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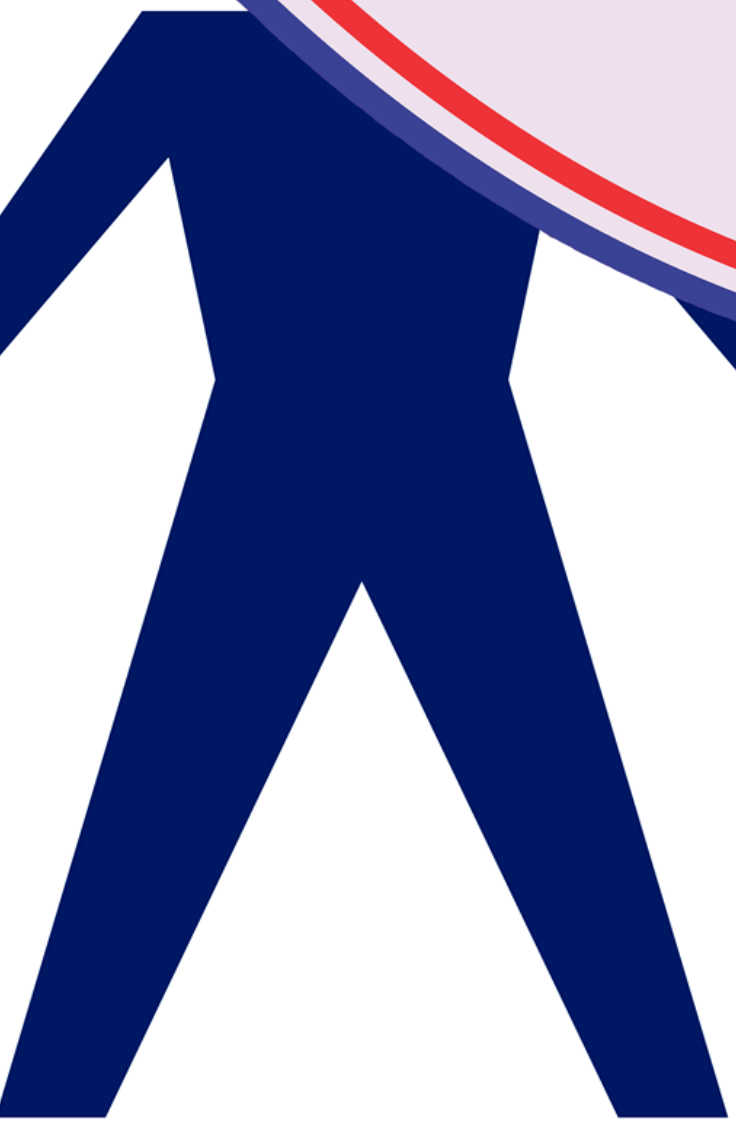

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GENDER GAPS IN DECISION MAKING POWER IN HOUSEHOLDS: CASE OF IMPROVED BEE KEEPING AMONG THE MAASAI COMMUNITY IN TRANS MARA, NAROK COUNTY, KENYA

[1]Miriti Lydiah
PhD Student: School of Humanities and Social Sciences Department of Sociology and Gender Studies Kenyatta University Kenya
[*]Corresponding Author's E-mail: lydiahmiriti@gmail.com

[2]Wamue Ngare
Associate Professor: School of Humanities and Social Sciences Kenyatta University
Email: gwamuengare@yahoo.com

[3]Masiga Casper
Senior Lecturer: School of Humanities and Social Sciences Kenyatta University
Email: casperochieng@gmail.com

[4]Maina Immaculate
Senior Researcher : Kenya Agricultural and Livestock Research Organisation
Email: immaculate.n.maina@gmail.com

Abstract

Purpose: This study sought to explore gender gaps in decision making power in improved bee keeping households among the *Maasai* community in Trans Mara, Narok County, Kenya.

Methodology: Random and snowball sampling was used. A of 110 households were interviewed while 36 participants were selected for focus group discussions (FGDs) and 16 key informant (KII) were also interviewed. A FGD guide was used to collect information in group discussions while interview schedules were used for KIIs. Data collected was analysed using SPSS and excel spreadsheet.

Findings: Findings indicate a higher consensus among group members' households compared to non-members. It can be argued that trainings in improved bee keeping have enhanced joint decisions, a factor that reduces gender gaps. However, in both categories (group members non-members), men have a higher decision making power in purchase and sale of all household assets while women's is minimal or none at all. Women have input in decisions concerning poultry. Further, men have input to most or all decisions pertaining income generated from productive activities, including bee products.

Unique contribution to theory, practice and policy: The study suggests awareness initiatives and household empowerment targeting power imbalances and cultural stereotypes, especially those that deter socio-economic development. In such forums, trainings and discussions should be promoted on gender roles, unequal workload, rights and responsibilities especially importance of individual and joint decision making power. This will address both household and community inequalities, and minimize the gender gap for enhanced participation and access to benefits in agricultural value chains.

Key words*: Improved Bee Keeping, Participation, Gender, Imenti South District, Kenya.*

1.0 INTRODUCTION

According to Katinka (2014), technology transfer among conservative communities is supposed to increase productivity through improved access to technologies adapted to them, improve food security and nutrition. However, awareness-building efforts are crucial in order to counteract the damaging traditional beliefs and promote equitable participation especially in decision making within households. This reduces discrimination related to gender. Tripathi, *et al*., (2012) argue that in developing countries, gender gaps in agriculture have existed for decades yet majority of rural people depend on it for income, food security and economic development. Laven and Verhart (2011) indicate that women have a lower access to resources than men and also experience other social economic and gender barriers. It is expected that empowerment of households is one possible way to reduce the power asymmetries in agricultural value chains, and possibly reduce the challenges that vulnerable farmers face in their participation (USAID, 2009).

