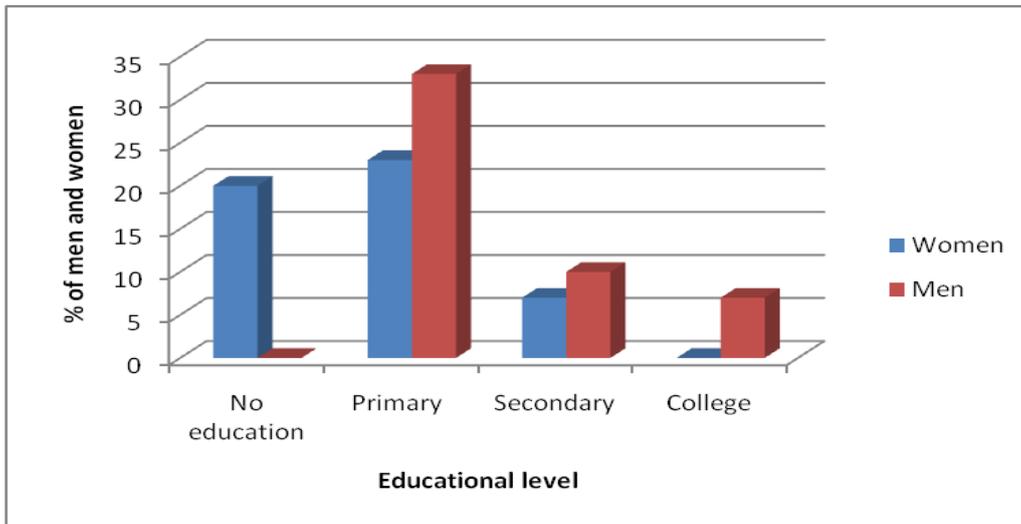


Figure 4.1: The educational levels of the respondents  
Source: Own research 2010.

According to the figure 4.1, in general terms, most of the respondents of this area have low levels of education, having achieved up to primary levels. Another observation that can be made from the figure is that men have comparatively higher levels of education than women. In fact among the 20% of the respondents who have no education at all, all of them are women. This might also be the reason why some women could not even estimate the total farm size and sometimes they could opt to consult the husband to give the answer. This aspect is most likely to give men a first hand in decision making than men as described above.

As a beginning, this study investigated who between men and women first began to interact with the company during the initial stages of introducing sugarcane. Figure 4.2 presents the results.

c) Attendance of initial sugarcane meetings

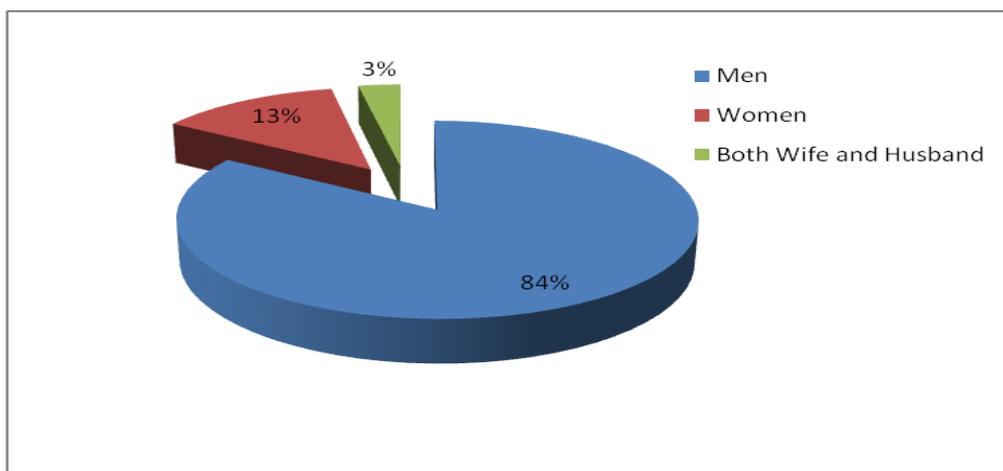


Figure 4.2: Attendance of initial meetings about sugarcane by men and women.  
Source: Own research 2010

The reasons that were given for low attendance of women were classified into three categories. These were, lack of time for women, men are the ones mostly concerned because they are responsible for bigger expenses for the family, and finally it is the traditional role of women. In terms of responses by sex, 10% men and 10% women attributed this to women lacking time. 20% men and 20% women attributed it to be the concern of men and not women, while 20% of men and 20% of women said it is the traditional role of men to carry out such bigger investments. This implies that there is no difference in perception between both men and women as to why few women attended the meeting, with both attributing it to be “men’s” task. This implies there is gender division of labour.

The same reasons were then co-related to age of the respondents. The following table shows the results for this correlation.

Table 4.2: Reasons why women did not attend initial sugarcane meetings by young and older respondents.(Young: Below 50 years, Old: 50 years and above)

Reason	Young respondents in % (N=17)	Older respondents in % (N=13)
Lack of Time	23.5	15.4
Men are the ones concerned	41.2	7.7
Traditional role of men	35.3	76.9
Total	100	100

Source: Own research 2010

As it can be seen from the table, the young respondents had different reasons as to why women did not attend the initial meetings from older respondents, with many older people attributing it to tradition and most young people spreading it to mostly men who are concerned, tradition and lack of time. This means, that age is a factor that is most likely to influence decision making. Older people seem to be more rooted in tradition of gender division of labor than young people.

d) Adoption of sugarcane

It also seemed important to investigate how decisions were made during adoption of sugarcane. The following were the results.

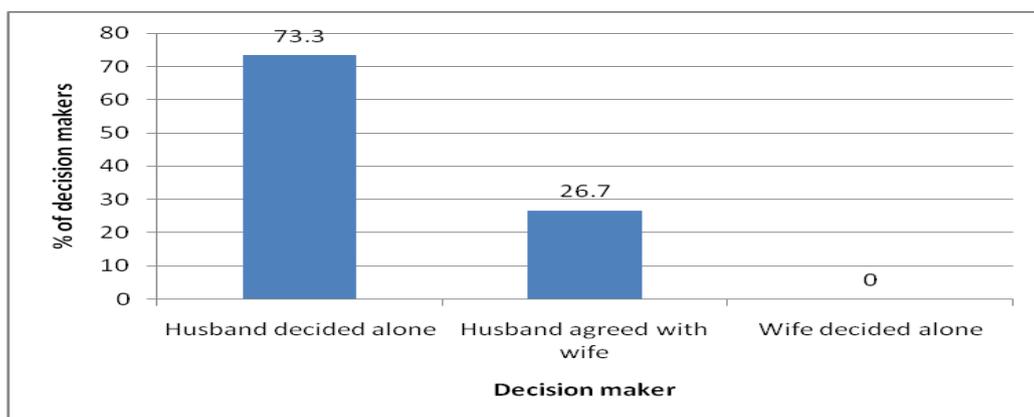


Figure 4.3 Decision on adoption of Sugarcane  
Source: Own research 2010

Figure 4.3 shows that most men solely decided alone to adopt sugarcane without even consulting their wives, but as it can be seen, no woman ever made a decision to do so. The reasons why the men did not consult their wives during the decision were given as follows.

- It is the traditional role of a husband to make such decisions
- He is the head of the family so he is entitled to make such decisions
- The land is for the man
- It is the man who has the title deed

These reasons imply that there are two factors that influenced men domination in adoption of sugarcane. First, the cultural expectation that man makes particular decisions. This can be attributed to the gender division of labor as highlighted above. Secondly, the ownership and registration of land under men gave them legitimate power over women to make these decisions independently. In fact, 100% of the respondents said that the land was registered under men. Implications of this situation are discussed in details in chapter five.

