

Nexus between Land Tenure and Women Participation in Bee Keeping in Baringo South Sub-County, Baringo County

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Abstract: *This study examined the relationship between land tenure and women participation in bee keeping in Baringo South Sub-County. The study collected data through questionnaires and interview guides. Data was collected from 128 respondents sampled through simple random sampling. The study adopted ordered logistic regression to examine the relationship between land tenure and women participation. In this study, women farmers with individual land tenure were hypothesized to participate and at high levels of bee farming, while those with communal and leasehold have less probability of participating in beekeeping. The findings revealed that owning land on individual basis leads to greater women participation in beekeeping and that lack of land ownership reduces women participation in beekeeping. From the conclusions, the study recommends that the county government should put up some legal interventions aimed at enabling more women to own land since this is a prerequisite for greater women participation in beekeeping. Furthermore, elimination of land ownership as a criterion for participating in beekeeping activities such as trainings can attract more women participants who do not commonly own land on individual and communal basis.*

Keywords: Land Tenure, Women Participation, Bee Keeping

1. Introduction

Baringo South Sub-County is an arid and Semi-arid land where conventional agriculture does not thrive. Residence of that area depend on charcoal burning and goat keeping to meet their livelihoods and introduction of modern beekeeping can be a great benefit to them (Republic of Kenya, 2013). Women still sell firewood along the roads in order to earn a living and provide for their families. Others depend on relief food from government and organizations like the Kenya Red Cross to meet their basic needs and those of their families. If the residents of the region could practice beekeeping on the available land, their livelihoods will change drastically since beekeeping is a highly profitable enterprise (Raina et al., 2009).

Access to land has been identified as one of the hindrances to women's adoption of beekeeping (Raina et al., 2009). In Kenya, land is usually owned by men and it is passed from father to son. Women are denied the right to land ownership. They can only access it in a marriage set up but cannot make decisions on how to use it (Shire, Asabi & Mergers, 2016). The man is the one to decide what to put in which piece of land. Women are left without any power to decide whether to practice beekeeping or not since that power has been denied by culture. People have also opted for other farming methods like floriculture, crop horticulture, agronomy and even animal husbandry, leaving behind beekeeping (FAO, 2016). People opted for these other farming methods because they see them as a source of quick money since the crops mature early. People are using green houses that quicken crop maturity. For beekeeping, it takes time since honey is harvested in seasons (Tesfaye, Begna & Eshetu,

2017). Literature indicates that land tenure is one of the main factors when it comes to land use.

Land tenure is the relationship whether legally or customarily defined among people, as individuals or groups with respect to land. Land tenure is an institution which has rules invented by the society to regulate behaviours. Rules on land tenure define how property rights to land are to be allocated within societies. They define how access is granted to rights to use, control and transfer land as well as associated responsibilities and restraints.

Land tenure is an institution which has rules invented by society to regulate how property rights to land are to be allocated within a society. Land tenure influences the size of land that individuals own. This directly influence on beekeeping because if a farmer has a big size of land, it would be possible to put a large number of hives (Jaco, 2013). It also dictates on the type of crops to be grown on the farm whether it supports beekeeping or not (Carroll & Kinsella, 2013). This study therefore investigated on the selected socio-cultural factors affecting women's participation in beekeeping in Baringo South Sub-County even if Baringo County is known to have a high potential in beekeeping.

1.1 Problem Statement

The concept of bee farming is not new in most part of Africa. In Kenya, bee farming has been predominantly practiced in most parts of rift valley and north eastern regions. Traditionally, bee farming has been practiced majorly in small scale and to a small extent for exchange for money. Bee farmers in most parts of Kenya have not given the practice the seriousness it needs, with the practice

majorly being done by men, while the few females who take part in bee farming take part at the marketing of honey level. Empirical review indicates that bee farming among women could be influenced by gender roles as defined by the society, especially in communities dominated by the male gender and characterized by gender discrimination. This study sought to determine the link between land tenure and women participation in bee keeping in Baringo South Sub-County.

2. Literature Review

2.1 Liberal Feminism Theory

Liberal feminism is a philosophy based the principle of individual liberty and freedom of choice without interference of public law or opinion. Liberal feminists believe that inequalities of women arise from the denial of equal rights with those of men. Liberal Feminists argue that society holds the false belief that women are, by nature, less intellectually and physically capable than men. They argue that men are more privileged than women and thus fight for the extension of those rights and privileges to women. They push for the removal of discriminatory practice and policies such as those practices that hinder women from practicing beekeeping among others. Liberal feminists did not regard men as the main problem but believed that men and women can work together to bring about change.