Over the past decade, beekeeping is emerging as a successful area of livestock production for rural people in less developed countries, mainly due to its economic benefits from products (Kugonza, 2009). According to Tabinda, *et al*., (2013), bee technology projects in Pakistan are playing a major role in empowering rural women who are generating income from the enterprise.

In Kenya, beekeeping is well established and can be successfully carried out in about 80% of the country (GOK, 2009). According to Kiptarus, *et al*., (2011), beekeeping is a valuable enterprise within Kenyan agricultural sector, contributing about Ksh.4.3 billion. From honey production alone, it is estimated at 25,000 MT annually. The industry harbours a great potential for increasing incomes among rural poor and supportive sustainable development. The enterprise contributes to National Policy objectives spelt out in the strategic plan and vision 2030 with emphasis on food security, increased household incomes through value added hive products, employment creation especially the youth, access to markets and conservation of the environment (Kiptarus *et al*., 2011).

GOK (2009) argues that despite the huge potential of honey and beeswax production, the country is unable to meet its current local market demand and the deficit is met through imports. As a result, despite the realisable advantages of improved bee keeping, the sector remains largely underdeveloped due to the fact that in many parts of the country, it is still carried out as an indigenous activity by men and passed down through generations irrespective of new technology in its production. On the other hand, since the enterprise is a male domain, it is men who mostly inherit it hence, making most decisions concerning income derived from its products. As a result, women continue to be vulnerable. For example, (GOK 2009) argues that cultural beliefs and taboos in some communities have caused bias as to who should keep honey bees. Consequently, women are not allowed to practice beekeeping leaving the industry a man's domain. Despite the drawbacks, beekeeping technology has many advantages hence, it is compatible with vulnerable farmers' needs. Consequently, it builds a case for promoting participation of both genders. This study therefore sought to explore decision making power and its impact in improved bee keeping households among the *Maasai* community in Trans Mara, Narok County, Kenya, with an aim of making it gender responsive for meaningful development and food security.

The study was responding to the following objectives;

1. Decision making on sale or purchase of productive assets and their ownership in the household
2. Decision making regarding use of income generated from productive activities
3. Leadership ability in the household to participate in most community groups

2.0 LITERATURE REVIEW

An earlier study by World Bank (2012) argues that a women's ability to increase the value of their contributions to livestock is important not only in terms of the value of the income they earn but the value that income has in changing gender roles and relations in the household, community, and elsewhere. A report on qualitative case studies collected from different countries reported various views on decision making power (Becker, 2012). For example in Guatemala, empowerment was viewed on "decision-making capability" and "equality" with men. In Bangladesh, the focus was in the family; the ability to work jointly as a male head and his spouses. Becker concludes that participating in income-generating activities successfully empowers not just an individual but an entire household.

Alkire *et al* (2010) indicate women should be able to make decisions in key areas of agricultural production, purchase or sale of assets in the household and control over income from productive labour. The scholars argue that agricultural innovations that greatly increase labour burdens may have a negative effect, even if income increases, whereas labour-saving technologies may benefit women even if they do not improve production or incomes. On the other hand, labour-saving technologies that reduce the time women need to spend on domestic work may also give them more freedom to choose among activities that are empowering if these options had not been available in the past. This study sought to explore whether this is the case in the study area especially after the introduction of improved bee keeping. This is due to what Waithanji *et al*., (2013) argue that as livestock production become more commercialized, female smallholder farmers may not be able to compete with, and benefit like their male counterparts. According to the scholars, women have a lower access to resources than men, and they experience other social economic and gender barriers. This validates this study's results which is the case in many African households. However, the study further explored consequences of these barriers in participation especially in transferring improved bee keeping in a conservative community.

A study by Njuki *et al*., (2013) show that in Kenya, Tanzania and Mozambique, women owned livestock because they had purchased them with their own generated income or had received them individually through grants from NGOs. This type of ownership, however, did not mean that they always had decision-making authority, or control over the livestock and this study explored this fact and suggested way forward. Meinzen-Dick *et al*., (2013) stated that women tend to have far more rights to access and dispose livestock products than they do over live animals. This is mainly because for most of them, access to cattle is by virtue of their relationships to men (husbands, fathers and sons) who control them. Consequently, in spite of the central roles they play in small-scale livestock systems, women are severely limited in their ability to make decisions regarding the enterprises. In addition, they receive little outside support to help them make better decisions concerning the animals. This study explored whether belonging to improved bee keeping groups has increased decision making power to own productive resources in the household, either as individuals or jointly.

Earlier studies have also recorded similar findings. For example a study by Kimani and Ngethe (2007) indicate that among the *Maasai* pastoralists in Kenya, women's access to extension services are restricted by cultural as well as time constraints. In Zimbabwe, women complained that cattle are generally registered in their husband's names and the department of veterinary services excludes them from livestock initiatives (Chawatama *et al*. 2005. Though these studies were conducted more than a decade ago, they confirm the assertion that decision making power in African households is gendered and this has not changed. Consequently, women's marginalisation especially in commercial agriculture increases yet, it is intended to increase income, raise community's living standards, for enhanced food security and poverty alleviation. Inequalities are intensified in decisions concerning control of productive resources, a fact that this study sought to verify in Trans Mara and suggest how development interventions can employ gender responsive strategies for enhanced participation.