After the adoption of sugarcane, definitely one would expect the sugarcane to take part of the land under crops. A rough estimate on what size of land was displaced to sugarcane is presented in the following table. However, it is also important to note that these figures may not reflect the exact value for reasons given in section 3.7. Furthermore, some acreages may have reduced simply because part of the land was sold and not necessarily sugarcane.

Table 4.3 Reduction in acreage of food crops.

Stable (0-19%)	medium decrease (30-49%)	Great decrease (Over 50%)
Potatoes	Maize	Bananas
	Beans	
	Cowpeas	

Source: Own research 2010

Maize and beans are the major food crops in this study area. Therefore, major reduction of acreages in these two food crops as it can be seen from the table above imply that there is corresponding reduction in food production within the households. The high reduction of acreage under banana however, was as a result of pests that destroyed most part of the crop. The average acreage under sugarcane was 1.65 ha per family with a range of 0.5 to 2.5ha.

The above section has shown how sugarcane was introduced in Madibo sub location, how adoption was decided and the reasons that influenced these decisions between men and women. The following section now gives the patterns on who makes various decisions in different crops; Cowpeas, Potatoes, Bananas, Beans, Maize and Sugarcane.

#### 4.3 Differences in decision making in different crops

The following are the results showing decision making patterns between men and women in six major crops grown in the area; Cowpeas, potatoes, bananas, beans, maize and sugarcane.

These results are displayed in the order of production chain, beginning from who decides the acreage, who decides where the crop will be located in the farm, who mostly weeds the crop, who decides what quantity of food crop can be sold and finally who decides on how the money from the sale of the crop will be used.

a) Decision on acreages and location

Decision making along the production chain determines the overall outcome of that particular production chain. For example, if one has 4 ha of land, he may decide to put 3 ha under sugarcane and only 1 ha under maize depending on whether he is interested in income or food availability. In section 2.4, we saw that men and women have different interests and priorities in farming. In terms of food security therefore, the person who decides on the acreages of particular crops, will influence the food security status of the household.

Location of crops within the farm is also an important factor not only in farm planning, but also in resource management in terms of soil fertility and time of the farm worker. For example if a vegetable garden is placed on one end of the farm and the household on the other end, it can be very inconveniencing for whoever wants to harvest some vegetables for a household meal. In areas when land is very scarce, some crops can be intercropped within others. Therefore, in cases where one of the parties either man or woman doesn't fully contribute on these decisions, the interests of the farming system are most likely to meet the interests of only one party and even go further to affect the food security of the household.

The following figures 4.4 and 4.5 show how men and women decide the acreage and the location of different food crops within their farms.

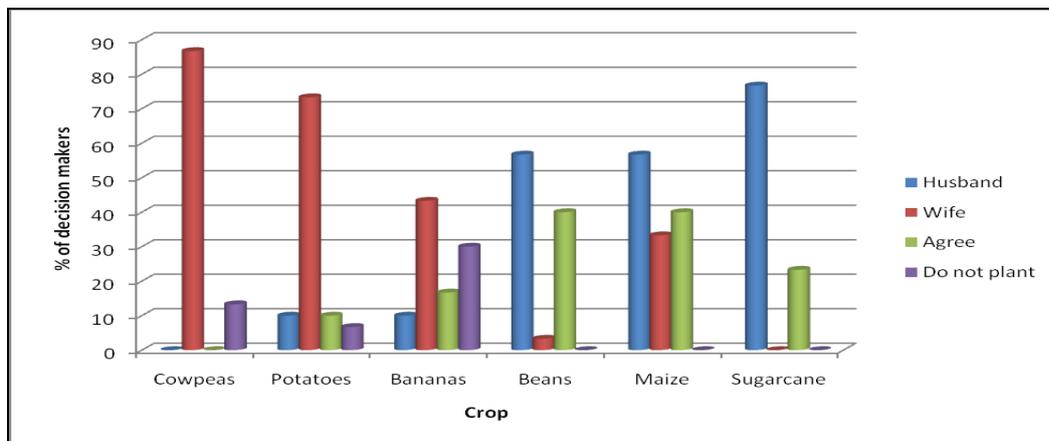


Figure 4.4 Chart showing who makes decisions concerning the acreage for various crops  
Source: Own research 2010

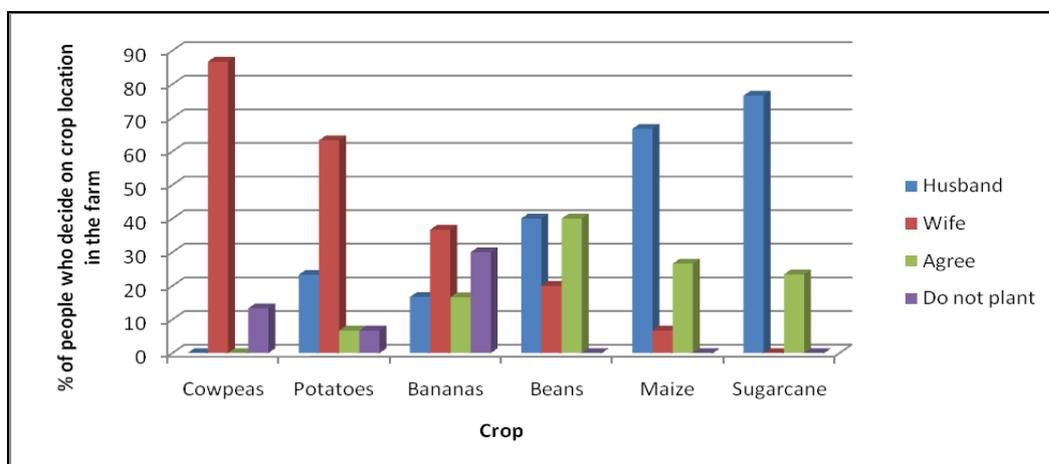


Figure 4.5 Chart showing who makes decisions concerning the location for various crops  
Source: Own research 2010

Figures 4.4 and 4.5 above show a similar pattern, with women having freehand in deciding the acreages and locations under cowpeas, potatoes and bananas. From beans and maize, their decisions become limited because men come in to make decisions or they have to agree. However, under sugarcane, it is seen that it is either an agreement or the man to decide the acreage and location with the later being over 70% in both cases.

These two figures also appear to be similar meaning that the person who decides on the acreage of the crop is also the one who decided on where that particular crop will be located on the farm.

These results have a similarity with results found in Figures 4.2 and 4.3 above where it was seen that it was men who attended the sugarcane meetings because it is them who are concerned with it and it is also “traditional”. It can also be seen that men are not involved in deciding the acreages of cowpeas, a few of then in potatoes and then they get more involved in beans and maize. Further discussion on these patterns of decision making is discussed in section 5.2.

b) Attendance of extension trainings.

Extension trainings are important in giving people technical information a bout crop management. The technical skills acquired in turn gives the person technical advantage to make decisions concerning a particular crop. In extension groups, people also share information and experiences. This gives them a higher notch in skills acquisition. This study wanted to know how women and men attend extension trainings. Figure 4.6 represents the results for this variable.