Traditionally, women are discriminated ion and denied rights to access very important social and economic opportunities.

Cultural beliefs, values, taboos and stereotypes have been used to control female behaviours. Culture set standards of behavior that elevated men and discouraged women from questioning that status quo. If given equal opportunity, and taboos that hindered women from engaging in economic activities are removed, women can work with men in bee farming to gain more knowledge on beekeeping and reap more profits. The relevance of Liberal Feminism theory can be seen where it advocates for equal rights for women in land tenure among other issues. If women were given equal rights with male counterparts in land ownership, then they are more empowered to take part in economic activities including beekeeping.

2.2 Land Tenure and Bee Farming

Land tenure influences the size of land owned by an individual. Size of land enhances the opportunity to practice bee farming. If the land is big enough, the farmer has the opportunity to choose the best sight which is far from people's residents, an area where it is silent and has little disturbance and a place which is safe from predators (Ross, 2009). This is not usually possible if the land is too small and squeezed up. When the land is small, the farmer will be limited on the number of hives to be placed in that piece of land.

It also dictates whether the land can be used purely for beekeeping or can be practiced with other farming methods. When the land is small, the farmer might be forced to

practice several types of farming in the same land. For instance, some have to practice crop farming, animal husbandry as well as beekeeping. If for instance the farmer has several pieces of lands, he/she can decide to purely practice beekeeping on one piece of land but if he has one small piece of land, he/she will be forced to practice several types of farming methods in the same land (Abebe, Puskur & Karippai, 2008).

Land tenure also influences the type of crops grown in a farm. There are crops which are friendly to apiculture and others which are not. An individual's cropping decisions is influenced by global commodity crop, markets and state policies (Carrol & Kinsella, 2013). Biofuel crops are not good for bees and if a farmer decides to grow them. This is because during growth, biofuel crops are sprayed with insecticides, herbicides and fungicides to control pests and diseases and also weeds which kills the bees through poisoning them. Because of high market demand land has been converted from growing bee-friendly covers to corn and soya beans which increase pesticide use which has lethal and sub-lethal effects on bees.

In most African communities, women's access and control over land is limited because land is usually passed to adult males (Kabarne, 2010). Women do not possess inheritance rights (Kachika, 2009). Land is usually transferred from a deceased man to his brother or nephew. This is in accordance with the decisions of the clan even in matrilineal clan (Stagey, Gebreeziabher & Mesfin, 2017). In Kenya, most communities have customary laws that prevent women from accessing and controlling land independent from their husbands and male relatives. For women, their land rights are compromised even when female headed households are at an increase (Lachampelle, 2008). This way, women's decision making on beekeeping is skewed since they do not possess any right to control land as a resource. This was the case in the study area where women did not have a lot of say in what happens on family land. Many women reported that it was the role of their husbands to decide on what was to be put on the land and for the women, they would accept without questioning their husband's decisions.

Abebe, Puskur and Karippai (2008) noted that land tenure dictates if the land can be used purely for beekeeping or can be practiced with other farming methods. When the land is small, the farmer might be forced to practice several types of farming in the same land. A farmer with several pieces of lands can decide to purely practice beekeeping on one piece of land as opposed to practicing several types of farming in the same land when with one small piece of land. Carrol and Kinsella (2013) found that land tenure also influences the type of crops grown in a farm. There are crops which are friendly to apiculture and others which are not. A farmer is only able to dictate the use of available land with respect to beekeeping if he has appropriate type of tenure. If the land is individually owned, a farmer can decide on her own on what to plant in it unlike if it is communally where people can have different opinions on what to put in the land.

Gender equity and equality has not yet been realized especially in access and control over land. From the research interaction in all women groups customary laws on

inheritance have hindered realization of women influence on control and access over land. Land as a key factor of production which was highlighted to be dominated by men as key decision concerning production such as when to produce? Where to produce? What to produce? How much to produce? Are based on access and control over land resource? Women acknowledged the need to follow customary laws of inheritance in order to maintain family fabric, reduce court cases and reduce divorce cases emanating from wrangles on land. The fear of social outcast and court cases have led women to maintain status quo on issues of land inheritance thus the continuity of gender disparity on land control and access.

