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Asset Endowment and Opportunities for Alternative Household Livelihoods for Il Ng'wesi Group Ranch residents in Laikipia County, Kenya

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Abstract:

The people in Il Ng'wesi are experiencing changes in their livelihoods, even though livestock still plays an important role in the way they derive their income. Asset endowment and opportunities for alternative household livelihoods among the residents of Il Ng'wesi group ranch is not evident. A trend is emerging where household have been trying to have at least an extra revenue source due to the pressures that population explosions are exerting on the natural resources such as water, land and pastures. The study aimed at characterising resources endowment, and identifies the alternative sources of income that are available to the residents of Il Ng'wesi group ranch residents. Primary data was collected using a structured interview schedule to contact a total of 110 respondents through the employment of simple random sampling method in a Single Household Survey (SHS). Secondary data was collected from the relevant authorities in the study area. Results showed that residents engaged in crop production, trading and off-farm employment, livestock and product sale, poultry production, bee-keeping, receives remittance, and have been group members respectively. Therefore, the need for the government to effectively play the role of protecting the poor from sliding into even deeper levels of poverty cannot be overemphasized. This is due to the fact that, mostly those who engage in other higher-return activities than livestock are the wealthy and hence, the poor risk being caught up in a vicious circle of poverty.

Keywords: Asset endowment, Opportunities, Household income, Livelihood, and Il Ng'wesi group ranch

1. Introduction

The Arid and semi-arid lands cover two-thirds of the African continent. The majority of the African livestock and more than 50 million people who are dependent on livestock and dry land agriculture reside in these dry zones. Climate variability has always influenced African livestock production and rain-fed agricultural production. Pastoralists in the traditional setting have developed multiple coping mechanisms to deal with drought. These include keeping diverse species of livestock, movements of livestock herds over large areas, emigration out of pastoral system until the perturbation passes, economic diversity, and allocating seasonal and drought induced nutritional stress among those community members better able to cope with it (Galvin1988; 1992; Galvin et al., 1994). Pastoral herders, specifically those from the northern rangelands of Kenya, are exposed to high and endemic levels of climatic, economic, and political risks. They inhabit areas of widespread insecurity and conflict, climatic instability, destructive livestock diseases, and unreliable markets and infrastructure. Pastoral lands are crucial for the production of ecosystem goods and services, for the tourism and for mitigating climate change. Pastoral systems can no longer be viewed as livestock enterprises, but as multiple use systems that have important consequences for the environment and for more diversified livelihood strategies. There is a paradigm shift from viewing pastoralist production system as a 'tragedy' for common grazing areas but rather as a production system with great potential to support complex livelihood strategies (Sere et al., 2008).

The two necessities of pastoral activity are water and pasturage hence, their spatial distribution tends to be uneven and is largely influenced by seasonal changes in weather. The necessity of free movement is reflected in the form of land ownership prevalent in the pastoral societies which is an attempt to maximize the input of these two resources in animal production. Within the boundaries of a peoples' territory, the range is a common property resource, while livestock is privately owned by individuals or family households. Before the change in land tenure to group ranch concept, individual pastoralists tended to maximize its use without paying any attention to conservation measures. This leads to overstocking and the eventual, and often progressive,

deterioration in the condition of the grasslands which was worsen through the process of desertification. Change from the pastoral way of life can be viewed in part as an adaptation to the increasing population densities. However, the experience of many pastoral communities producing under conditions of good rainfall has shown that in terms of money income alone, the profitability of their operations is much more than those of crop farmers (Konczacki, 1978). This can serve as an explanation for the strong attachment to livestock production seen with the pastoral community even in the face of a dire need for diversification.