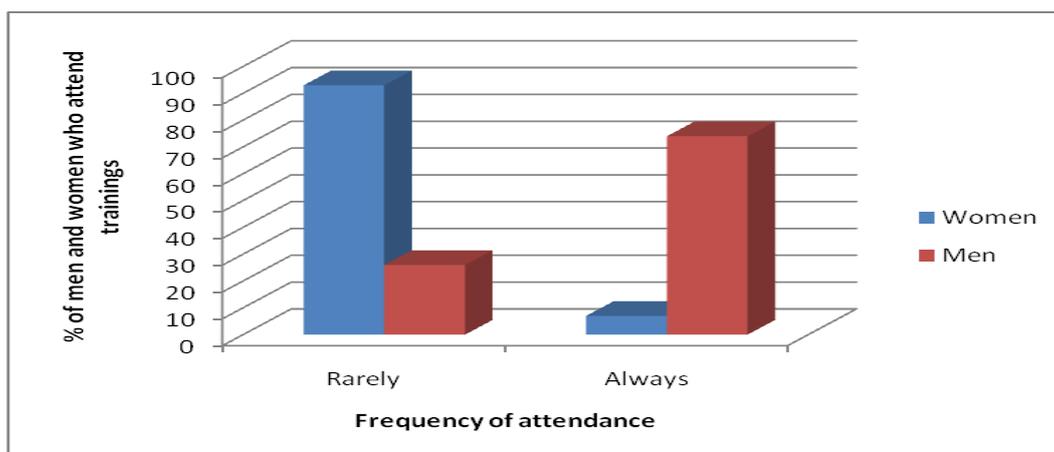


Figure 4.6: Number of men and women who attend sugarcane extension trainings. Source: Own research 2010

Figure 4.6 reveals that it is men who regularly attend the extension trainings. Women rarely do. For the few women who attend the trainings, they reported that the husband was not around. So they went to get the information on behalf of their husbands. 67% of the women who rarely attend attributed this to lack of time, while 70% of men who always attend said they are the ones interested with sugarcane and they are available. This implies that part of the hindrance to women to attend to these meetings is the nature of their double roles at home (productive and reproductive). Educational differences between men and women seen in figure 4.1 may also be a possible cause for this occurrence.

### c) Weeding

Weeding is a major form of labor provision in both large and small farms. However, it is provided with some kind of motivation. For those who hire labor, they do so because they expect some returns either as food or money from the sales. For those who provide, they are motivated by the payments after work. For those who work on their farms, the crops are theirs because they decided to grow those particular crops for some reasons, and therefore, the crop is theirs. It is very hard for one to provide labor where he/she did not decide in any way. If this happens, then it is either under some form of coercion or manipulation. Weeding is also part of the production chain that is very demanding.

In this study, it seemed important also to look at who mostly provides the weeding labor in all these farms. This may indicate to us how the decisions made above trickle down and operate at the farms. The following figure (4.7) represents these results.

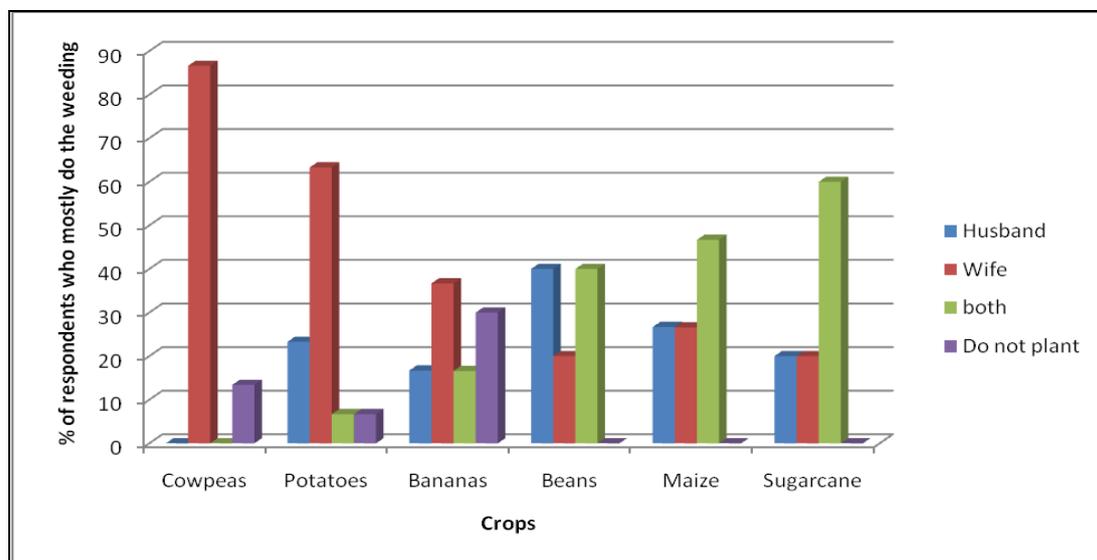


Figure 4.7: Chart showing who mostly weeds the various crops.

Source: Own research 2010

The figure above indicates somehow a different situation from the preceding figures. In this case, there is more involvement of women in weeding both in the beans, maize and even higher in sugarcane farms. The possible reasons for this pattern are discussed in section 5.2.

It was very appropriate for this study to estimate the labour demands particularly in sugarcane. This was to be done in terms of time spent by both men and women in weeding the farm. Although this had been planned, it was dropped during the data collection. It was discovered that it was challenging for the farmers to estimate the time they spent in each crop per season. Indeed, some farmers could higher some labour and some were using the family labour or even relatives. Some could change as work demands from sugarcane to maize and sometimes the wife and the husband could just share the roles. This complexity needed some more technical arrangements that the timeframe of this study could not manage.

#### d) Decisions on sale of crops and use of money

Although food crops are grown purposely for food and particularly in this area, part of the produce is sold either as a surplus or as dictated by particular needs that arise within the household. The amount sold may also have implications on either food availability within the households depending on whose interests are at hand. Like it has been seen in the previous results, it is clear that men and women orient themselves towards different crop enterprises with men preferring cash crops and women concentrating on the food crops in the house. Similarly, the nature of use of money may also have an impact on who actually will end up deciding. The uses that lie beyond the household use may be decided by a man even if the production was done by the woman.

This study also wanted to establish how such decisions are made. However, in investigating the decisions on the quantity for sale, sugarcane itself was not included on the list because it was assumed that it is bought by the milling company. Figure 4.8 below shows the results for this variable

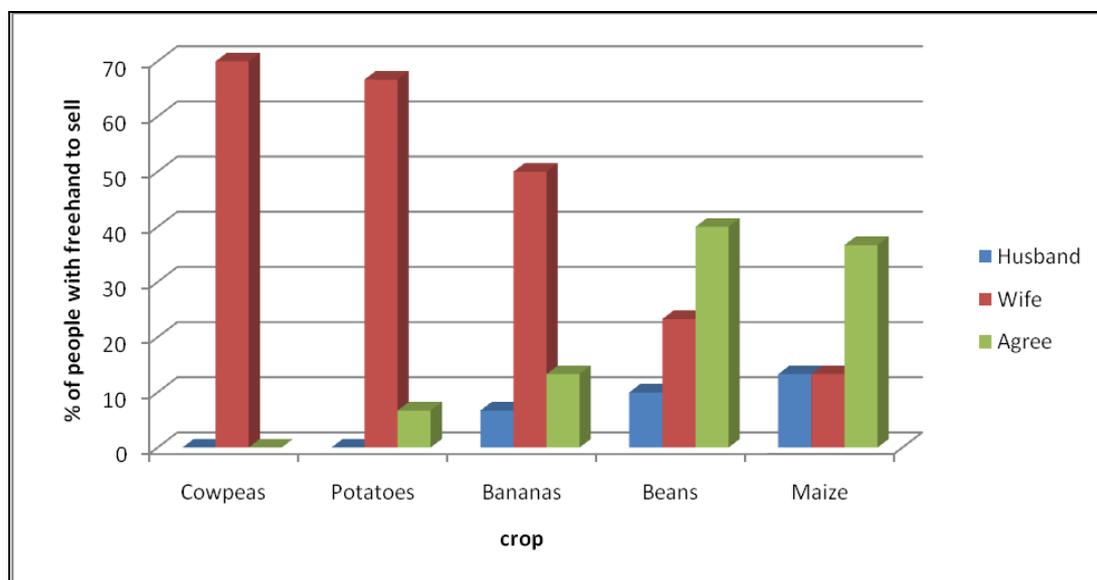


Figure 4.8: Chart showing who makes decisions on quantities of crop to sell.  
Source: Own research 2010

Figure 4.8 shows that in case maize or beans are to be sold, both the wife and the husband agree. In cowpeas, potatoes and bananas however, the wife has a freehand to decide the quantity she can sell.