3.0 METHODOLOGY

Study Area

The study used an investigative survey design. It provided multiple data collection through in-depth interviews from key informants as well as focus group discussions thus, both qualitative and quantitative in nature. The study was conducted in Trans Mara, Narok County, Kenya. According to 2010 Population and Housing Census, Trans Mara had a total of 254,532 persons, 137, 168 males, 137,364 females and 50, 923 households. After the New Constitution (2010), Trans Mara has been sub divided into two Sub Counties namely Trans Mara East and Trans Mara West (GOK, 2010). The choice of Trans Mara was based on what emanated from a three month scoping study whose stakeholders agreed that bee keeping was one of the commodities among the five (Banana, African leafy vegetables, Passion fruits, and Indigenous chickens), that are best placed for increased incomes and food security among resource poor farmers, especially women and Trans Mara was selected as the site to transfer the improved bee keeping in 2010. Bee keeping in Trans Mara has been practiced traditionally by men but after improvement it started attracting women (Sitati and Bett, 2012). It was found to have a lot of unexploited potential and capacity to improve livelihoods. Therefore, these factors informed the selection of the study area. The target population comprised of all men and women farmers who were members in the improved bee keeping groups in the study area between 2010 and 2015. The total population was therefore 632 men and women comprising of those who were married, single, widowed and youth. Also targeted were men and women who were not members in the improved bee keeping groups but were keeping bees within this period. These were used as control.

Sampling Procedure

In this survey, the study used both random as well as snowball sampling with the help of group leaders who provided a list of group members. As such, a total of 225 men and women were sampled. With assistance from the group leaders, the study made efforts to ensure that households sampled had received trainings. Stratified random sampling was used to select fifty five (55) respondents. Their spouses were directly selected. Hence, out of the sampled fifty five (55), forty (40) were male headed while fifteen (15) were female headed translating into 24% of the target population (225). The sample size is represented in the table below.

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Table 1: Sample Composition of HH Empowerment Survey

Division	MHHs	FHHs	Total interviewed	Target	% of target
Lolgorian	18	4	22	92	24
Angata	16	4	20	80	25
Kirdon	4	6	10	40	25
Kilgoris	2	1	3	13	23
Total	40	15	55	225	24

The study had a control group (those who were not trained for comparisons of results) in which snowball sampling was used. Since the group leaders knew their members, they acted as key persons in identifying households who did not belong to the improved bee keeping groups and had at least two traditional hives in their apiaries. In every Division, three individuals were identified and data collected from them. The group leaders, together with the persons interviewed assisted in identifying other people in their locality who also became part of the sample. Information was collected from them and they also identified others until the required number in each division was reached. The study needed an equal number (55 respondents) of a control group. In Lolgorian, Angatia, Kirdon and Kilgoris. 24, 19, 9, and 3 were selected respectively totalling 55 (42 male headed and 13 female headed). The sample size is represented in the Table below.

Table 2: Sample Composition of HH Empowerment Survey (Control)

Division	MHHs	FHHs	Total
Lolgorian	19	5	24
Angata	15	4	19
Kirdon	6	3	9
Kilgoris	2	1	3
Total	42	13	55

Sixteen (16) key informants were selected from improved bee keeping group leaders, bee products retailers, KARLO officers and County Agricultural officers. For group leaders, a list was obtained and through stratified random sampling, respondents were selected. Efforts were made to categorise the leaders into clusters of chairpersons, secretaries and treasurers. From each cluster, more efforts were made to include both men and women and 10 were selected. The study further randomly selected 2 County agricultural officers. Convenience sampling was then used to select 2 bee product retailers. Thirty six (36) men and women who were participating in improved bee keeping groups between 2009 and 2015 were sampled for FGDs. Participants were selected using stratified random sampling. This being a gender survey, efforts were made to ensure that gender and age was taken care of. The names of all the 32 improved bee keeping groups were clustered into categories of; mixed gender, same gender and youth. From each cluster, the groups were written on papers; each was given a number, cut and rolled, then four (4) were randomly selected, 1 mixed gender, 2 same gender and 1 youth group. This gave every group an equal and independent chance of selection. The same procedure was repeated to select the people to participate in FGDs; this time from the 4 sampled groups.

Data Collection Methods, processing and Analysis

To collect household data, structured and semi-structured interviews with closed and open ended questions were used. A FGD guide was used to collect information from participants in group discussions. Interview schedules were used for KIIs. The guides had open ended questions which slightly varied in content depending on information represented. Secondary data on bee keeping was also collected from the ministry of agriculture offices in the region as well as Kenya Agricultural and Livestock Research Organisation (KALRO) Trans Mara, which has a component that trains bee farmers in the area. Quantitative data collected was processed through manual cleaning and then edited. This involved scrutiny of research instruments in order to address any possible errors, and any information gaps that may have been obtained from the respondents. The data was then coded in a book. It was followed by data entry which was eventually analysed using descriptive statistics in SPSS computer software version 20. Qualitative data was processed by cleaning it manually through identification of main themes from in-depth interviews. It was then classified as per the study objectives. Excel spreadsheet was used for further data interpretation.

4.0 RESULTS AND DISCUSSIONS

4.1 Summary of Domains and Related Indicators

One was considered to have decision making power in the domains if they had an input into most, or all domains as shown in the Table below.