The Kenyan government has tried to de-pastoralise the pastoralists and engage them in alternative livelihoods that would help improve their standards of living. Their interventions have largely failed since the pastoralists were not involved in the search for alternative means of livelihoods with which to meaningfully occupy 'former' pastoralists. It is also largely true that a comprehensive study was not done to identify the resource endowments of particular pastoral communities so as to identify what would work and where it would be viable. Northern rangeland trust fund Development Plan indicated that the major source of livelihood in Il Ng'wesi was livestock keeping which determined even the settlement pattern. This generalization was insufficient in formulating policies. Households may have other livelihoods and even may have depended on livestock at varying levels. This study was necessary to find out the existing variations and the reasons for them.

It has also been observed that those who live near urban areas involve themselves in income earning activities other than pastoralist livestock herding due to the reliability of the infrastructural facilities. The Maasai are an indigenous people group who reside in Kenya and are comprised of pastoralist, semi-nomadic livestock herders. They are the second biggest group of pastoralists in Kenya, after the Somalis. Various influences and pressures have impacted their incomes and lifestyles. Among the pastoralists of Northern Kenya are the Maasai of IL Ng'wesi which is a community owned group ranch, and has been greatly influenced by tourism and conservation efforts in the recent past. In 1996, members came together and set aside 80% of their communal land for a conservation area and set up a community ran Eco Lodge.

Over the last thirty years, the pastoralists of East Africa have seen a steady loss of their grazing lands to expanding farming population, private ranches and expansion of game reserves and parks (Tangus 2002). Even with such real threats, the Il Ng'wesi community is still largely depended on livestock for their income. Faced with little of the natural resources they once enjoyed; land, natural forests and watering points, the pastoralists' livelihoods are therefore threatened. They are left with no option but to seek other forms of income sources to supplement their pastoralist incomes. Although the patterns of livelihood portfolios indicate that the Maasai are beginning to diversify into other sources of income, various constraints such as strong cultural attachment placed on the livestock among others inhibit this. It is against this background that this study sought to extensively document the resources; natural, physical, and so on, within particular localities of Il Ng'wesi and recommend the opportunities that are available to be harnessed in order to improve the living standards of the Maasai pastoralists in the area. In addition, it would provide useful information which will inform the policy makers and hence contribute towards food security and poverty reduction.

2. Materials And Methods

2.1. Study area and data

The Study area was conducted in Il Ng'wesi group ranch in Laikipia District west of Mount Kenya. The study used both primary and secondary data which forms a baseline survey into the possible forms of alternative sources of income for the Il Ng'wesi community ranch members. Single Household Surveys (SHS) was undertaken with the use of interview schedules that was administered through a random sample basis to contact a total of 110 respondents in all the six neighbourhoods in the community; Leparua, Chumvi, Sanga, Ngare Ndare, Ethi and Nadungoru.

2.2. Descriptive Results and Discussions

The study used tables, frequencies, and percentages to analyse the socio-economic characteristics of the Il Ng'wesi group ranch residents and the characteristics of their resource endowment as well as identifying the major alternative income sources in the study area. The socio-economic characteristics presented under this section include: age of the household head and educational level of the household head, source and amount of income held by a household. In the community of Il Ng'wesi group ranch, the average household head age was observed to be 44 years with a standard deviation of 13.950 (Table 1). The age of household head was considered important because age forms a necessary factor in income diversification in alternative risky ventures. Most young household heads are risk takers and willing to explore new investments that may offer them an alternative source of income.

The gain from the sale of the household livestock indicates that, the mean income was KShs 10345. In terms of the household population, the household with small household size in Il Ng'wesi community had 3 people while the one with large household size had 15 people. The average household size was approximately 7 people, which is slightly above Kenya's national mean of five persons per household (CBS, 2005). It has been found that large household size positively influences diversification through provision of sufficient family labour (Faturoti et al., 2006).

Variable	N	Minimum	Maximum	Mean	Std Dev.
Age	110	20	80	44.2	13.89
Household population	110	3	15	6.44	2.3
Income from Livestock	110	0	56000	10345	12069.2

Table 1: Summary characteristics of the respondents
Source: Survey data (2009)

Table 2 shows education level attained with categories of income sources. The results show that a large % (48%) of the household heads had no formal education. On average 42%, 9% and 1% had received primary education level, secondary education level and tertiary education level respectively.