The reasons given for this pattern was that cowpeas, potatoes and bananas are mostly handled by women and are not bigger investments. They are actually for kitchen use and so women are free to decide. This is unlike maize and beans which are deemed to be valuable food crops for the family. So they can only be sold upon agreement.

The patterns of expenses between men and women are most likely to be different in the perspective of the discussion in sections 1.4 and 2.4. These differences in spending may influence decisions of expenditures. Similarly, the nature of reasons given in section 4.2 concerning men and women involvement in sugarcane and other crops, may most likely affect the spending patterns. This study sought to know who makes decisions on the use of money from sale of respective crops. The result for this aspect is presented in figure 4.9 below.

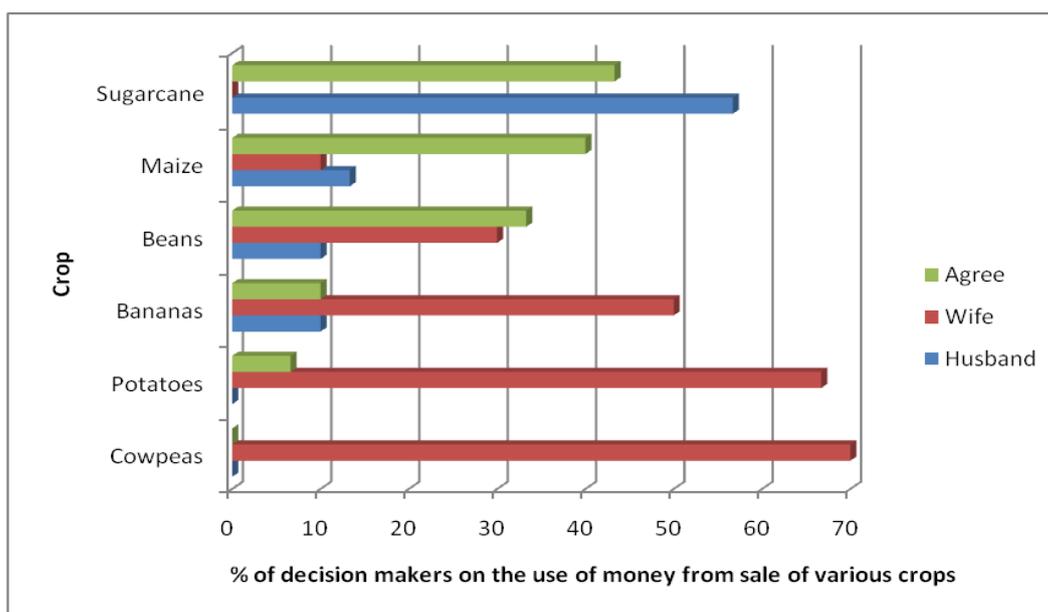


Figure 4.9: A Chart showing who makes decisions on the use of money from sale of various crops.  
Source: Own research 2010.

The figure 4.9 shows that the use of money from beans, maize and sugarcane is agreed upon, with incomes from sugarcane recording the highest levels of agreement. This is followed by maize and finally beans. There are little or no agreements in cowpeas and potatoes. This is a positive precondition for strengthening women’s decision making as discussed in section 5.2(e).

It was also found out that there were differences in the use of money from various crops. Income from vegetables and bananas was used to purchase kitchen related products like salt, match box, sugar, and costs for milling flour. This was purely done by women. The incomes from maize and beans were used for expenses like medical expenses, buying school uniforms and paying school fees for the children. The expenses from sugarcane were used to also pay school fees and also buy other investments like land or building houses.

#### 4.4 Preferences in the re- allocation of inputs

The allocation of resources is critical in food security. This study wanted to establish whether there would be changes in the allocation of land to sugarcane versus other crops. Three options were given i.e. preference to increase or decrease area under sugarcane, being comfortable about the balance or if the farmer would stop to grow sugarcane. Table 4.4 represents these results

Table 4.4 Farmers who would prefer to increase/decrease acreage under sugarcane or stop farming sugarcane by men and women (%)

	Increase	Decrease	Comfortable	Stop	Total
Women	27	53	0	20	100
Men	47	53	0	0	100

Source: Own research 2010

Table 4.4 indicates that most farmers both men and women would decrease the area under sugarcane. However, most men would prefer to increase the acreage than women. Some women would completely stop farming sugarcane. This outcome is discussed in detail in section 5.2.

Having looked at the decision making patterns in the various crops, the following section now looks at how the company is organized in its service delivery to the sugarcane farmers

#### **4.5 Organization of sugarcane farming**

How the company undertakes its services to the people can have different impacts in the decision making power of men and women. It is Mumias Sugar Company that introduced and continues to work with the farmers of Madibo sub-location in sugarcane production. To this regard, this study sought to know how the company delivers its services to the farmers. This could help establish the potential implications on both men and women in decision making. The following were particular elements that were studied.

- The requirements for an individual to become a sugarcane farmer.
- The roles played by the company and the farmers in the sugarcane production
- How the company delivers the proceeds back to the farmers.
- The potential implication of these three aspects to men and women in decision making.

The zone extension office was consulted to give a brief overview of these aspects of the company. The reason why the this office was consulted is because it is the one involved with the day to day operations with the farmers, including mobilization, training, field visits and making sure that farmer's records are in order before they can be forwarded to the head office in Mumias.

##### a) Requirements to be a farmer with Mumias Sugar Company.

The sugarcane farming is all about production of cane sugarcane. The role of Mumias Sugar Company is to make sure that sugarcane is produced which can be milled into sugar. In this case, land is number one requirement for one to become a sugarcane farmer. In Kenya, a proof of land ownership is the title deed. However, before one can get a title deed, he can also have a plot or field number from the lands office at the district. It is these numbers or the title deeds that are transferred from the parent to the children during land inheritance. According to Mumias Sugar Company, the ownership of land must be proven by either the title deed or the plot number.

The second way one can become a sugarcane farmer is to higher a farm from somebody. For example, if the parent has sons who also wish to have their own contracts, then they can still become sugarcane farmers but the field number will be subdivided into sub-numbers. For example, a field number 115 can be subdivided into numbers 115(a) and 115(b). This means that the field number 115 has two farmers under separate contracts. This is also a system that is used when a farmer wants to sub contract part of his sugarcane. However, a new contract can only be signed with the company before the first planting and expires at third harvest (ratoon 3).

This contract also spells out the roles of the farmer and the roles of the company as stated in table 4.5 below.