Table 3: Summary of Domains and Related Indicators

Domain	Indicators: Input in Decision Making in:
Resources	Ownership of assets, Purchase, sale, or transfer
Income	Control over use of income
Leadership	Group membership

Two major questions were asked. 1. Who normally makes decisions on (production, resources, income, or leadership)? 2. To what extent do you feel you can make your own personal decisions regarding (domains in 1 above)? The choices were based on the following variables:

Question 1:

1. Household head only
2. Spouse (wife only)
3. Household head and spouse jointly
4. Household jointly
5. Household head and other household member
6. Spouse and other household member
7. Household head and other outside people
8. Spouse and other people

Question 2:

1. Not at all
2. Small extent
3. Medium extent
4. To a high extent

FHHs were excluded from further analysis since majority of them were the sole decision makers in their homes. The focus was on male headed households. The analysis was undertaken by use of two categories; membership and non-membership to improved bee keeping groups. This is because bee keeping groups received various skills as well as improved hives for free (five per group), during the transfer of the improved enterprise as opposed to non-members.

4.2 Decision making Power in Productive Resources

The resources dimension comprised of three indicators namely; (a). Ownership of assets, (b). Purchase or sale or transfer of assets and, (c). Access to and decision on credit. The respondents were asked three main questions? (i). who mostly decided to sell or purchase various household assets? (ii) Who would keep various household assets in case of dissolution of marriage? (iii) Who in the household would make the decision to take a loan, how the loan would be used and who would repay it? Decision making power over resources was attained by having the highest input into most or all decisions regarding purchase and sale of productive assets as recorded in Tables 4 and 5 below.

Table 4: Key Decision Makers on Purchase of Household and Farm Assets

Personal items e.g. cell phone, household, and farm assets	Category (group member)?	Who makes decision to buy HH and farm assets? (%)				
		HHH alone	Wife alone	HHH & wife	HH Jointly	Total
Agric. land (pieces/plots	GM	20.5	0	77.2	2.3	100
Large livestock e.g. Cows, donkeys,	GM	20	2.5	72.5	5	100
Small livestock e.g. goats, sheep,	GM	14.7	2.9	82.4	0	100
Chickens, ducks, turkeys	GM	8.9	40	48.9	2.2	100
Farm equipment (non-mechanized)	GM	22.6	3.2	71	3.2	100
Farm equipment (mechanized)	GM	27.8	5.6	66.6	0	100
Nonfarm business equipment	GM	16.7	11.5	55.2	16.6	100
House and other structures e.g. sheds, storage huts	GM	10.8	0	83.8	5.4	100
Large consumer durables (fridge, TV, sofa seats)	GM	36.8	5.3	57.9	0	100
Small consumer durables (radio, cookware)	GM	29.6	7.4	59.3	3.7	100
Cell phone	GM	18.2	36.4	42.4	3	100
Other land not for agric. (residential or commercial)	GM	33.3	0	66.7	0	100
Transportation means (bicycle, cart, motorcycle, car)	GM	33.3	0	50	16.7	100
Agric. land (pieces/plots)	NGM	48	0	42	10	100
Large livestock e.g. cows, donkeys, oxen	NGM	43.5	2.2	41.3	13	100
Small livestock e.g. goats, sheep	NGM	34.1	4.9	41.5	19.5	100
Chickens, ducks, turkeys	NGM	20	24.4	33.3	22.3	100
Farm equipment (non-mechanized)	NGM	38.4	5.1	46.2	10.3	100
Farm equipment (mechanized)	NGM	34.8	0	52.2	13	100
Nonfarm business equipment	NGM	50	0	40	10	100
House (and other structures)	NGM	48.8	0	41.9	9.3	100
Large consumer durables (fridge, TV, sofa seats)	NGM	43.8	6.3	31.3	18.6	100
Small consumer durables (radio, cookware)	NGM	50	0	36.1	13.9	100
Cell phone	NGM	26.5	32.4	17.6	23.5	100
Land not for agric. (residential or commercial)	NGM	57.9	0	36.8	5.3	100
Transportation means (bicycle, cart, motorcycle,	NGM	40	0	20	40	100

car)		