Education level	Income from pastoralism		Income from other sources	
	n	%	n	%
No Formal Education	22	42	31	58
Primary Level	10	21	36	79
Secondary Level	2	20	8	80
Tertiary Level	0	0	1	100

Table 2: Education level and income source categories
Source: Survey data (2009)

This result shows that as the education level rises, farmers tend to seek other alternative source of income apart from pastoralism and would more likely engage in activities off-farm. As the farmers progressed from primary to tertiary education, the proportion seeking non pastoralist income increased to between 79% and 100%. The results are instructive in that farmers who did not attain any formal education were also capable of receiving additional income from sources other than pastoralism as represented by 58%. However, a good number (42%) still entirely depended on pastoralism as their main source of livelihood. The results imply that pull factors become more pronounced with an increase in education of household head. This finding is in agreement with Little (2009) who observed that formal education is a condition for attaining salaried and higher income employment. This puts them in a position to save and remit money to their families.

2.3. Assets endowment characteristics among group ranch residents

This section sought to identify those assets that the Il Ngwesi group ranch community have and it includes; land ownership and its use, livestock ownership and family labour. Figure 1 shows results for land ownership while Table 3 shows land use among the community residing in the Il Ng’wesi ranch. Land ownership was in two categories: communal ownership was the most prevalent (64%) while only 36% owned land individually.

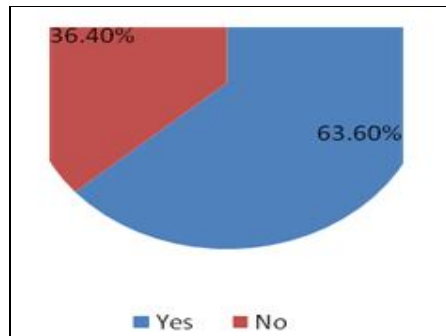


Figure 1: Communal Land ownership

The results further provide a glimpse of land use. It is apparent that subsistence food production dominates land use representing 64 % of residents. Smaller percentages (18 %) used the land for private grazing, 10 % used it for feed production, and 8% for cash crop production respectively.

Land use	%
Private grazing	18%
Feed production	10%
Subsistence production	64%
Cash crop production	8%

Table 3: Land use by Il Ngwesi group ranch residents

2.4. Female decision on livestock purchase and sale

Asset ownership is a factor of decisions made in the household. Results revealed that 98.2% of the households were headed by male and 1.8% by female (Figure 2).

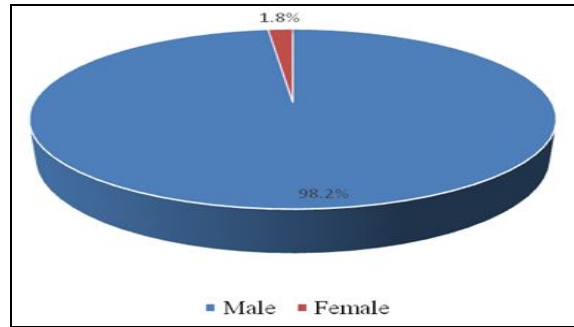


Figure 2: Household heads characteristic by Gender.
Source: Survey data, (2009)

The gender issue was considered necessary due to the difference in the nature of decision making between male and female household heads especially on farm activities. Results in Figure 3 reveal that in men headed households, 66% of women were not responsible for decision on sale or buying of livestock and only 34% were allowed to participate in decision concerning either to buy or sell livestock in the household. This implies that in the community, men bore the responsibility of making major decision on household assets sales and purchase while women were left with other decisions such as to decide on livestock product use and sale.