Table 4.5 Role of the farmer and the company in sugarcane production

Roles of the farmer	Role of the Company
<ul style="list-style-type: none"> <li>• Planting of the seed cane</li> <li>• Weeding the farm</li> <li>• Taking care of the farm against destruction like fire and theft</li> <li>• Fertilizing using fertilizer supplied by the company</li> <li>• Selling cane to the Mumias Sugar Company</li> </ul>	<ul style="list-style-type: none"> <li>• Ploughing the land</li> <li>• Harrowing the land</li> <li>• Providing seed cane</li> <li>• providing the technical support for growing sugarcane</li> <li>• Providing the fertilizer</li> <li>• Harvesting</li> <li>• Transporting cane</li> <li>• Paying the farmers</li> </ul>

Source: Own research 2010

In most cases, the tasks of ploughing and harrowing are done by men. This roles as seen in table 4.5 show that under sugarcane farming, some tasks done by men were taken over by the company. This situation may relieve men of some tasks but not women.

b) Mobilization and extension training

Information about extension training was also sought from the zonal office that also delivers the technical training to the farmers. It was found out that extension trainings took place in the early days when the sugarcane was introduced. Currently very limited extension trainings are undertaken because the farmers now know how to manage sugarcane. But for newer areas, extension sessions take place more regularly. Therefore field visits are done in the following occasions. First, if there is important information to be passed to the farmers, for example new regulations. Secondly, if the farmers have issues to be raised, then a meeting can be held as well. Thirdly, field visits are also conducted just to check generally how the farms are performing. All these however were treated as part of the extension training in this study because they form part of important communication between farmers and the company.

In case there needs to be a meeting, announcements are done through the primary schools where the teachers announce to the pupils, who then go to inform there parents on the day, the venue and the time. These meetings are in most cases held in schools or market centers and most of them begin at 10 o'clock in the morning ending at 1.00 pm in the afternoon.

c) Payment of proceeds

Like indicated in the Table 4.5 above, after the farmers weed, fertilize and sugarcane is mature, the company harvests and delivers it to the company for milling. Every farmer is required to open a bank account based on the contract that was signed. The payments are made per tone delivered. The total payment that the farmer gets is always less what the company invested in ploughing, harrowing, seed cane, fertilizer, harvesting and delivery.

Information from the office also indicated that the company has faced several challenges over the years related to the marketing of sugar. This however may have been as a result of regional trade integration. Since the adoption of the Common Market for Eastern and Southern Africa (COMESA), a lot of subsidized sugar was imported into the country especially from South Africa and Egypt. This distorted the market for the Mumias Sugar which is more expensive because of higher production costs, compared to South Africa for example. This gave the company challenges in paying the farmers and it went as far as

taking more than six months before farmers could be paid after harvest. This situation made several sugar companies in Kenya to collapse. However, this situation is now improving because some COMESA countries are now exporting their sugar to Europe due to the Uruguay agreements on Agriculture.

The implications of this organization are discussed in section 5.2(c).

#### **4.6 Summary**

To sum up this chapter, we see that the decision making of men and women in sugarcane and other crops differ. First, women did not participate in the initial activities of introducing sugarcane. This was due to the belief that such big activities belong to men, and it is them who are mostly concerned with them. Secondly, women make more decisions in small domestic crops like vegetables and potatoes on both acreages and location, they do the weeding and they decide the quantity for sale as well as the expenses for the incomes. Thirdly, in maize and beans, mostly wives and husbands agree at every level of the production chain. Fourthly, in sugarcane we see a case where the adoption and acreage is mostly done by men. Weeding is done by both wife and husband and the use of the money is agreed upon. But we also see a higher number of men who decide alone than those who agree with their wives. On the part of the sugar company, land ownership is a key factor. Without it, one can not be a sugarcane farmer, just like any other crop. The title deed, the contract and the bank account are key requirements.

What then causes these patterns of decision making? Why should women have freehand in decision making in cowpeas and not sugarcane? What is in maize that men and women must agree? And why should men stick to sugarcane? What are the factors that are behind these patterns in Madibo sub-location?

In the next chapter, these questions are discussed to identify the factors behind these patterns and how they might be related and potential implications to food security.

## CHAPTER FIVE

### DISCUSSION

#### 5.1 Introduction

This chapter is a discussion of the results presented in chapter four. It interprets the results in the light of the theoretical discussion in chapter two. Harvard gender analytical framework tool three (March, C et al, 1999, p.33-35) has also been used to help analyze the influencing factors behind this pattern of decision making and potential implications.

#### 5.2 Factors influencing decision making.

Looking at figures 4.4, 4.5, 4.8, and 4.9, we see that women have freehand in determining the decisions in vegetables and potatoes which are related to the kitchen and cooking. Women are mostly engaged in household duties like cooking (section 2.3). Similarly looking at table 4.2, we see a situation where certain tasks are taken to be for men and some for women. During the interview, the respondents were asked why the women make free decisions in cowpeas or potatoes and not crops like maize or sugarcane. One woman respondent answered as follows;

*“Cowpeas and potatoes are women’s crops”,*

Another male respondent said; *“It is women who look for the vegetables so they have to make sure that it is available and adequate”.*

Many of the reasons given by the respondents were similar to the ones given above. Others could simply say; *“That is tradition and nature”*

This implies that there is gender division of labour which culturally divides the roles between men and women with men taking up the tasks outside the household while women carry out household tasks. The first factor discussed therefore is gender division of labour.

##### a) Gender division of labour

This division affects other series of activities for example, if the role of women is believed to be domestic or related to the household, and then most likely the outcome in figure 4.2 is expected, where external meetings will be believed to be for men and not women. Therefore, we are most likely to find men in external meetings than men.

Gender division of labour is also most likely to divide crops like it can be seen in this study. The crops believed to be for home consumption like cowpeas and potatoes being for women, while market crops or cash crops being for men. This finding is similar to the finding of Doss in Ghana where men were heavily involved in cash crop production while women were involved in all other major crops (Doss, R.C, 2001, p.1999)

Gender division of labour has implication on the bargaining power of women. It limits their opportunities to invest, own and control major economic resources like cash crops. They concentrate only on small scale subsistence crops like cowpeas. This weakens their fall back positions and hence denying them power to influence decisions.

Another implication of gender division of labour is related to exposure to the public domain where people get much of the information. Information is power and lack of information is ignorance. Men who attend public meetings and are involved in public domain are most

likely to get more information and skills which are key to accumulating the bargaining power within a household. To site an example, in this study area, there are improved varieties of bananas being introduced by the ministry of agriculture. What was most interesting was that for households which had a few stems of improved variety of bananas (Tissue Culture), they were under the management and care of the husband, why? This was because these bananas needed technical skills which the husbands received from extension training. This is also a reflection of gender blind extension training. Comparing this with figure 4.2 and 4.6, we see a scenario where weaker position of women is being perpetuated with introduction of sugarcane. Introducing new technologies in an environment in which there is sexual division of labour will definitely disadvantage women and is most likely to widen this division of labour (Linares, F.O., 1985, p.83). This is what happened in the rice project in Turkey (Morvaridi, B., 1992, p.570). In this area, older people are deeply rooted in the gender division of labour than young people (table 4.2).

This also reminds me of a one week training workshop that was carried out in SACDEP training centre in the year 2008 to train farmers in appropriate technologies in water harvesting. In this project, a total of 1,524 beneficiaries (392men and 1,132 women) had been mobilised. When this training called for 60 participants, the attendance was 27men and 33 women. Some men came on behalf of their wives who had been selected by the self help group to attend the training.

Gender division of labour like it can be seen in this study limits the women's decision making in major agricultural investments at the households. Reflecting back in the discussions in sections 1.4 and 2.4, the major farm decisions are made by men who go for cash crops rather than food crops. Indeed, an interesting observation was made to one household who had committed all of his land under sugarcane. For the crops, he had hired the farm elsewhere. These trends have the potential to reduce food crop production levels of the households and lower the food security status of households

In section 4.2(d), it was highlighted that all the lands were registered under men. When the respondents were asked why it was only the man who decided to adopt sugarcane, part of the reasons as given in the section 4.2 was that the land belongs to the man and he is the one with the title deed. A woman respondent said; "*the land belongs to him*". This is the most likely cause of what we see in figure 4.3. Like it was also seen under section 4.5(c), payments are transferred to the bank accounts which are owned by men. Therefore, the second factor that is seen to influence the decision making patterns is ownership and control of resources particularly land and the higher incomes from sugarcane. This is discussed as the second factor.