Key: GM-Group Member; NGM-Non Group Member (Control), HH-House Hold

Table 5: Key Decision Makers on Sale of Household and Farm Assets

Personal items e.g. cell phone, household, and farm assets	Category (group member)?	Who makes decision to sell HH & farm assets?					
		HHH alone	Wife alone	HHH & wife	HH Jointly	other HH M	Total
Agricultural land (pieces/plots	GM	15.9	0	77.3	2.3	4.5	100
Large livestock (oxen, buffalo)	GM	27.5	2.5	70	0	0	100
Small livestock (goats, sheep,)	GM	26.5	0	73.5	0	0	100
Chickens, Ducks, Turkeys,	GM	15.6	44.4	40	0	0	100
Farm equipment (non-mechanized)	GM	32.3	6.5	61.2	0	0	100
Farm equipment (mechanized)	GM	16.7	5.6	77.7	0	0	100
Nonfarm business equipment	GM	16.7	20.3	56.3	0	6.7	100
House (and other structures)	GM	10.8	2.7	81.1	0	5.4	100
Large consumer durables (fridge, TV, sofa seats)	GM	31.6	0	63.2	0	5.2	100
Small consumer durables (radio, cookware)	GM	37	7.4	55.6	0	0	100
Cell phone	GM	21.2	60.6	18.2	0	0	100
land not for agric.(residential or commercial land)	GM	30.8	7.7	61.5	0	0	100
transportation means (bicycle, cart, motor car)	GM	30.3	0	56	11.1	2.6	100
Agricultural land (pieces/plots	NGM	40	0	42	12	6	100
Large livestock (oxen, buffalo)	NGM	45.7	2.2	37	10.9	4.2	100
Small livestock (goats, sheep,)	NGM	43.9	4.9	34.1	12.2	4.9	100
Chickens, Ducks, Turkeys,	NGM	28.9	42.2	13.3	8.9	6.7	100
Farm equipment (non-mechanized)	NGM	51.3	7.7	33.3	5.1	2.6	100
Farm equipment (mechanized)	NGM	39.1	8.7	34.8	8.7	8.7	100
Nonfarm business equipment	NGM	60	20	10	10	0	100
House (and other structures)	NGM	37.2	2.3	44.2	4.7	11.6	100
Large consumer durables (fridge, TV, sofa seats)	NGM	31.3	0	37.5	18.8	12.4	100
Small consumer durables (radio, cookware)	NGM	52.8	0	30.6	11.1	5.5	100
Cell phone	NGM	29.4	35.3	8.8	20.6	5.9	100
land not for agric.(residential or commercial land)	NGM	52.6	5.3	31.6	10.5	0	100
transportation means (bicycle, cart, motor car)	NGM	40.3	25.3	21.4	11.6	1.4	100

Key: GM-Group Member; NGM-Non Group Member (Control), HH-House Hold, M-Member

Findings indicate that majority of improved bee keeping households (70% and above), had joint consensus concerning purchase and sale of land, livestock, farm equipment and houses. This is in comparison to non-members whose decisions are distributed between men and joint consensus.

Observably, men's decision making input in purchase and disposal of assets is higher in comparison to their spouses which is either very little, or none at all. The only autonomy women had was decision to purchase or sell poultry and their cell phones**.** Apparently, joint decisions were made in sale of assets by the whole household including children and other members living within it. The above results alludes therefore that there is empowerment among members in improved bee keeping groups, which is attributed to sensitization during trainings concerning the importance of joint decisions, key factor that bridges the gender gap within households.The findings corroborates Flintan (2008) who argues that in some pastoral communities, men cannot buy or sell household assets without approval from women and sometimes also children. Similar findings are recorded by other studies focusing on the livestock sector. Waithanji *et al*., (2013) argue that men and women may differ in types of rights they have to cattle, which can be divided into; user, resource access and decision-making such as purchase or sale of resources in households. These studies support the inequalities found in many African households, the study area included. Men control productive resources, a scenario that marginalizes women from engaging in a meaningful participation in improved bee keeping. For example, their participation in access to improved equipment was low mainly and due to lack of capital and being new in bee keeping, women's limitations should not be ignored during transfer. It can be supported through awareness initiatives, for instance, the importance of sharing productive resources in households and within neighbourhoods, and this can enhance equity in control of productive asserts and increase participation in value chains.

4.3 Ownership of Household Assets

Ownership may imply legality where the person has a title to an asset or property which is mainly applicable to resources such as land. For livestock, however, there is no legal title or document to show possession except the means of acquisition such as purchase, hence, the study sought to find out who owned household assets in MHHs. Results are recorded in the Table below.

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Table 6: Ownership of Productive Capital Asset

Personal assets (cell phone), Household asset types and Farm assets	Category Group member?	Who has control of the following assets?				
		HH Head alone	Wife alone	HH Head & Wife	HH Jointly	Total
Agricultural land (pieces/plots	GM	54.5	0	38.6	6.9	100
Large livestock (cows, oxen,)	GM	60	0	37.5	2.5	100
Small livestock (goats, sheep)	GM	47.1	2.9	50	0	100
Chickens, Ducks, Turkeys, Pigeons	GM	13.3	64.4	20	2.3	100
Farm equipment (non-mechanized)	GM	41.9	9.7	41.9	6.5	100
Farm equipment (mechanized)	GM	66.7	5.6	22.2	5.5	100
Nonfarm business equipment	GM	33.3	33.3	16.7	16.7	100
House (and other structures)	GM	37.8	2.7	51.4	8.1	100
Large consumer durables (TV, sofa seat, fridge,	GM	21.1	15.8	57.9	5.2	100
Small consumer durables (radio, cookware	GM	70.4	11.1	14.8	3.7	100
Cell phone	GM	17.6	61.8	17.6	3	100
land not for agric. residential/commercial	GM	30.8	15.4	53.8	0	100
transportation (bicycle, cart, motorcycle,	GM	66.7	0	16.7	16.6	100
Agricultural land (pieces/plots	NGM	64	0	18	100	100
Large livestock (oxen, buffalo)	NGM	71.8	0	19.6	8.6	100
Small livestock (goats, sheep)	NGM	56.1	9.8	24.4	9.7	100
Chickens, Ducks, Turkeys, Pigeons	NGM	8.9	71.1	6.7	13.3	100
Farm equipment (non-mechanized)	NGM	46.2	15.4	30.8	7.6	100
Farm equipment (mechanized)	NGM	60.9	8.7	13	17.4	100
Nonfarm business equipment	NGM	70	20	10	0	100
House (and other structures)	NGM	32.6	4.7	53.5	9.2	100
Large consumer durables (TV, sofa seat, fridge,	NGM	37.5	0	37.5	25	100
Small consumer durables (radio, cookware	NGM	63.9	0	22.2	13.9	100
land not for agric. residential/commercial	NGM	57.9	10.5	26.3	5.3	100
transportation (bicycle, cart, motorcycle,)	NGM	40	20	20	20	100

