
Changing Roles in the pursuit of Alternative Livelihoods among Maasai Agro-Pastoralists in Kenya

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Abstract

The Maasai, traditionally pastoralists, are increasingly pursuing agro-pastoralism as an alternative livelihood. Crop cultivation has introduced new activities and decision-making patterns to the households, which few studies have focused on. This study examines the changing roles of Maasai in their pursuit of alternative livelihoods. The study adopted a cross-sectional survey research design. Data were collected through interviews, from 153 male and 87 female household heads in Narok North Sub-county, Kenya. The study found that more females than males were involved in planting, weeding and harvesting while more males were involved in marketing crop produce. Women's involvement in marketing was higher than in pastoralism where they rarely participated. Men made most decisions on crop farming activities, although women's involvement was substantial. The study concludes that agro-pastoralism has led to changed roles among Maasai men and women, and, women bore a heavier labour burden. Crop farming also led to empowerment and improved status of women due to their involvement in marketing, income generation and decision-making. The challenge for the extension service is to provide appropriate support to the Maasai agro-pastoralists in the face of their changing roles, so that they can successfully diversify their livelihoods for improved household food security and incomes.

Introduction

Pastoralism is the bedrock of livelihoods and culture in the arid and semi-arid lands (ASALs), in East Africa. Livestock perform multiple roles to satisfy economic, social and ecological needs among the pastoralists, especially the Maasai. It provides cash through the sale of milk, live animals and other animal products; builds blocks for social alliances (bride price, stock alliances, and stock patronages) and wealth storage (ILRI, 2006; Mathews, 2006; Rass, 2006). Pastoralism has also been key to the identity of the Maasai, who proudly define themselves as people of cattle (Mathews, 2006).

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In recent years, pastoralism has come under increasing pressure due to the effects of climate change and increasing population, urbanization and sedentarisation (Birch & Grahn, 2007; Homewood et.al, 2006, OXFAM, 2008). Many pastoralists are experiencing successive poor rains, leading to insufficient regeneration of grazing land and shrinkage of pastures (OXFAM, 2008). The frequency of droughts and drought-related shocks has also increased. Additionally, due to increasing competition for resources, greater pressure has been put on pastoralist grazing lands and water resources, as population has increased and grazing land has been taken up for cultivation, conservation areas and state use (OXFAM, 2008). Restrictions on the movements of the Maasai due to establishment of strict boundaries on land have led to gradual loss of the mobility that was one of the primary adaptive characteristics of pastoralism (Turner, 1999). Pastoralists are also increasingly settling, both in response to 'pushes' away from the pastoral economies, and to 'pulls' of urban or agricultural life (Fratkin, Nathan & Roth, 2005). Many pastoralists are therefore, finding it difficult to maintain a pure pastoralist lifestyle and are increasingly being forced to seek livelihood diversification strategies (Rass, 2006).

Agro-pastoralism, defined in this study as the incorporation of significant levels of crop cultivation into pastoralism is becoming more common among former pastoralists (Lesorogol, 2008; McCabe, 2003). The cultivation of crops by the Maasai involves venturing into unfamiliar activities that differ completely from traditional economic activities. Crop cultivation introduces new activities, which have to be shared among the members of the household in addition to the pre-existing pastoral activities. Traditionally, roles for household members are clearly defined by age and gender. Adult women are the 'milk managers' in their homes, they also process animal skins and are responsible for herding cattle and small stock around the homesteads, grazing and watering the animals, and caring for young and sick animals. Additionally, they have reproductive tasks, which include child rearing, fetching water and firewood, cooking and building houses. Young boys are responsible for herding, while young men are responsible for the security of livestock and members of the society. Older men serve as directors and supervisors and make most livestock management decisions (Hodgson, 2000). Most of the decision-making authority rests with the men, since the Maasai, like other pastoralist communities have a patrilineal

descent and are male-dominated (Schneider, 1979). Maasai women have little decision-making authority.