#### **b) Ownership and control of resources**

Like it was highlighted in literature review, ownership and control of resources strengthens ones bargaining position. Land and sugarcane are the major economic resources in this area. Indeed most of the inhabitants of this area depend on land for their living. It is true that the incomes earned from sugarcane are significantly higher than incomes earned from sale of food crops. In fact 90% of the respondents said that their income levels have improved as a result of sugarcane. It is the legal owner of the land who makes decisions over it. That is why we find that most men just made decisions to adopt sugarcane without consulting or agreeing with their wives (Figure 4.3). What would they loose anyway? This is an indication of a stronger bargaining position.

Ownership of land in Kenya is both a cultural and policy factor as discussed in section 2.3. Inheritance arrangements, transfers land from the farther to the son and not to the daughter

Women access land by the virtue of their husband's ownership. In this study, 100% of the respondents said that land was registered under men.

Introducing cash crops like sugarcane in such an environment is most likely to impact negatively on the decision making powers of women, especially when there are no gender considerations. This will most probably increase investments on men's lands and eventually strengthen their economic power. According to Basu, K., 2006, p.558, household decisions depends on the power balance between husband and wife, and the power balance in turn depends on the decisions made. The land ownership enables men and not women to adopt and own sugarcane. Money is also deposited into their accounts unlike women. This stronger bargaining power in turn gives men the right hand to make decisions. This may be the reason why women depend on the finances of their husbands to purchase seeds for maize and beans. Indeed, 76.7% of men were responsible for purchasing maize and bean seeds because they had more money than their wives as compared to 13.3% women who could buy these seeds. Cowpea seeds were bought by 100% women because they are cheaper. Sugarcane enables men to get extension skills from the company. Availability of credit facilities may even become accessible and affordable to them on the basis of land and sugarcane. The point is, one factor may directly or indirectly influence other many factors. That is why under the decisions of men, acreage on food crops is most likely to be compromised for cash crops. This was also found out by Waswa et al, (2009, p.1409). This can be seen in this study as shown in table 4.3.

Regardless of the fact that men own land and decide, we also note an aspect of agreements along the production levels in beans and maize. This may be so because of the following.

First, it is men who are expected to finance the major expenses in the family starting from food. In times of food scarcity, women tend to look at their husbands first, before they start having alternatives like going for casual labour in other sugarcane farms. Therefore men as well try to make sure that adequate food is enough in the household. Secondly, maize and beans are alternative crops for sale. They attract better market prices than cowpeas and potatoes. The higher the commercial value of the crop, the more men are likely to engage in that particular crop. (Doss, R.C., 2001, p.2077). Thirdly, many companies and the ministry of agriculture have recommended various improved varieties for both beans and maize. For reasons discussed in section 5.2(a) on information access and public domain participation, men are most likely to be more technically knowledgeable in choosing and managing these varieties. This outcome may also be embedded in the gender division of labour.

In section 4.3(c), it was seen that their exist differences in how money from different crops is spent. Money from sale of food crops is mostly used immediately because of household needs. Money from sugarcane is used for bigger investments like building houses or buying other land. This means that money from sugarcane is used to further strengthen the asset base of men for example by buying more land. This land may still be used to grow sugarcane. In the long run, it can be found that one decision leads to a further weaker position of women in terms of their fall back positions.

Because resources are owned and controlled by men, they are most likely to orient the investments towards incomes by growing more cash crops than food crops. In this study, this is indicated by table 4.4 where most men would prefer to increase the acreages of sugarcane as compared to women. This is a threat to household food security.

### **c) Educational levels**

In figure 4.1, it was seen that the educational levels of women are lower than educational levels of men, with some women having no any formal education at all. When a woman respondent who had no formal education was asked the total acreage of her farm, she gave the following statement;

*“Do I really know? It is my Mzee(husband) who has the papers. For me, even if I look at those papers, they are just like a picture to me”*

This respondent was actually confessing that because she can't read the papers (Title deed), she can't know the size of the farm. It is widely recognized that education is very important to individuals. In this perspective, it can be argued that education is also a factor that is influencing decision making in this area. This can also be one of the contributing factors as to why most women do not attend the extension trainings and the men end up getting more technical skills that women like the tissue bananas case. Education also enables people to acquire much more information from diverse sources as discussed in section 4.2(b). Because these days many younger people go to school as compared to the older days, young people at least attended basic primary education. In this study this might be the reason why we see many older people still rooted deeper in gender division of labour than younger people (Table 4.2). This implies that the educational level has the potential to alter the decision making powers of individuals. Although some studies contradict this finding (Kiriti, T.W. et al, 2003, p.103) while others support it (Carlsson, F. et al, 2009, p. 7-8)

### **d) Institutional organization**

Section 4.5 above highlighted how the sugarcane farming is organized. Analysing this organization, we are most likely to have the following scenarios.

First, the sugarcane company targets the land owners. In other words the company targets men. This is a situation which the company can not evade because the company doesn't give or allocate land to people. Indeed, the reason for contracting the out growers is because it doesn't have land. However, the fact that it partners with the land owners (men), it puts them in a stronger bargaining position because it is an external network (section 2.3). Second, although the extension services are not as intensive in this area as they were in the beginning, they seem to target men as the “farmers”. Third, the signing of the contracts with the company gives the person who signs stronger legitimacy within the enterprise than the other who has not, because he/she will feel more concerned, responsible and hence controller as opposed to a case where the two sign it as joint. Fourth, the company allows only one farmer to open the bank account where the money can be deposited on payment. This may give men total control over the financial incomes. This also happens to the inputs which are delivered in the names of the land owner who is also the contract signatory.

The meeting hours for extension training for the farmers and even the locations may also determine whether women farmers will attend the sessions or not. In the beginning we saw that during the introduction, most meeting were held in schools. There is one primary school per village in this sub-location with a distance of approximately 1 kilometre apart. The meetings are held between 10.00 a.m to 1.00 pm. Owing to the fact that all these schools are day schools, women normally prepare lunch for their children just before they arrive from school at 1.00pm. This can make it very cumbersome for women to attend these meetings. As a result, they leave them to men who are available and have time. This contributes to men getting more technical information than men as seen earlier.

#### **e) State policies on land ownership.**

As noted earlier, all the land in the area was registered under men. The state has the responsibility of ensuring that all its citizens enjoy equal rights and none is discriminated in any way. The state also has the responsibility to ensure that the land tenure systems are fair to all members of the society regardless of their sex. Allowing policies that discriminate women against land ownership is directly supporting the men's bargaining position in society. It also becomes hard for women to have claim for land ownership because in the first place, they will not have legitimacy in the face of the state policy.

Finally, I want to conclude this chapter by highlighting why increased levels of agreements are noted in sugarcane from the level of weeding and use of money. It appeared that this outcome is as a result of household struggles as discussed below.

#### **f) Household struggles**

In this study, I also noted household struggles. After interviewing one female respondent, I gave her an opportunity to ask me any question she may have. Her question went as follows;

*"This sugarcane has brought us more problems. They are full of men's secrets. In fact some of us have decided not to step in those farms. They are for men and everything is for men. For us women, who do not have sources of income, is there any way that we can be helped so that we can also be independent?"*

While interviewing another female respondent, I got almost a similar remark as follows;

*"I never involve myself with the issues of sugarcane. I got tired with them. Those ones you can ask the mzee (husband)"*

These two remarks from these respondents indicate a form helplessness and withdrawal from activities of sugarcane farming. When figures 4.3 and 4.4 are compared against figures 4.7 and 4.9, scenario is noted which could not be expected. Most men decided to adopt sugarcane alone including the location in the farm and the acreages without consulting their wives. However, weeding is done mostly by both wife and husband (60%). Another interesting outcome is that 45% of the respondents use the proceeds upon agreement while 55% of the respondents report that the husbands just decide on the use of the money.