Key: GM-Group Member; NGM-Non Group Member (Control), HH-House Hold

Results indicate that ownership of household assets is dominated by men while women control chicken. Observably, no woman owns cattle or land. Likewise, a few have control of sheep and goats which are either jointly owned or possessed by household head. This corroborates earlier results in the study that even though women had access to big pieces of land, title deeds were vested in their husband's names. Similar to land, ownership of cattle increases income control due to decision making power to sell the same. By not owning such, women are at a disadvantage; it limits their participation in improved bee keeping enterprise, despite being actively involved. The study noted that men control huge herds of cattle. This indicates that women's access to income is limited. Starting any business requires capital thus, lack of access to the same marginalizes women yet they are expected to take part in raising the standard of

living and the fact that *Maasai* community is very conservative increases the gender-gap. They continue to bear the consequences of gender and socio-cultural relations which dominate many African households. It is perceived that decision making power, especially on productive resources, belong to men. Changing these perceptions usually result into gender based conflicts considering the fact that patriarchy dominates most homes. For example, though some women in the study area own hives, decision making power on how to use the income from honey is either made jointly, or solely by the husband.

Further, the study sought to find out and understand ownership of productive assets in case of dissolution of marriage. This assisted in understanding both genders' decision making input is such circumstances especially due to the fact that matrimonial properties bill 2007 stipulates equity in sharing of resources. Results are shown in the Table below.

Table 7: Ownership of Productive Capital Asset at Dissolution of Marriage

Personal (Mobile phone), Household and Farm assets	Category	Who would keep majority assets in case a marriage is dissolved due to divorce or separation?					
		HH head	Wife(s	HHH &wife	HH Jointly	Other (child)	Total
Agricultural land (pieces/plots	GM	46	7	45	0	2	100
Large livestock (oxen, buffalo)	GM	50	5	40	2.5	2.5	100
Small livestock (goats, sheep)	GM	51.2	45		0.9	2.9	100
Chickens, Ducks, Turkeys, Pigeons	GM	40	42	17.8	0.2	0	100
Farm equipment (non-mechanized)	GM	44.2	36.5	12.9	3.2	3.2	100
Farm equipment (mechanized)	GM	55.5	33.3	0	5.6	5.6	100
Nonfarm business equipment	GM	50	33.3	0	16.7	0	100
House (and other structures)	GM	73	2.7	18.9	2.7	2.7	100
Large consumer durables (fridge, TV, sofa seat)	GM	63.1	0	31.6	0	5.3	100
Small consumer durables (radio, cookware)	GM	77.8	11.1	7.4	3.7	0	100
Cell phone	GM	42.4	51.5	6.1	0	0	100
land not for agricultural purposes	GM	61.5	7.7	30.8	0	0	100
transportation (bicycle, cart, motorcycle,	GM	66.7	0	33.3	0	0	100
Agricultural land (pieces/plots	NGM	60	8	22	4	6	100
Large livestock (oxen, buffalo)	NGM	60	14	17.4	4.3	4.3	100
Small livestock (goats, sheep)	NGM	56.5	17.1	17.2	4.3	4.9	100
Chickens, Ducks, Turkeys, Pigeons	NGM	44.5	31.1	13.3	4.4	6.7	100
Farm equipment (non-mechanized)	NGM	43.6	33.4	17.9	5.1	0	100
Farm equipment (mechanized)	NGM	60.9	21.7	8.7	8.7	0	100
Nonfarm business equipment	NGM	40	30	20	10	0	100
House (and other structures)	NGM	72.2	11.6	11.6	2.3	2.3	100
Large consumer durables (fridge, TV, sofa seat)	NGM	56.2	25	6.3	12.5	0	100
Small consumer durables (radio, cookware)	NGM	69.4	13.9	8.3	5.6	2.8	100
Cell phone	NGM	44.1	47.1	2.9	5.9	0	100
land not for agricultural purposes	NGM	57.9	10.5	31.6	0	0	100
transportation (bicycle, cart, motorcycle,	NGM	60	20	20	0	0	100

Results reveal that in case of dissolution of marriage various resources such as non-farm and farm equipment, goats, sheep, and chicken are equitably distributed between men and their spouses. However, productive resources with high value such as land and cattle would revert to men. Although a few women indicate they would have control of some possessions, it should be noted that this is limited to non-productive resources where chicken, sheep and goats would revert to women. Observably, men would possess more of these assets, a culture that makes a community lag behind especially in terms of socio-economic development. As Tripathi *et al*. (2012) argues, women are often not recognized as productive farmers, and rarely benefit from new agricultural research and technologies, and this has contributed greatly to persistence of underlying gender inequalities prevalent in both traditional and modern agricultural value chains, a bias that should be alleviated. This is because cultural stereotypes concerning men's and women's work govern the role women play in commercial agriculture. In modern value chains for example, men are concentrated in well-paying and permanent positions mainly because they control land, labour, and other productive resources in the household, while women predominate as temporary casual labourers. In improved bee keeping, it is not different. Women's low participation is largely due to lack of access to productive assets. The results in the study area corroborates other studies. Rubin *et al*. (2010) note that in mixed crop-livestock systems, men and women own cattle, goats and sheep, though the former, always own more. Concerning decision making on credit, respondents were asked the following questions; who in the household made the decision to take a loan, how the loan would be used and who would repay it. Results are shown in the Tables 8 and 9.