Livelihood diversification for the Maasai has a significant effect on household division of labour, since labour is a critical factor of production. Its availability and labour bottlenecks are two of the most important types of diagnostic information that aid in selecting appropriate technologies and in defining adoption potential of a group (Danso, Cofie, Annang, Obuobie & Keraita, 2003). It is also important for any labour analysis to be gender sensitive because many roles and tasks tend to be gender specific for cultural reasons. This study therefore, adopted a gender analysis approach, which requires separating data by sex and understanding how labour roles, needs and participation are divided and valued according to sex (Reeves & Baden, 2000). Few studies have been undertaken on the changing roles of the Maasai at household level, as they diversify their livelihood by incorporating crop cultivation into their pastoral economy. This study sought to fill this gap.

Objectives

The study had two major objectives:

1. To identify and document the division of labour for major crop farming activities in Maasai agro-pastoralist households in Narok North Sub-county of Kenya.
2. To identify and document the decision-making patterns for major crop farming activities in Maasai agro-pastoralist households in Narok North Sub-county of Kenya.

Methodology

The study used a cross-sectional survey research design, which was considered appropriate because the data were collected at one point in time and variables were studied in retrospect (Gall, Gall & Borg, 2003). Narok North Sub-county in Kenya was the location of study. The Sub-county has a bimodal rainfall pattern, which is unevenly distributed averaging between 500 mm and 1,800 mm per year. The main soil types are dark-brown volcanic soils, dark-reddish brown soils and the dark brown soils, which are suitable for crop farming. The area was originally occupied entirely by the Maasai and initial crop cultivation was done by outsiders who hired the land from the locals. In recent

years, more Maasai are getting involved in crop farming. The main crops produced in the area include maize, wheat, barley, potatoes and beans (Ministry of Agriculture, 2010).

The target population consisted of all ethnic Maasai households in Narok North Sub-county, whose population was estimated to be 258,544 in 2009 (Mars Group Kenya, 2011). The accessible population consisted of Maasai households in East Mau, Central Mau, and Olokurto wards, which were purposively selected. The study adopted a multistage sampling technique to select a sample of 240 households as per the recommendations of Gall et al., (2003). The subjects consisted of 153 male and 87 female household heads. The data were collected through personal interviews, using an interview schedule prepared by the researcher. Reliability of the instrument was ensured through pilot-testing in the Central Ward of Narok North Sub-county, using 25 Maasai agro-pastoralist household heads. This number represented approximately 10 % of the study sample and was therefore considered adequate (Hertzeg, 2008).

Findings and Discussions

Characteristics of Respondents

Males made up the majority of the respondents at 63.8 per cent, and 94 per cent of them were married. In contrast, only 52.9 per cent of the female respondents were married and were therefore, part-time household heads. Family sizes were found to be fairly large, with a mean of 19 members for the male respondents and 15 members for the female respondents. The large family size could partly be explained by the communal way of life among the Maasai, whereby people are not restricted to one particular family but can associate with other families freely and even come and go as they please and stay as long as they wish. The family sizes therefore, can vary a lot over time.

The male respondents were significantly older than the females, with a mean age of 43 years compared to 38 years for female respondents. The mean farm size for the male respondents was 49.3 acres, and was significantly higher than that of the female respondents at 33.1 acres (t -value=2.82 at significance value of 0.005). Most respondents reported that they were farming under individual land ownership. However, 15 per cent of the male respondents and

36.8 per cent of the female respondents indicated that they were farming under communal land ownership system.

Agro-Pastoralism Activities

The respondents reported engaging in both livestock keeping and crop cultivation. They had fairly large numbers of livestock, which is the norm among the Maasai and reflects their pastoralist background. The mean number of livestock units (cattle, sheep and goats considered together) per respondent was 245 for males and 195 for the females. The main crops being cultivated were wheat, barley, maize, potatoes, beans and peas. The mean number of years of crop farming experience was 12.7 years for the male and 10.2 years for the female respondents. This is evidence of the fact that for the Maasai, crop farming is an activity that is still relatively new.

Figure.1 summarises the findings regarding the type of crops grown by the respondents.