Kabarne (2010) observed that in most African communities, women's access and control over land is limited because land is usually passed to adult males. Additionally, Kachika (2009) found that women do not possess inheritance rights in most African communities. Saleth, Samad, Molden and Hussain (2003) noted that participation of women in bee keeping is hampered partly by the fact that land is usually transferred from a deceased man to his brother or nephew (not to women). This is in accordance with the decisions of the clan even in matrilineal clan.

Lachampelle (2008) found that most communities in Kenya have customary laws that prevent women from accessing and controlling land independently from their husbands and male relatives, a fact that significantly affect bee keeping. For women, their land rights are compromised even when female headed households are at an increase. This way, women decision making on beekeeping is skewed since they do not possess any right to control land as a resource. According to a study carried out by Food and Agricultural Organization (FAO) in (2016), most farmers have opted to use green houses in growing various crops. Green houses closes out the bees making it hard for them to access the flowering plants inside the green houses. Horticulture, floriculture and agronomy are mostly carried out in green houses in the modern world.

2.3 Categories of Land Tenure in Kenya

There are four categories of land tenures. The first type is private land ownership where land is assigned to an individual, a married couple, and a group of people or a corporate body e.g. a non-profitable organization. The second category is communal land ownership where members of a community own land and can be used for activities like grazing. The third category is open-access type of land ownership where there are no specific land rights given to anyone and no one can be excluded for example in marines or forests and the last category is the state land ownership where property rights are assigned to some authority in the public sector. The most common type of land ownership in Baringo South Sub-County is the private land ownership. There is also an open access whereby some areas have been left as forests or water catchment areas.

3. Methodology

This study adopted descriptive survey design. Survey research provides the researcher on perceptions and information on research variables (Orodho, 2004). The study was conducted in Baringo South Sub-County. Study population is the list of all items that the study is interested in (Hisao, 2009). The study targeted 270,000 females living in Baringo South Sub-County and randomly selected 700 females of majority age formed the sample frame for the study. The study adopted simple random sampling and selected 127 respondents. Simple random sampling is free from bias and ensures equal chances of a population element being selected into a sample (Carron, 2003). Data was collected through questionnaires and interviews. Questionnaire assures a high response rate and a minimum bias (Mugenda & Mugenda, 2003). Before the actual data collection, pre-test was done through validity and reliability analyses. The researchers sought approval from National Council for Science, Technology and Innovation (NACOSTI). In addition, the study ensured ethical and professional considerations are taken care of. Data analysis involved ordered logistic regression to examine the relationship between Land Tenure and Beekeeping.

4. Discussion and Conclusion

4.1 Discussion

50 % of the respondents agreed that women could own land in their area. From the interview schedule, a respondent explained that many women accessed land in marriage. They have the right to plant crops in it, practice beekeeping in it but when it comes selling it, that right is withdrawn from them. Women cannot sell their husbands land because it is not in their names. The man has all the powers to sell it and not the woman.

Among all communities in Baringo South Sub-County, it was evident that land is controlled by men who decided on all transactions. Land was seen as a source of wealth and power at household level and at community level. The larger the size of land the wealthier the family and the smaller the size the less the family was seen as wealthy. The size of land and productivity were key factors that determined the type of agricultural production and scale of production. Those with small pieces of land diversified their production by integrating livestock production and crop production particularly sorghum, millet and groundnuts in order to increase their income levels. As a result of high unemployment in the study area men have dominated decision making on the utility of the land as it was the key factor of production. In the study area the rural women reported that women control land when they were married, widowed or single based on the family background such as level on education, family norms and occupation of the husband and wife.

Most women in Baringo South Sub-County owned land through marriage. Culture dictated that once a woman got married, the land owned by her husband becomes a matrimonial property and a property for both the husband and wife. A few women had bought land for themselves

although they still faced a lot of resistance from the men in the area. From the interview schedule, a respondent stated that, when women tried to buy land and register it under their names, the men in the area were hesitant. She further explained that she was a single mother and when she needed land to build a home for her family, a clan elder demanded that she should get married for her to access land in her husband's premises. Her brother had to intervene and that is when she managed to buy her small piece of land.