Comparing the response of the two women above and this scenario, I find this outcome to be as a result of household struggles where women provide labour to the sugarcane farms with an aim of accessing the financial benefits. This is why we find 45% of the respondents who say an agreement is reached before money is spent. If this aim is not achieved for one reason or the other, women are most likely to withdraw their labour. These women said that they could rather work in other farms for cash than engage a lot of energy in their husband's sugarcane farms for no benefit. This finding is similar to other findings. The District Farmers Cooperative union for coffee in Murang'a was paying the male farmers who were the shareholders within it. When women were dissatisfied by the payments they were getting from their husbands, they withdrew their labour and instead used it to source independent incomes through casual labour in other farms. In Teso district, the flu-cured tobacco scheme collapsed when women's feared that it would not yield incomes and hence withdrawing their labour. (Francis, E., 1998, p.84).

### **5.3 Summary**

This section has discussed five major factors that influence decision making patterns within the sugarcane and other crops in Madibo sub-location. These factors are the gender division of labour, ownership and control of resources, educational levels, institutional organization of the sugar company and the state policies. What can also be seen from this discussion is that these factors affect each other. For example, gender division of labour allows men to own and control major economic resources. State policies also limit women's investment opportunities and ownership of land. Low educational levels and organization of sugarcane farming also limit women's opportunities to acquire technical information from the extension and lowers their abilities to challenge gender division of labour.

This means that influencing one factor will most probably affect the other factors as well. This is an opportunity and a risk at the same time. It is an opportunity in the sense that strengthening one factor in favour of women bargaining position may have the same effect on the other factors. But weakening one factor may lead to the same effect to other factors. Therefore, the design of programmes and technologies must be carefully planned in order to strengthen the bargaining positions of women. This will lead to increased levels of women in decision making in household agricultural activities and this may lead to improved food and nutritional security of the households in this area.

## **CHAPTER SIX**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **6.1 Conclusions**

This study has attempted to give an analysis of how men and women participate in decision making in Sugarcane farming versus other food crops in Madibo sub location of western Kenya. From the results presented, the following conclusions can be made.

First, the decision making patterns of men and women along the production chain of various crops differ. Women make more decisions in subsistence crops like cowpeas and potatoes. Men rarely make decisions in these crops. They also agree with their husbands in the decision making of maize and beans almost across the whole production chain. However, in sugarcane farming, their decision making becomes limited. They only provide labour as strategy to access to their husbands income.

Second, various factors influence these decision making patterns. They include gender division of labour, ownership and control of economic resources, institutional organization of the sugar company and the state policy on land ownership. In general, these factors strengthen the bargaining power of men and weaken those of women.

If women would be given an opportunity or strong bargaining position, they are most likely to reduce the acreage under sugarcane in favour of subsistence food crops. Many men would prefer to increase the acreage of sugarcane as compared to women.

Although the company is quite limited in influencing the factors mentioned above, its organization contributes to a situation in which the bargaining power of women get more weaker in relation to that of men.

Therefore, this study finds out that introduction of sugarcane in Madibo sub-location has contributed to further lower levels of women in the household decision making particularly in farming decisions. In the perspective of the studies highlighted in sections 1.4 and 2.4, this situation is a potential contributor to food insecurity of this area.

In order to enhance the decision making power of women in agricultural activities, their bargaining positions need to be strengthened to equalize those ones of men. This is a challenge.

#### **6.2 Recommendations**

The intervention in this area of decision making in relation to the influencing factors discussed may not be solved by only one institution like SACDEP. It requires various institutions applying diverse strategies to contribute to one goal, which is strengthening the fall back positions of women. SACDEP therefore can play a role in strengthening the bargaining powers of women either directly through its programmes or indirectly through lobbying for better policies of the state and the company.

Considering the factors discussed, SACDEP needs to initiate ways and techniques that are geared towards increasing the bargaining power of women within the agricultural decisions. The following are possible ways to achieve this.

First, the organization needs to entrench gender as part of its planning, monitoring and evaluation system. Instead of considering community needs in a blanket manner, a critical assessment of influencing factors in decision making dynamics in a particular area should be put into considerations. For example in Madibo Sub-location, it is not enough to say that the project needs to increase the production of maize and beans. It also needs to go further and plan how the increase in the production will strengthen the economic status or fall back position of women. If it happens that men decide more in maize than beans, perhaps it will be an advantage to women if production of beans is supported more than maize. This can be indicated by the following as examples; Number of documents that indicate number of men and women targeted in a project or amount of income generated by a project to men and women.

Second, a few agricultural training institutions in Kenya integrate gender training in their agriculture training curriculums. As such many of the SACDEP technical staff who implement projects may not be well conversant on the importance of considering gender issues such as decision making dynamics. It will be rather difficult to integrate gender issues into structures and programmes with staff who have limited knowledge on gender issues. Many people have tended to desperately handle gender as a separate and independent subject. This is rather difficult. SACDEP needs to carry out the skills needs assessment for its staff and initiate a re-training programme for its staff on gender in agricultural and development projects. Agriculture itself like we have seen in this study is heavily gendered. The staff needs to appreciate this fact. A soldier must know how a gun operates. This can be indicated by the number of staff members who appreciate and can articulate the importance of gender considerations in agriculture development.

Third, SACDEP also needs to capitalize on the existing situation of gender division of labour to strengthen women's position. It needs to increase the production, processing and possibly connect these women to markets of vegetables and potatoes. Vegetables can be dried, packaged and sold to the hotels that utilize indigenous vegetables. This will also bridge the gap between the seasons and hence increasing the prices of the vegetables during the off season period. In fact, during the off-season, these vegetables are most likely to attract the local markets at better prices. Similarly to potatoes, they can be dried into crisps and kept for sale. However, for the local market, more sensitization needs to be done because most people do not know how to utilize dried products because they mostly depend on fresh produce. In fact, with better markets, vegetable marketing associations can be formed. These associations can provide an avenue for credit support. Availability of credits can in turn increase women's access to inputs like seeds, so as to reduce dependence on the husbands. These associations are also external linkages which are most likely to expose women to the public domain and hence increasing their bargaining power through knowledge acquisition. This can be indicated by the amount in kilograms of potatoes and vegetables sold and the amount of money earned from these sales. The number of market linkages and the number of women with the market information about various crops can also be a good indicator.

Fourth, the organization needs to limit institutional trainings in favour of farm based trainings and schedule this to be within the hours that women are in farms. In most cases, the self help group meets at one household between 10 o'clock to 1.00 o'clock for trainings. Owing to the time limits of women working in vegetables, bananas, maize, beans, potatoes and sugarcane, this is an arrangement that is most likely to realize low attendance of women in these meetings just like the sugarcane meetings. Similarly, more training should not be scheduled at the peak days for labour. This will allow more women to attend the trainings. This can be indicated by number of farm based and institution based trainings and the number of women and men attending these trainings.

Fifth, because many women lack technical information about the varieties and management techniques of the crops in the area, men have taken this as their strong point to influence decisions. To bridge this skills gap, the organization needs to develop an extension programme of providing women with the information about varieties and management procedures of all the major crops in the area, possibly in their local languages. This is most likely to increase their confidence in decisions related to these major crops. Information provision to women about markets of all the major crops in terms of buying and selling prices is also likely to increase women's confidence in making decisions towards quantities and timing for sale. This can be indicated by the number of men and women who are able to describe and carry out technical husbandry practices of the major crops in the area.