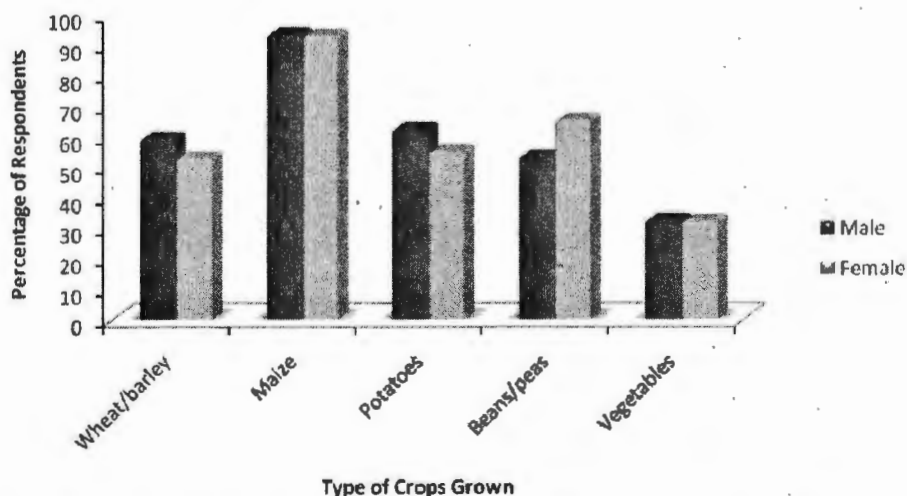


Figure 1: Types of crops grown by percentage and gender of respondents

Maize was the most widely grown crop, with over 90 per cent of males and females being involved in maize cultivation. This is a reflection of the popular trend in Kenya, whereby most farmers grow maize as a leading staple food. Over 50 per cent of the respondents reported that they cultivated wheat, barley, potatoes, peas and beans. Vegetables were the least prevalent, being cultivated by only about 30 per cent of both males and females. The mean crop acreage

was 39.4 acres for the male respondents and 27.7 acres for the female respondents. The acreage of the individual crops varied, with wheat and barley having the highest acreage while vegetables had the lowest acreage. Vegetables were the least widely cultivated crops, with only 32.7 per cent of the male respondents and 32.2 per cent of the female respondents indicating that they were growing vegetables.

Division of labour for Livestock Farming Activities

This study sought to determine the division of labour for three major livestock farming activities, namely, herding, milking and marketing. The objective was to establish whether the current division of labour was significantly different from the traditional one.

Division of Labour for Livestock Herding

Table 1 summarises the findings on the division of labour for livestock herding. Both groups of respondents indicated that hired labour played an important role in herding of livestock, either on their own, or together with other family members.

Table 1: Person(s) Responsible for Herding Livestock by Percentage and Gender of Respondents

Person(s) Responsible for Herding Livestock	(Male N = 153; Female N = 87)	
	Percentage of Respondents Indicating Person(s)	Respondents Responsible
	Male	Female
Self	3.3	2.3
Self & Spouse	2.2	0.0
Self & Family members	3.9	6.9
Self, Family members & Hired labour	11.8	11.5
Spouse	8.5	3.5
Family members	9.2	10.3
Family members & Hired labour	22.2	31.0
Hired labour	37.3	31.0
Self & Hired labour	1.3	3.4

One notable difference between the male and female respondents was that more of the male respondents indicated that their spouses were responsible for herding (8.5%) as compared to the female respondents (3.5%). The indication

was that family members (women, children and other relatives) and hired labour played an important role in livestock herding, but the direct participation of the male respondents (and other male household heads) was minimal. Generally, hired labour played a big role for both groups.

Division of Labour for Milking

For the male respondents, 'spouse' was the leading player, as indicated by 45.4 per cent of them, followed by 'family members', and then 'family members and hired labour' (Table 2).

Table 2: Person(s) Responsible for Milking Livestock by Percentage and Gender of Respondents

(Male N = 153; Female N = 87)

Person(s) Responsible for Milking Livestock	Percentage of Respondents Indicating Person(s) Responsible	
	Male	Female
Self	3.3	46.0
Self & Spouse	2.0	0.0
Self & Family members	2.6	20.7
Self, Family members & Hired labour	2.6	13.8
Spouse	45.4	5.7
Family members	21.6	2.3
Family members & Hired labour	19.6	5.7
Hired labour	0.7	0.0
Self & Hired labour	1.3	5.7

The male respondents did not participate much in milking. On the other hand the female respondents reported that they played a leading role in milking, either by themselves or together with family members and/or hired labour. The division of labour for milking, as reported by the respondents, was a reflection of the traditional division of labour for this activity.