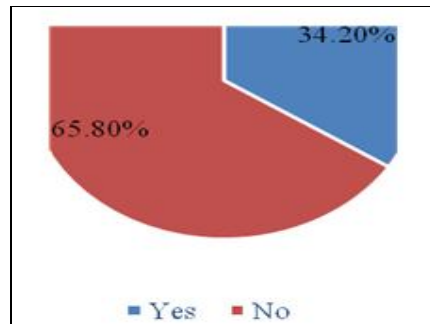


Figure 3: Female decision making on livestock purchase and sale

The numbers of cattle endowment within the year was fairly fluid. A good number (55%) experience a reduction in the number of livestock, 38% had an increase of their number of livestock while a meagre 7.3% had the same number of cattle for the last one year. This mobility could be explained by a number of reasons such as sales or loss due to drought or harsh climatic conditions.

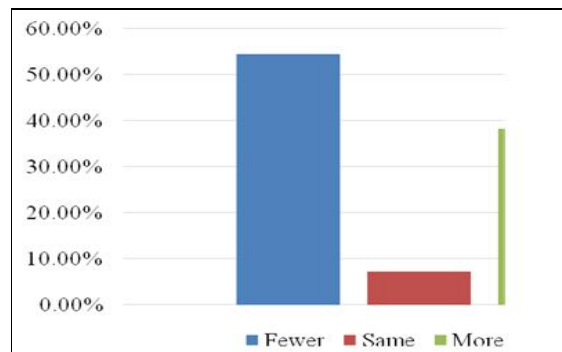


Figure 4: Ownership of cattle within the last one year

To determine the long term variation in cattle endowment, a period of five years was used. Results are similar to annual trends and depict uncertainty because 68% had experienced a reduction in the number of livestock, 24% had experienced an increase in their herds while 9% maintained the same number cattle now and five years ago. This kind of results clearly suggests that livestock cannot be depended upon to sustain the community livelihoods and there is need to look for alternative opportunities to earn income apart from ranching and cattle keeping. Many of the respondents attributed this reduction number of stock held per head to

droughts. This observation does not concur with the overseas development institute (ODI) who attributed it to the growing inability of pastoralists to cope with it (ODI synthesis paper, 2009). Therefore, this can be largely due to the lack of preparedness to tackle the water scarcity when it occurs.

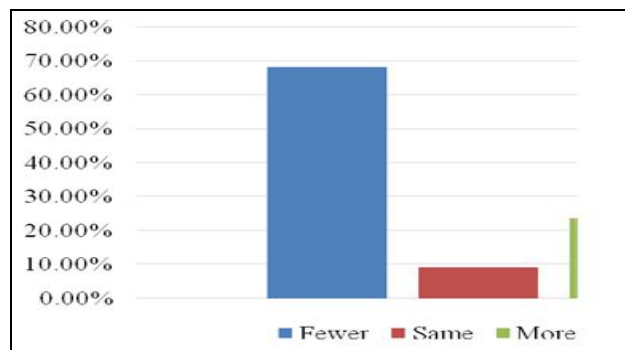


Figure 5: Ownership of cattle over the last five years

Further, it was observed that there was consistent reduction over the last five years of per-capita livestock ownership. Table 4 presents the results of placement of cattle in the investment portfolio of pastoralists. A three point likert scale was used to rate the level at which the respondent feels. The three levels were agree which represent a situation where the respondent puts all the investment in livestock, neutral represent those household with investment partly in livestock and other activities, and finally disagree to mean those household whose investment in fully on other activities away from livestock.

Scale	Frequency	%
Agree	103	93.6
Neutral	3	2.7
Disagree	4	3.6
Total	110	100

Table 4: Place of livestock in the pastoralist's investment portfolio

Source: Survey data (2009)

Since there are few alternative means for investments, almost the entire population (9%) put all their investment in livestock (Table 4). This is due to the fact that most of the residents of the study area lives in far flung areas, investment opportunities have not been opened to them. Many owners of capital are concentrated in urban areas and less in marginal areas

2.5. Alternative sources of income for the Il Ng'wesi group ranch residents

The expectation with regards to possible alternative sources of income were such activities as honey harvesting, poultry keeping, crop farming in areas that these were viable. However, results presented in Table 5 show that crop production, trading, bee-keeping, poultry keeping, remittances received, group membership, and livestock and product sale were the major activities in the study area.