48.4% indicated that land was communally owned since most respondents lived in their ancestral land which was under the names of their ancestors and older members of their extended families. This type of land was passed on from the grandfather to the father to the son to the grandson and so forth. Majority of women own (62.5%), accessed and controlled land through inheritance which was a cultural way of passing ownership of land from one generation to another as presented in figure 2. Women have also been able to access and control land through leasing and the least way was through government allocation through land adjudication. Kenyan government has developed policy on land and women have equal rights to own, access and control land. In the study area land was still the ancestral land was mostly given to family members through inheritance. Ancestral land cannot be sold since it was believed to belong to the family members and not outsiders. A few women bought land for themselves but they faced

resistance from the males in the area since they had to belong to those families for the land to be sold to them. Some family elders could decide to give land to their female relatives especially if they were not married or if they were divorced by their husbands. They did this through mutual agreements with the males of the families. Most of the communities in the study area had limited provisions for women to customarily inherit wealth and property including land.

A respondent in an interview schedule outlined that, "the Kenyan constitution (2010) has helped women when it comes to land ownership rights. It is now a law that women can own property too and in case of disputes in land, women can seek justice in the court of law just like the men." According to Kabarne (2010), land is passed to adult males; mostly from fathers to their sons. Girls in most communities are not given any pieces of land. Kachika (2009) in his study found out that women do not possess inheritance rights in many communities. Carrol and Kinsella (2009) in their study found out that women and girls suffer from inequitable land rights. This study found out that there exists an inequality when it came to inheritance of land among the Kalenjins and thus is consistent with studies of other researchers.

Respondents' perception about how land tenure influence beekeeping was sought and results summarized in Table 1

Table 1: Land Tenure and Beekeeping

Opinion	SA	A	U	D	SD	Total	Mean	Stddev
Land is a hindrance in beekeeping	8 (6.3)	58 (45.3)	6 (4.7)	46 (35.9)	10 (7.8)	128 (100)	3.063	1.176
Poor utility of land affects beekeeping	12 (9.4)	77 (60.2)	9 (7)	25 (19.5)	5 (3.9)	128 (100)	3.516	1.035
Land fragmentation affects beekeeping	14 (10.9)	79 (61.7)	5 (3.9)	25 (19.5)	5 (3.9)	128 (100)	3.563	1.048
The cropping systems in the land affects beekeeping	8 (6.3)	47 (36.7)	11 (8.6)	44 (34.4)	18 (14.1)	128 (100)	2.867	1.232
Access to land promotes women's access to beekeeping	30 (23.4)	82 (64.1)	1 (0.8)	11 (8.6)	4 (3.1)	128 (100)	3.961	0.934

Key: SA - Strongly Agree, A - Agreed, U - Undecided, D - Disagree, SD - Strongly Disagree

From the study results in table 1 above, majority of the respondents supported that statement that access to land promotes women's access to beekeeping. When women get a good access to land, they can decide to put more bee hives which will automatically translate to a higher production of honey at the long run.

This study found out that land fragmentation affected beekeeping. Land fragmentation discouraged beekeeping because a farmer could not mix beekeeping with other farming methods such as dairy or goat keeping in the same piece of land. Bees are very aggressive insects and could kill the animals. Bees cannot be kept in the resident area because they can kill people. From an interview schedule, a respondent responded that, "small pieces of land discouraged beekeeping because if someone has a small piece of land where she lives with her family, she cannot keep bees there. Bees require a silent place with minimal disturbance. Bees can become very aggressive when they are disturbed and can cause a lot of harm to both human beings and animals too."

Majority of the respondents agreed with the statement that poor utility of land affected beekeeping. Specifically, poor utility of land has affected beekeeping to a large extent.

When land was left fallow and nothing planted in it, then it becomes a waste. Moreover, when toxic crops that do not support beekeeping were planted, then the bees were poisoned. This pulls beekeeping backwards since beekeeping requires the existence of many healthy bees to thrive. The use of green-houses discouraged beekeeping because the flowering plants were closed in the green houses and could not be accessed by the bees.

The study noted that land was a major hindrance for women to venture into beekeeping. This could be attributed to patriarchal system where men were favored to own and control land. Most of the respondents (45.3%) agreed with the statement that land was a hindrance in beekeeping among women. A respondent in an interview schedule reported that, "If a woman does not own land, she has no rights to make decisions on whether to plant crops, keep goats, and keep cows or bees in it." Among the Tugens, land belongs to men and therefore women in marriage have to seek permission from their husbands to practice beekeeping in the piece of land owned by the family. If the man denies the woman the chance to practice beekeeping, then she lacks option and has to give up on beekeeping.