Division of Labour for Livestock Marketing

Among the male respondents, 66.7 per cent reported that they carried out the marketing of livestock, while the rest reported being assisted by their wives or other family members (Table 3). The family members who were reported to be involved were mainly grown-up sons. This indicated that marketing of

livestock was a male-dominated activity. For the female respondents, 31 per cent reported carrying out the livestock marketing by themselves, a number of the respondents reported involving their spouses and other family members.

Table 3: Person(s) Responsible for Livestock Marketing by Percentage and Gender of Respondents

(Male N = 153; Female N = 87)		
Person(s) Responsible for Livestock Marketing	Percentage of Person(s) Responsible	Respondents Indicating
	Male	Female
Self	66.7	31.0
Self & Spouse	18.3	11.5
Self & Family members	7.2	18.4
Self, Family members & Hired labour	0.0	1.1
Spouse	0.0	23.0
Family members	0.7	11.5
Family members & Hired labour	0.7	3.4
Hired labour	6.5	0.0

As with the female respondents, sons were among family members involved in marketing, although other male relatives like the father or brothers were reported by a few of the female respondents. Therefore, for the female respondents, there were more players involved in livestock marketing as compared to the male respondents.

Generally, the division of labour for livestock farming activities closely reflected the traditionally established pattern. The only point of departure was that hired labour played a fairly significant role for both male and female respondents whereas it was not represented in the traditional division of labour. This could partly be explained by the fact that many children, who previously provided significant labour are now attending school.

Division of Labour for Crop Farming Activities

The study investigated the division of labour for five crop farming activities, namely; land preparation, planting, weeding, harvesting and marketing. The person(s) responsible for the activities were grouped into three main players as follows: 1) 'Self' (the respondent), 2) 'Family Members' who included spouses,

children and other relatives; and 3) 'Hired labour', which was either mechanical or manual.

Division of Labour for Land Preparation

The findings are summarised in Table 4. The leading player in land preparation was 'Hired labour', either manual or mechanical, which was reported by 89.5 per cent of males and 88.5 per cent of females. 'Self' either alone or with others was reported by 53.8 per cent of the males and 42.5 per cent of the females.

Table 4: Person(s) Responsible for Land Preparation by Percentage and Gender of Respondents

Person(s) carrying out Land Preparation	Percentage of respondents by gender	
	Male (n = 153)	Female (n = 87)
Self	5.9	2.3
Self & Family members	3.3	6.9
Self, Family members & Hired labour	28.1	28.7
Family members	1.3	2.3
Family members & Hired labour	5.9	6.9
Hired labour	49.0	48.3
Self & Hired labour	16.5	4.6

There were therefore no significant differences between males and females as far as the division of labour for land preparation was concerned. For both groups, hired labour played the greater role.

Division of Labour for Planting

The findings are as indicated in Table 5.

Table 5: Person(s) Responsible for Planting by Percentage and Gender of Respondents

Person(s) planting crops	Percentage of respondents by gender	
	Male (n = 153)	Female (n = 87)
Self	3.9	2.3
Self & Family members	10.5	17.2
Self, Family members & Hired labour	29.4	35.6
Family members	5.9	6.9
Family members & Hired labour	15.0	5.7
Hired labour	30.1	19.5
Self & Hired labour	5.2	12.6

Hired labour played a major role in planting with 30.1 per cent of the male respondents and 19.5 per cent of the female respondents indicating that it was done entirely by hired labour. This is applicable especially to crops like wheat or barley, which are widely grown in Narok North District and are mainly planted mechanically. There was a significant difference in the percentages indicated by the two groups of respondents (30.1 compared to 19.5), indicating that hired labour played a greater role for the male respondents than for the female respondents. The participation of the respondents either on their own or with others was reported by 49 per cent of the male respondents and 67.8 per cent of the female respondents, indicating a clear difference in participation of the two groups. More number of the female respondents were therefore, involved in planting as compared to the male respondents, although use of hired labour was reported almost equally by the two groups.