Other source of income	Frequency	%
Crop production	25	22.73
Trading and Off-farm income	10	9.09
Livestock and product sale	26	23.64
Poultry Keeping	9	8.18
Bee-keeping	12	10.91
Remittances received	11	10.00
Group membership	17	15.45
Total	110	100

Table 5: Source of income apart from ranching

The results show that 22.73% of the Il Ngwesi group ranch residents engaged in crop production as an alternative source of income, 23.64% engaged in livestock production and sale of livestock products. Crop farming was observed largely in areas that were accessible through all-weather roads, for example Ngare Ndare and the two neighbourhoods which are adjacent to the tarmac road, that is, Chumvi and Ethi. This observation concurs with the findings of Little (2009), who concluded that, the proportion of income from non-pastoral sources exceeds by 20% those from pastoral source for many pastoral locations in the Kenyan and Ethiopian ASALs. In general, the three neighbourhoods had a higher standard of living than all the other neighbourhoods. This

could be due to the fact that most of the residents are more inducted into the market economy with commodity exchange through trade. Little (2001) also found out that income diversity options vary with proximity to the nearest town. The closer one lives to the nearest town the greater the number of available alternative sources of incomes. It is also noteworthy to state that there are some deeply ingrained customs and beliefs that may hinder the community’s involvement in activities that would have otherwise been possible avenues for them to get out of the poverty traps. Although a substantial percentage (8.18%) of the households kept poultry, it was generally in those female headed households. The finding is also consistent with the findings of Woldehanna and Oskam (2001) who obtained that although poultry keeping was undertaken by the pastoralists, it was majorly a women’s domain activity.

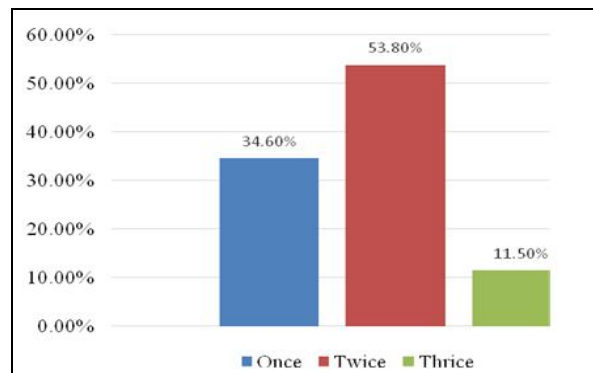


Figure 6: Number of times honey was harvested

As shown in Table 5, the results show that, 10.91% of the Il Ng’wesi group ranch residents had diversified their activities to bee-keeping enterprise as their alternative source of income. The study used the number of times the honey was harvested as a proxy to the quantities harvested by the household since as the number of harvest increases, the quantity also increase. The results in Figure 7 indicates that 54% of the households harvest their bee twice a year, 35% harvest once a year, and 11% harvested three times in a year. In addition, the price of honey per two kilogram tin ranges from KShs 70 to KShs 500; this was entirely based on the output market that the farmers sold to after harvesting. The mean average price of honey sold was KShs 210 with a standard deviation of 241.17, this imply that bee keeping enterprise is profitable and form an alternative lucrative source of income to pastoralists in order to supplement on their earnings from pastoralism.

The study results in Table 5 further indicates that, 10% of the Il Ng’wesi group ranch households have been receiving remittance as a way sourcing income. In addition, Table 6 shows that 67% did not receive any remittance over the last one year and 33% received remittance. This implies that most of residents within the ranch group depend on their own livestock and livestock products sales for their livelihood and economic development.