Table 8: Decision Making Power on Credit (Where Men accessed it)

Financial sources	Category	Decision on who to borrow	Decision on how to use	Decision on who to repay
Banks	GM	Household head	Household head	Household head
AFC	GM	Household head	Household head	Household head
Merry-go-round	GM	Household head	Household head	Household head
Banks	NGM	Household head	Household head	Household head
AFC	NGM	Household head	Household head	Household head
Merry-go-round	NGM	Household head	Household head	Household head

Table 9: Decision Making Power on Credit (Where Women accessed it in MHH)

Financial sources	Category	Decision on who to borrow	Decision on how to use	Decision on who to repay
Banks	GM	Joint	Joint	Joint
AFC	GM	Joint	Joint	Joint
Merry-go-round	GM	Spouse	Spouse	Spouse
Banks	NGM	Joint	Joint	Joint
AFC	NGM	Joint	Joint	Joint
Merry-go-round	NGM	Spouse	Spouse	Spouse

Results reveal that in situations where men had taken credit, they made all decisions concerning its use as well as payment. On the other hand, where women had accessed loans from formal lenders (banks and AFC), the decision on use and repayment was made jointly while they made all decisions concerning credit from informal sources (merry-go-rounds). This shows that in MHHs, men's input into decisions concerning loans is dominant whereas women's is limited to

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informal sources. Further, while men have an input in deciding how their spouses can use credit, women have no input at all in their husbands' decisions.

Thus, despite the fact that few women indicated they had accessed formal loans, it occurs the decision on how to use could have been solely the husbands'. Accordingly, although disparities in decision making power are common in most African households, they impact negatively on the socio-economic welfare of a community as is the case in the study area. Women have no control of collateral such as land title deeds. Basically, many acquire loans through sources that do not require such, hence, the more amorphous "merry go round" which give just limited amounts of cash. Consequently, though they would be willing to enhance improved bee keeping. According to Rubin *et al.*, (2010), women have less access to formal financial services because of cultural barriers and collateral requirements and removing these constraints, for example, through low interest credit, more women can participate in value chains, bee keeping included.

4.4 Dimension 3: Income

The income dimension comprised of a single indicator namely the level of input into decision making over income from productive resources. Earlier results have shown that men control productive resources including income from bee products. Therefore the study has documented the input made by their spouses. One was considered empowered if they had an input into most or all decisions regarding use of income generated from these productive activities. Results are recorded in the Table 10.

Table 10: Decision making on use of Income from Productive Activities in MHH

Income Source	Category	Level of input in decisions on use of income generated from different sources (%)					
		No input at all	Input into a few	Input into some decisions	Input into most	Input into all	Total
Food crop farming: crops grown for HH consumption	NGM	2.4	31	31	26.2	9.4	100
Cash crop farming: crops that are grown for sale	GM	6.4	16.1	45.2	32.3	0	100
Dairy cattle rearing	GM	5	27.5	35	20	12.5	100
Poultry keeping	GM	4.5	4.4	4.4	31.1	55.6	100
Bee keeping	GM	34.2	26.3	15.8	21.1	2.6	100
Non-farm economic activities: small business, self-employment,	GM	0	4.8	33.3	28.6	33.3	100
Wage and salary employment: opportunity to engage in paid work	GM	8.3	20	30	25	16.7	100
Food crop farming: crops grown for HH consumption	NGM	8.2	51	26.5	8.2	6.1	100
Cash crop farming: crops that are grown for sale	NGM	46.2	33.3	12.8	7.7	0	100
Dairy cattle rearing	NGM	19.5	34.8	26.1	17.4	2.2	100
Poultry keeping	NGM	4.5	20.5	18.2	36.4	20.4	100
Bee keeping	NGM	42.3	41.2	2.9	11.8	1.8	100
Non-farm economic activities: small business, self-employment,	NGM	6.1	22.2	33.3	5.1	33.3	100
Wage and salary employment: opportunity to engage in paid work	NGM	15	20	20	30	15	100

Majority of women had no input at all in decision making concerning use of income from bee keeping. The highest level of input is recorded in decisions made concerning revenue from poultry and non-farm activities such as small businesses and self-employment. Notably, women in groups, in comparison to non-members, had most decisions in income from bee keeping and other productive resources. This can be attributed to trainings offered at initial stages on decision making power, which further indicates that household empowerment minimizes gender gap. Nevertheless, men's input is recorded in most decisions pertaining use of revenue generated from production activities yet income control is key in exercising choice, and reflects whether persons are able or not, to benefit from their effort. Women in agricultural production usually face many specific barriers preventing them from fulfilling their potential as entrepreneurs thus, undermining their access to income. It is intensified by gender-blind agricultural policies and development projects despite their worthy focus to increase income and food security at community and/or household level. Consequently, they usually overlook the intra-household gender dynamics yet, research from a number of countries indicates that women are more likely to channel income that they control to nutrition, health and education of their children (FAO 2011a). Improving their status can deliver significant impact in realisation of both national and international goals. In this way, cases of women whose agricultural products from their labour are marketed by men, who then keep most income, will be few.