Most of the respondents, (2,867) mean, agreed with the statement that the cropping systems in the land affected beekeeping. Agro-chemicals posed a big threat to bees because they reduced their life expectancy through poisoning. Some crops grown by farmers took so long to flower and that meant when such crops were planted, the bees would lack flowers to collect nectar and pollen from and had to travel for long distances to find them. This wasted time for honey production for the bees thus affecting production in the long run. However, Oduol et.al (2013) in his study found out that there are other agricultural activities like fruit farming which compliments beekeeping by providing nectar and pollen needed by the bees.

According to Carrol and Kinsella (2013), many farmers have opted for bio-fuel type of crops which do not support beekeeping. Insecticide use, herbicides and fungicides to control pests and diseases in crops poison the bees and reduce their life expectancy. This affects beekeeping to a large extent. The findings of this study are affirmed by Tesfaye, Begna and Eshetu (2017) who found out in their study that some farmers have opted to planting fast crops which in some cases do not support beekeeping. This is because of their need for a quick source of money.

Using ordered logistic regression, the study tested the research question; *Does the type of land tenure affect women's participation in bee-keeping in Baringo South Sub-County?* The responses were as presented in table 2.

Table 2: Ordered Logistic Regression for Land Tenure and Women Participation in Bee-Keeping

Extent of women participation in beekeeping	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
Individual land ownership	1.207	0.521	2.32	0.020	0.186	2.228
Communal land ownership	0.597	0.735	0.810	0.416	-0.843	2.037
Lease land ownership	-0.075	0.402	-0.19	0.852	-0.862	0.713
No land ownership	-0.993	0.445	-2.23	0.026	-0.121	-1.865
/cut1	2.691	0.517			1.678	3.704
/cut2	4.176	0.614			2.973	5.379
/cut3	4.981	0.672			3.665	6.298
/cut4	5.497	0.731			4.065	6.929
/cut5	7.168	1.160			4.895	9.441

$n = 128$; Log likelihood = -113.47; LR $\chi^2(4) = 28.65$; Prob> $\chi^2 = 0.000$; Pseudo $R^2 = 0.211$

The log likelihood for the fitted model of -113.47 and the log likelihood chi-squared value of 28.65 (p-value = 0.000) indicate that the parameters in the model are jointly significant at 5%. Pseudo R^2 of 0.211 confirms that land tenure was well attributed to the extent of women participation in beekeeping (land tenure account for 21.1% changes in the extent of women participation in beekeeping). The coefficients for individual land ownership and no land ownership were significant at 5% level. However, the coefficients for communal land ownership and lease land ownership were not significant at 5% level. The results in Table 2 show that the coefficient for individual land ownership (1.207) was positive and statistically significant at 5% level (p-value = 0.020). This implies that owning land on individual basis leads to greater women participation in beekeeping. The coefficient for lack of land ownership (-0.993) was negative and statistically significant at 5% level (p-value = 0.026). This implies that lack of land ownership reduces women participation in beekeeping.

These results agrees with Shire, Asabi and Merges (2016) who learnt that in African set up, women are not allowed to own property including land. Because of that reason, women do not have the powers to make decisions on how to use the land. They cannot decide whether or not they should practice beekeeping or practice other forms of farming. They cannot decide on the number of bee hives to place in that piece of land since they are not the land owners. These results are also consistent with Ross (2009) who found that land tenure influence the size of land owned by an individual and by extension the extent of farming that can be practiced. Availability of land enhances opportunity to practice bee farming. If the land is big enough, the farmer has the opportunity to choose the best site which is far from people's residents, an area where it is silent and has little

disturbance and a place which is safe from predators. This is not usually possible if the land is too small and squeezed up. When the land is small, the farmer will be limited on the number of hives to be placed in that piece of land.

4.2 Conclusions and Recommendations

From the findings, the study concluded that land tenure system has a significant influence on women participation in bee keeping. Owning of land on individual basis leads to greater women participation in beekeeping. Lack of land ownership reduces women participation in beekeeping. The study recommends that the county government should put up some legal interventions aimed at enabling more women to own land since this is a prerequisite for greater women participation in beekeeping. Furthermore, elimination of land ownership as a criterion for participating in beekeeping activities such as trainings can attract more women participants who do not commonly own land on individual and communal basis.

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