Received Remittance	N	%
Yes	36	33
No	74	67
Total	110	100

Table 6: Remittance received by ranch community members

Source: Survey data (2009)

In terms of the off-farm employment, the results in Table 6 show that 9.09% of the residents in Il Ng’wesi group ranch had off-farm activity and trading as additional source of income. Furthermore, it was noted that 50.5% had off-farm income that was related to pastoralism while, 49% did not have any off-farm source of income (Table 7). Furthermore, among those who had off-farm activity, 66% engaged in activity related to eco-tourism and 34% were not engaged in any off-farm activity from eco-tourism as their alternative source of income. This implies that most residents in Il Ng’wesi group ranch involve themselves in activities related to eco-tourism due to presence of tourism activities in the area.

	Members with off-farm employment		If related to Eco-Tourism	
	Frequency	%	Frequency	%
Yes	56	50.5	37	66.1
No	54	49.5	19	33.9

Table 7: Off-farm employment

As shown in Figure 7, the results show that 66% were members of a group and 34% did not belong to any group. The nature of the communal lifestyle necessitates membership in a group. Further, those who were in a group stated to have benefited in different ways whereby 42% stated to have bought household items, 11%, 21%, 2%, 5%, 8% and 9% represented crop and livestock, savings, buy land, water project, access loan and farming respectively. This implies that most of residents in Il Ng’wesi ranch joined the group for the main purpose of household development and most of the group especially in rural area view group as a

form of security to access loan from financial and micro-financial institutions. Some however did not join the farmer group because of lack of rational decision, or perceived mismanagement coupled with lack of good group objectives. This therefore calls for an intervention towards the improvement of group membership among the study area residents so as to boost the gain from such group.

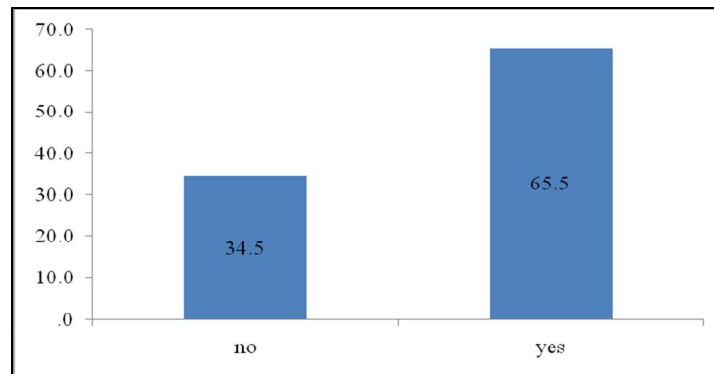


Figure 7: Group membership

The results further indicates in Table 8 that, the main reasons why some of the Il Ng'wesi group ranch residents to be among crop and livestock trading (9%), buying of household items (11%), fund raising (42%), saving (5%), buying of land (21%), water project (2%), and for the access of credit financial services (8%).

Benefit from group membership	%
Farming	9
Crop and Livestock trading	11
Buy household items	42
Fund raising	5
Saving	21
Buy land	2
Water project	5
Access loan	8

Table 8: Benefits received by farmers in the group

3. Conclusion

The study aimed at characterising resources endowment among the Il Ng'wesi group ranch residents. Among the assets that the residents of Il Ng'wesi group had were land, livestock and labour. The assessments of such activities like honey harvesting, poultry production, trading of livestock and its products, and crop farming was done towards identifying the alternative opportunities for household livelihoods. The results show that the Il Ng'wesi group ranch residents have engaged in alternative sources of income in activities such as poultry production, bee-keeping, received remittance, crop production, livestock and product sale, trading and off-farm employment, and belong to a group. The government should ensure that pastoralists get access to security of land tenure through provision of title deeds to create an incentive for inputs flexibility use on different agricultural technologies. These will create incentives for the farmers to optimally use the available input and fully utilise the available resources. Finally, there is need for the government to effectively play the role in promoting these alternative livelihood activities that have been adopted by the Il Ng'wesi group ranch residents. This will further protect the poor from sliding into even deeper levels of poverty.

4. Acknowledgement

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