Sixth, the organization also needs to organize occasional exchange visits between farmers groups. Men and women can be mixed to learn from other farmers together. Similarly, women farmers groups can also visit other women farmer groups. The first strategy is most likely to increase the women's confidence by learning and exchanging technical information from men. The later, is most likely to enable women exchange the experiences and lessons from each other. This is most likely to broaden their skills and confidence as well. This can be indicated by the number of men and women attending to these exchange visits.

Seventh, SACDEP needs also not only to dwell on technical skills in extension training to women farmers, but also attitudinal aspects. This strategy has been used by the Grameen Bank in its micro-credits programmes in India and it is cited to have greatly contributed to its success because it builds self esteem, self confidence and emotional satisfaction of women for pursuing their interests (Johnson III, L., 2003, p. 9). Motivation to look for information, willingness and desire to change are real ingredients for change. The women farmers need to be motivated in this perspective. This can be indicated by the number of motivational meetings conducted and the number of men and women attending these meetings.

Eighth, moving outside SACDEP programmes, the organization also still has some opportunities to influence this situation. Convincing the PELUM network in which it is a key member to consider gender issues can have much wider impact than just itself alone, so long as these members get adequate information on how increasing decision making of women can contribute to better agriculture based natural resources management. With PELUM, this may be indicated by the number of PELUM members integrating gender issues in their organizational plans.

Lastly, like mentioned earlier, SACDEP alone can not change this situation. It needs the support of other partners. Therefore developing strategic alliances can help in resource mobilization lobbying and advocacy for policy change both at the company level and state level. PELUM members as said above can be a strong alliance. This alliance can effectively partner with the Kenya National Commission on Gender, which actually advises the government on policy change on gender issues. Through this commission, policy at the sugar company and land policies are most likely to change as well education for women.

At the impact level therefore, the number of women and men making various decisions within the agricultural activities and subsequent improvement in food crop production levels can be a good indicator.

These interventions may and will not alone eliminate these differences in decision making, but their effectiveness may contribute to strengthening the bargaining power of women and hence increasing their decision making power not only in sugarcane, but also in many other areas of their lives.

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# Appendixes

## Appendix 1 Questionnaire for the farmers

The Decision making patterns of men and women in sugarcane and other food crops in Madibo Sub-location, Western Kenya.

### 1. Introductory information

1.1. Name.....Sex.....Village.....

1.2. Age (Years).....Total farm size in ha.....Date.....

Crop	Current Hactarage	Hactarage before Sugarcane
Maize		
Beans		
Sugarcane		
Bananas		
Cowpeas		
Potatoes		

### 2. Main factors that may influence decision making power

2.1. Level of education

No Education    Primary    Secondary    College

2.2. No of Children.....

### 3. Organization of sugarcane farming

3.1. Why did you decide to grow sugarcane?

.....

3.2. Source of initial information about sugarcane

Posters    churches    Community meetings (Barazas)    Others

3.3. Where introductory meetings were were held?

Markets    Schools    Farms    other

3.4. Who attended the meeting?    Wife    Husband

3.5. Reason for 3.4 above

.....

3.6. Requirements by the company for one to be a sugarcane Farmer

.....

Whose name is the title deed?

Wife       Husband       Both       Other

3.7. What inputs does the company provide?

Fertilizer    Seed cane    Pesticides    Others

3.8. On whose name are the inputs?

Wife       Husband       Both       Other

Reason for 3.8.

.....

How does the company give back the proceeds?

Cash       Account deposit       Loan       Other

3.9. If through account above (3.9), on whose name is the account?

Husband       Wife       Joint

3.10. Would you consider having a joint account?

Yes       No

Reason for answer above 3.10.

.....

3.11 Do you attend extension trainings about sugarcane farming?

Always       Seldom       Rarely       Never

3.12 For what reasons is the answer 3.11 above

Distance       Time       Language       Other

#### 4. Decision making

4.1. Who decided the adoption of sugarcane?

Husband    Wife       Discussed and agreed    Discussed and disagreed

4.2 Reason for answer 4.1 above

..... What are the agreements stated in the sugarcane contract?

.....

## 5 Production chain Decisions (Sugarcane against other crops)

	Crops(A-F)					
Chain(1-7)	Maize	Beans	Bananas	Cowpeas	Potatoes	Sugarcane
Who decides the acreage	A1 (a) (b) (c) (d) Reasons	B1 (a) (b) (c) (d) Reasons	C1 (a) (b) (c) (d) Reasons	D1 (a) (b) (c) (d) Reasons	E1 (a) (b) (c) (d) Reasons	F1 (a) (b) (c) (d) Reasons
Who decides the location to be grown in the farm	A2 (a) (b) (c) (d) Reasons	B2 (a) (b) (c) (d) Reasons	C2 (a) (b) (c) (d) Reasons	D2 (a) (b) (c) (d) Reasons	E2 (a) (b) (c) (d) Reasons	F2 (a) (b) (c) (d) Reasons
Who buys the seeds	A3 (a) (b) (c) (d) Reasons	B3 (a) (b) (c) (d) Reasons	C3 (a) (b) (c) (d) Reasons	D3 (a) (b) (c) (d) Reasons	E3 (a) (b) (c) (d) Reasons	F3 (a) (b) (c) (d) Reasons
Who mostly does the weeding	A4 (a) (b) (c) (d) Reasons	B4 (a) (b) (c) (d) Reasons	C4 (a) (b) (c) (d) Reasons	D4 (a) (b) (c) (d) Reasons	E4 (a) (b) (c) (d) Reasons	F4 (a) (b) (c) (d) Reasons
Who decides the quantity for sale	A5 (a) (b) (c) (d) Reasons	B5 (a) (b) (c) (d) Reasons	C5 (a) (b) (c) (d) Reasons	D5 (a) (b) (c) (d) Reasons	E5 (a) (b) (c) (d) Reasons	F5 (a) (b) (c) (d) Reasons
Who keeps the money from sale	A6 (a) (b) (c) (d) Reasons	B6 (a) (b) (c) (d) Reasons	C6 (a) (b) (c) (d) Reasons	D6 (a) (b) (c) (d) Reasons	E6 (a) (b) (c) (d) Reasons	F6 (a) (b) (c) (d) Reasons
Who decides use of money	A7 (a) (b) (c) (d) Reasons	B7 (a) (b) (c) (d) Reasons	C7 (a) (b) (c) (d) Reasons	D7 (a) (b) (c) (d) Reasons	E7 (a) (b) (c) (d) Reasons	F7 (a) (b) (c) (d) Reasons
On what expenses is the money used	A8 Reasons	B8 Reasons	C8 Reasons	D8 Reasons	E8 Reasons	F8 Reasons

(a) Husband (b) Wife (c) discusses and agree (d) discuss and mostly disagree

**5 Resource changes**

5.1 How has your income changed before and after you started growing sugarcane.

Increased    Reduced    Remained the same

Reasons.....  
.....

5.2 Are you satisfied with the balance between sugarcane and other crops?

Yes    No

What reasons can you give for the answer above?

.....  
.....

5.4 If No, how would you allocate land to crops against sugarcane farming?.....

.....  
.....

**End**

## Appendix 2 Checklist for discussion with the Sugar Company

Name.....Sex.....Position.....Date.....

- 1) What are the requirements for an individual to become a sugarcane farmer with the company?
- 2) What are the roles of the company and the farmer in sugarcane production?
- 3) How do you organize and meet the farmers for training?
- 4) How do you ensure that both men and women benefit from the extension trainings?
- 5) How does the company pay back the farmers?
- 6) What measures does the company have to ensure that both men and women benefit equally from sugarcane incomes?

### Appendix 3 Location of the Research Area in Kenya

Madibo Sub location