Division of Labour for Weeding

Table 6 indicates the findings on the division of labour for weeding. All family members participated in weeding, although 83 per cent of males and 77 per cent of females reported using hired labour as well.

Table 6: Person(s) Responsible for Weeding by Percentage and Gender of Respondents

Person(s) weeding crops	Percentage of respondents by gender	
	Male (n = 153)	Female (n = 87)
Self	3 (2.0%)	3 (3.4 %)
Self & Family members	10 (6.5 %)	12 (13.8%)
Self, Family members & Hired labour	53 (34.6%)	31 (35.6 %)
Family members	13 (8.5%)	5 (5.7%)
Family members & Hired labour	24 (15.7%)	8 (9.2 %)
Hired labour	46 (30.1%)	17 (19.5 %)
Self & Hired labour	4 (2.6%)	11 (12.6 %)

Thirty per cent of the male respondents and 19.5 per cent of the female respondents reported using hired labour only. More of the male respondents used hired labour. The respondents' participation in weeding either on their own or with other players was reported by more females (65.5%) than males (45.8%). Family members' participation was also high, being 58.8 per cent among males and 64.4 per cent among females.

Division of Labour for Harvesting

The persons responsible for harvesting are indicated in Table 7. Most of the respondents (60.1% of males and 79.3% of females) reported participating in harvesting, together with family members and hired labour.

Table 7: Person(s) Responsible for Harvesting by Percentage and Gender of Respondents

Person(s) carrying out harvesting	Percentage of respondents by gender	
	Male (n = 153)	Female (n = 87)
Self	3.3	5.7
Self & Family members	11.8	24.1
Self, Family members & Hired labour	43.1	41.4
Family members	5.9	6.9
Family members & Hired labour	9.8	4.6
Hired labour	24.2	9.2
Self & Hired labour	2.0	8.0

The leading player category for both groups was 'Self, family members and hired labour' reported by 43.1 per cent of the male respondents and 41.4 per cent of the female respondents. There were notable differences in the participation of male and female respondents in harvesting, with more involvement being reported by the female respondents. Higher percentages were obtained for the female respondents in 'self and family members' (20.7% compared to 6.5%), 'self and hired labour' (8.0% compared to 2.0%). In addition, hired labour was reported by more of the male respondents (24.4%) as compared to the female respondents (9.2%).

Hired labour was the leading player in harvesting for males (79.1 %) compared to females (63.2 %). The leading player for the female respondents was 'self', (79.3 %) but 60.1 per cent of the males were involved in harvesting. Over 70 per cent of male and female respondents reported that family members participated in the harvesting (70.6 % and 77 % respectively).

Division of Labour for Crop Marketing

Findings on participation in crop marketing are indicated in Table 8. The respondents indicated that they undertook the marketing of their crop produce either singly (58.8 % male and 47.1 % female) or together with their spouses (24.2 % male and 16.1 % female).

Table 8: Person(s) Responsible for Crop Marketing by Percentage and Gender of Respondents

Person(s) carrying out marketing	Percentage of respondents by gender	
	Male (n = 153)	Female (n = 87)
Self	58.8	47.1
Self & Spouse	24.2	16.1
Self & Family members	3.3	14.9
Self, Family members & Hired labour	4.6	1.1
Spouse	2.6	9.2
Other family members	2.0	4.6
Self & Hired labour	3.9	1.1

The findings indicated that more males than females took part in marketing of their produce on their own. Overall more males than females were involved in crop marketing (94.8% compared to 80.4%). Generally the participation of the female respondents was quite high and stood in contrast to their participation in marketing of livestock, which is traditionally an all-male affair.

Decision-Making for Major Crop Farming Activities

The respondents were asked to indicate who made decisions regarding the major crop farming activities, namely, land preparation (when, where and how much); planting (what and when); harvesting and marketing. The crop farming activities considered were land preparation, planting, harvesting and marketing. The three major players were 'Self', 'Spouse' and 'Sons' who in most cases were either grown-up or teenagers. These were grouped into six categories namely: 1) Self 2) Spouse 3) Self and spouse 4) Sons 5) Self and sons 6) Self, spouse and sons.