4.5 Dimension 4: Leadership

Leadership captures the key aspects of inclusion, participation and local organizational capacity. It has three indicators namely: group membership, ability to speak in public and ownership of a national identity card. This study analysed the ability to participate in community groups. Results are recorded in the Table below.

Table 11: Group Membership in the Community (%)

Community groups	Category	Women	Men	Total
Religious groups	GM	90.9	9.1	100
Merry-go-rounds	GM	96.8	3.2	100
Agric./ livestock (producer/marketing groups)	GM	70.6	29.4	100
Credit or microfinance group	GM	70	30	100
Civic /charitable group	GM	63.6	36.4	100
Mutual help or insurance group	GM	54.5	45.5	100
Water users' group	GM	50	50	100
Trade and business association	GM	45.5	54.5	100
Forest users' group	GM	34	66	100
Religious groups	NGM	89.7	10.3	100
Merry-go-rounds	NGM	80	20	100
Agriculture/ livestock (producer/marketing groups)	NGM	66.7	33.3	100
Credit or microfinance group	NGM	61.1	38.9	100
Civic /charitable group	NGM	20	80	100
Mutual help or insurance group	NGM	38.5	61.5	100
Water users' group	NGM	36.4	63.6	100
Trade and business association	NGM	41.7	58.3	100
Forest users' group	NGM	33.3	66.7	100

Findings specify majority of women were in religious groups and merry-go-rounds. Observably, women in improved bee keeping groups are more, in comparison to non-members. It can be argued that the former had a higher decision making power to belong to community groups than

the latter, hence, a positive impact for improved bee keeping project. Consequently, their participation in the enterprise has increased opportunities in decision-making both at home and community. As O.I. Nareiyu Koin (28/12/2015) observes, an empowered woman has got the ability to make decisions to join community groups of her choice.

On the other hand, most men were in groups concerning water, forest, trade, and business associations. In contrast, men who were in groups are fewer compared to non-members and this can be attributed to earlier findings. Notably, men and boys exclusively perform all bee keeping activities in the study area. Results showed that apart from their individual apiaries, they were managing their respective groups', as well as women's apiaries who were hiring male labour. This requires availability and commitment. Consequently, they are more burdened in comparison to non-members hence, lack of time to join community groups. However, through awareness and empowerment initiatives, women in the study area are likely to start managing their own apiaries since as King (2013) states, bees do most of the work.

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

Findings indicate that while men have a high decision making input in all agricultural activities, women have some input in own employment and minor household expenditures. Observably, there is higher consensus among group members' households compared to non-members. It can be argued that trainings in improved bee keeping have enhanced joint decisions, a factor that reduces gender gaps. Further, the study noted that men have a higher decision making power in purchase and sale of all household assets while women's is minimal or none at all. Observably, women have no input either in purchase or sale of agricultural land. Their high input is in decisions concerning poultry and non-farm activities such as self-employment. Further, men have input to most or all decisions pertaining income generated from productive activities.

Results further indicate that ownership of household assets including land and cattle, is highly controlled by men while women control chicken, and a small percentage own non-farm equipment. Consequently, men highly control most productive assets yet resources such as cattle increases income control due to decision making power over the animals. As such, men are advantaged than women in accessing capital to enhance improved bee keeping. Notably, some resources such as goats, sheep, farm and non-farm equipment, are equitably distributed between joint ownership and that of household head. These are less productive in comparison to land and large cattle, yet women have minimal control. Decisions have to be jointly made concerning them.

Further findings reveal that women in improved bee keeping groups had a higher decision making power to join community groups in comparison to non-members. It can be argued that participation in trainings during transfer has increased their decision-making power to join societal groups. According to Blumberg's theory, women's participation in value chains should translate into control of productive activities and the benefits that are accrued from them.

5.2 Conclusions

Findings indicate that while men have a high decision making input in all agricultural activities, women have some input in own employment and minor household expenditures. Observably, there is higher consensus among group members' households compared to non-members. It can

be argued that trainings in improved bee keeping have enhanced joint decisions, a factor that reduces gender gaps. However, men in both categories have a higher decision making power in purchase and sale of all household assets while women's is minimal or none at all. Women have no input either in purchase or sale of agricultural land. Their high input is in decisions concerning poultry and non-farm activities such as self-employment. Further, men have input to most or all decisions pertaining income generated from productive activities.

Men highly control land, large cattle and other productive assets while women control only chicken. Small cattle such as goats, and sheep distributed between joint ownership and household head. These are less productive in comparison to land and large cattle. Decisions have to be jointly made concerning them. It can be argued that women have access to both non-productive and productive assets but control is exclusively by men. The study noted that men had input to most or all decisions pertaining use of income generated from production activities including bee keeping. Further findings reveal that women in improved bee keeping groups had a higher decision making power to join community groups in comparison to non-members. It can be argued that participation in trainings during transfer has increased their decision-making power to join societal groups.

5.3 Recommendations

The study noted that men have a higher decision making power in purchase and sale of productive assets and at the same time, have inputs to most or all decisions pertaining the use of income generated from productive activities including bee keeping.

The study suggests that beekeeping interventions, in partnership with county government, local leaders for instance, religious and village elders, and extension agents, should initiate awareness and household empowerment targeting power imbalances and cultural stereotypes, especially those that deter socio-economic development.

In such forums, trainings and discussions should be promoted on gender roles, unequal workload, rights and responsibilities especially importance of individual and joint decision making power. This will address both household and community inequalities, and minimize the gender gap for enhanced participation and access to benefits in agricultural value chains.

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