Decision-Making on Land Preparation

Most males (56.2%) reported being sole decision makers as far as land preparation was concerned, but 32.7 per cent consulted their wives. In contrast, only 27.6 per cent of the females were sole decision makers. While 24.1 per cent of respondents indicated that the decisions were made entirely by their spouses, the rest made decision jointly with spouses and their sons. For most of the married female respondents, husbands were the main decision-makers

(41.3 %) while only 23.9 per cent were the sole decision-makers. The rest made decisions together with their spouses. Of the single women, joint decision-making together with their sons was leading (41.5 %) followed by sole decision-making reported by 31.7 per cent of the respondents. Only 7.3 per cent reported not being involved in the decision-making at all. Other male family members such as fathers, brothers or in-laws were the decision makers under such circumstances. Figure 2 gives a summary of these findings.

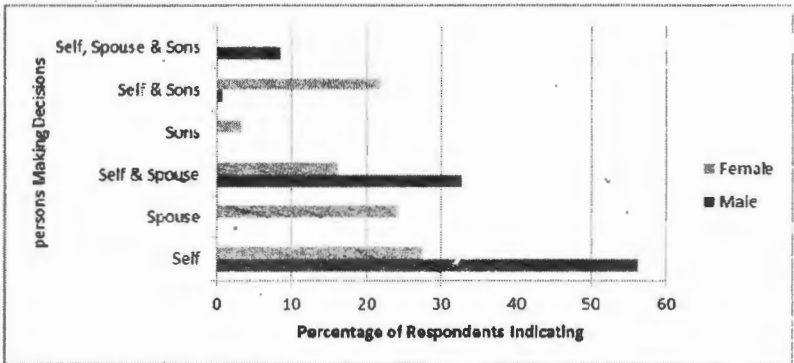


Figure 2: Persons making decisions on land preparation by percentage of respondents

Decision Making on Planting

Among the male respondents, 87.5 per cent participated in decision-making mainly as sole decision makers but also together with their wives. On the other hand, 65.5 per cent of the female respondents participated in decision making, with only 27.6 per cent of them having sole decision making authority (Figure 3).

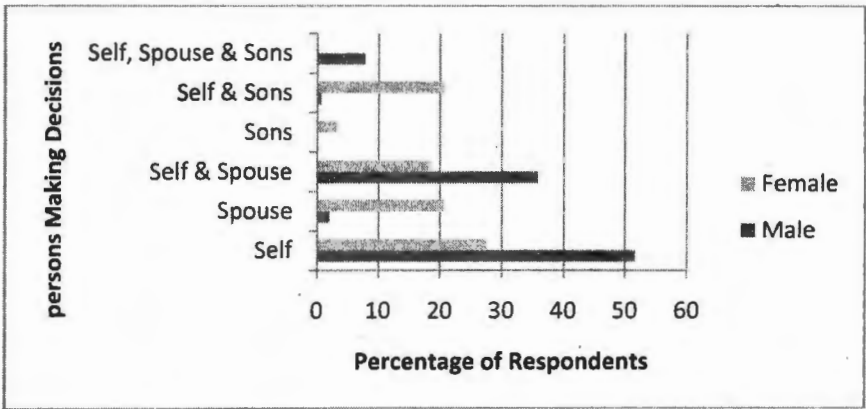


Figure 3: Persons making decisions on planting by percentage of respondents

The major players for decision making in crop planting among the female respondents were therefore, 'Self', followed by 'Spouse', then 'Self and Sons' and finally 'self and spouse', respectively. Among the married respondents, the major players in decision-making were 'Spouse' (34.8%), 'Self and Spouse' (32.6%) and 'Self' (28.3%). For the unmarried women, the major decision makers were 'Self and Sons' (41.5%) and 'Self' (34.1%). Again, it was clear that many female respondents lacked sole decision-making rights, even when they were unmarried.

Decision-Making on Crop Harvesting

Figure 4 indicates the findings for decision-making on crop harvesting. For the male respondents, the decision-making was done mainly by the men on their own, and also by the men together with their wives.

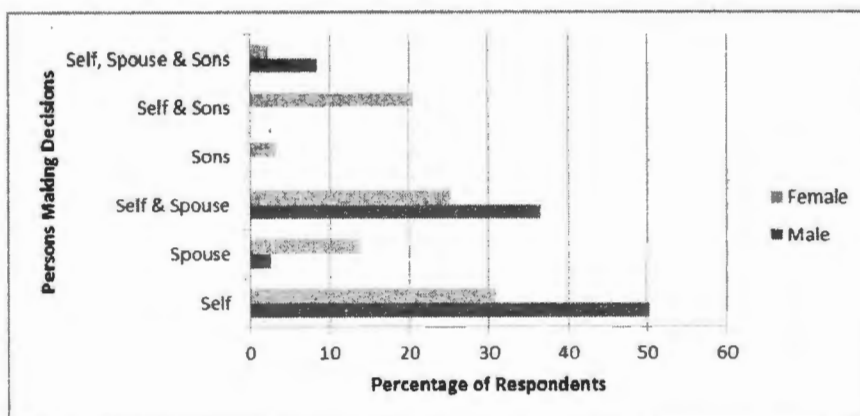


Figure 4: Persons making decisions on crop harvesting by percentage of respondents

Among the female respondents, decision-making was more spread out among various players. Sole decision-making was reported by 31 per cent, while for 46 per cent decision-making was shared with the spouse and/or sons. Thus 77 per cent of female respondents participated in decision-making on crop harvesting. For the married female respondents, 74 per cent participated in decision making with 28.3 per cent having sole decision-making authority. Among the unmarried female respondents, 75.6 per cent participated in decision-making, with 34.1 per cent being sole decision makers.

Decision-Making on Crop Marketing

The pattern of decision-making on marketing was similar to what was reported for the other crop farming practices (Figure 5). For the male respondents, 87.6 per cent reported being involved in decision making on marketing, with 55.6 per cent being sole decision makers.

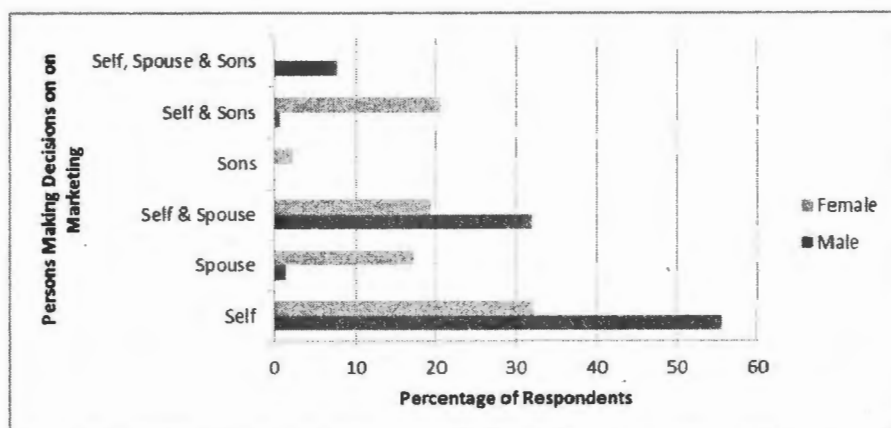


Figure 5: Persons making decisions on crop marketing by percentage of respondents

Among the female respondents, 70.1 per cent participated in decision-making, with 32.2 per cent being sole decision makers. Among the married female respondents, 65.2 per cent reported participating in decision making, with 34.8 per cent being sole decision makers. Among the unmarried women, joint decision making with sons was leading, at 41.5 per cent, and only 34.1 per cent reported having sole decision making authority.

Discussions

Studies have shown that when women are supported and empowered, all of society benefits, in terms of health, nutrition, agricultural productivity and incomes (Hunger Project, 2009). Through agro-pastoralism, women are not only able to contribute directly to the food supply in their households, but they are also able to get income through the sale of surplus crop produce. This is income that comes directly to them and over which they have full control. They are, therefore, able to use it effectively to improve household food security and the general welfare of their families. The World Development Report 2008 reported that there was growing evidence that income in the hands of women contributed more towards household food security than income controlled by men (World

Bank, 2007). Agro-pastoralism therefore, promises for the Maasai woman, an avenue through which she can expand her capacity to participate in the household food security and in the community's economy at large.

The study found that male and female respondents did not differ significantly in the agro-pastoralism activities, in terms of livestock types and numbers, and crop types and acreages. The participation in crop farming activities however had some variations. The lowest participation was in land preparation for both men and women, who reported that most of the work was done by hired labour. However, for planting, weeding and harvesting, there were distinct differences, with more females participating than males. When it came to marketing, more males reported being involved as compared to females, although for both groups, involvement was high.

The findings of this study agree with those of a study that was conducted in Uganda on division of labour in agriculture, which found that women and children tend to be delegated farm tasks that are tedious and time consuming while men tended to be more active close to market time (FAO, 2000). It has also been reported that generally, the labour burden of rural women tend to be higher than that of men, especially in Sub-Saharan Africa, and this is made worse by their participation in reproductive roles (SOFA Team & Cheryl Doss 2011). The common practice in agricultural areas has been that women bear a disproportionately large share of agricultural labour as compared to men. They are reported to contribute 60-80% per cent of labour in agricultural work in Sub-Saharan Africa (World Bank, 2007). The study has shown that this is also the case for the Maasai women, as they embrace agro-pastoralism and add crop cultivation activities to their traditionally prescribed roles.

Hired labour played an important role for both groups of respondents. This could be due to the involvement of over 50 per cent of the respondents in cultivation of wheat and barley, which are highly mechanized. However, it could also be as a result of the labour constraints experienced by the respondents due to inability to directly meet the demand for labour, given the pre-existing labour demands of pastoralism. There were, however, some variations in the percentage of male and female respondents who reported using hired labour, with males accounting for higher percentages. Apart from hired

labour, family members also played a big part in the crop farming activities for both male and female respondents.

Decision-making is closely related to control over resources at the household level. The study found that men dominated the decision making for all the crop farming activities considered, meaning that they had more control over resources related to crop farming. Majority reported having sole decision-making authority as compared to about one third of the females. Women's participation in decision-making was also substantial, despite the fact that most of them shared the responsibility with their husbands and/or sons. This is in contrast with what happens in the pastoralist set-up, where almost all decision-making rests with the men, who control the livestock. A possible reason for increased women's participation in decision-making under crop cultivation is their increased economic contribution to the household. This is supported by the findings of a study on changing livelihoods among the Maasai, which also found increased participation of women in decision making (ILRI, n.d.). It was argued that as Maasai diversify their livelihoods, those who contribute economically have a greater stake in decision-making.

An interesting finding was that sole decision making authority among the females remained limited, whether they were married or not. Males, whether husbands, sons or other male relatives were responsible for most of the decisions. This is a reflection of the patriarchal nature of Maasai society, where men are considered superior and decision makers (Schneider, 1979). The prevalence of the sons' participation in decision making can also be attributed to the fact that 38 per cent of the females were widows, and either in middle aged or elderly and therefore having grown up sons. The involvement of sons could also be due to their being educated and hence more knowledgeable, or it could be due to their economic contribution due to employment (ILRI, n.d.).

Conclusion, Recommendations and Implications

The roles of the Maasai at household level have indeed changed as a result of agro-pastoralism. Not only are they engaging in non-traditional activities associated with crop cultivation, but decision-making has also been opened up to more household members, especially the women, which is likely to impact positively on their empowerment. Crop cultivation has enabled women to

contribute directly to household income, leading to greater recognition of their role as productive members of the household and decision-makers. The pattern of division of labour for crop farming activities also closely resembles that in many agricultural communities in developing countries, with women participating more than men, despite their pre-existing productive and reproductive roles. Labour presents a potential constraint to effective crop cultivation for both men and women, as implied by the major role played by hired labour, and, considering the already existing responsibilities in pastoralism. The study recommends further research into the challenges the Maasai face as they diversify into crop farming, especially with regard to labour, in order to identify suitable solutions to address the challenges. It also recommends that similar studies be carried out in other pastoral communities that are seeking alternative livelihoods, so as to identify positive interventions to facilitate their successful diversification. The agricultural extension service needs to provide appropriate extension support for the Maasai agro-pastoralists, in view of their changing roles and accompanying challenges, so that they can successfully diversify their livelihoods for improved household food security and incomes.

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