

## Livelihood diversification influence on socioeconomic wellbeing of Maasai women in Isinya, Kajiado County, Kenya

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### Abstract

Livelihood diversification among the pastoral communities is currently a common occurrence due to changes in climate and human population. This study assessed the influence of business activities and wildlife tourism related activities on the socioeconomic wellbeing of Maasai women in Isinya, Kajiado County, Kenya. A stratified random sample of 279 women were selected from households in the study area and interviewed using semi-structured questionnaire in 2017. The data was analysed using descriptive and inferential statistics which involved simple linear regression model and Chi-square techniques. Four Focus Group Discussions were conducted for the household survey data while interview schedule was applied for key informants. The results showed that the wellbeing of the Maasai women were significantly ( $p < 0.001$ ) and positively affected by diversification into the business activities ( $\beta = 0.451$ ) and wildlife and tourism related activities ( $\beta = 0.328$ ). The study concludes that with the changing climate and reduction in land sizes owned by the pastoral communities, livelihood diversification towards business and wildlife activities would assist women to improve their standard of living. The study recommends diversification towards business and wildlife enterprises since they give individuals and households more capabilities to improve livelihood security and also to raise their living standards.

**Keywords:** Livelihood diversification; Business; Wildlife activities; Well-being

### 1 Introduction

Livelihood has become a popular concept in a development discourse. According to [1] a widespread definition on the livelihood is “the capabilities, assets such as stores, resources, claims and access and activities required for a means of living”. With respect to on-farm diversification, farmers have increasingly established alternative or non-conventional farm enterprises beyond the traditional way of mixed cropping [2].

According to [3], diversification is defined as the process by which households construct increasingly diverse livelihood portfolios, making use of increasingly diverse combination of resources and assets. This is aimed at improving the living standards of the households [4]. Livelihood diversification implies a process of dynamic change and constant adaptation [5]. In drylands, livelihood diversification helps to better manage risks, achieve livelihood security [6] and improve the general welfare of the residents [7] and it can also be useful for improved nutrition in order to overcome malnutrition [8]. Work by [9] reported a high disparities in livelihood diversification among gender where men are more actively engaged in paid labour especially in urban centres while women are involved in non-farm self-employed activities.

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There is therefore a need to train and finance the women in order to boost their livelihood activities which will uplift the family status.

Livelihood diversification includes both on and off-farm activities which are undertaken to generate additional income from the major agricultural activities, through the production of subsidiary agricultural and non-agricultural goods and services, the sale of wage labor, or self-employment in small firms, and other strategies undertaken to minimize risk. These include activity or environment diversification in agriculture. According to [10], poor households are confined to low income and labour intensive non-farm activities that leave them trapped into cyclic poverty while the richer ones venture in high-return farm and non-farm activities which are more profitable. Earlier studies by [7] reported that poorer households participate less in commercial activities but more in subsistence oriented activities compared to wealthier ones. Returns from the poorer households is also low.

Millions of rural people have been able to escape poverty through better farm incomes, employment in agriculture, and rural nonfarm enterprises and through migration and hence contributed to better livelihood [9], [11], [12]. Risk and seasonality comprise two classic reasons for livelihood diversification. In order to minimize risks and secure a constant inflow of income despite different harvesting seasons, rural populations has pursued various income activities with different risk profiles. Securing a variety of income sources in preparation for a failure in a certain activity is a conventional wisdom reflected in the saying, “Do not put all your eggs in one basket”. It is especially relevant in a rural context where unpredictable weather patterns and harvest performance make it difficult to secure a fixed amount of regular income [13]. Thus, it attempts to identify asset bases, livelihood strategy and desired goals of the poor in order to create an enabling environment to support them [14].

Diversification can be divided into two categories, on-farm and non-farm diversification. On-farm diversification means “maintenance of a diverse spread of crop and livestock production activities that interlock with each other in various ways”. A conventional example is a mixed cropping or intercropping, which refers to growing two or more crops on the same piece of land to “take advantage of complementarities between crops in their use of soil nutrients, sunlight and other resources” [5].

Non-farm diversification refers to seeking business or employment opportunities other than traditional crop production and livestock rearing. Even non-farm diversification is related to agriculture as it includes processing and trading of agricultural produce. Also, non-farm activities include service provision, trade and business and manufacturing. The two approaches tend to be quite relevant in Kajiado County.

For a long time, the primary requirements for pastoralist production in Arid and Semi-Arid Lands (ASALs) are livestock, labour, and access to key grazing and water resources. Commonly favourable terms of trade for pastoral produce against grain make it possible for people to make a living selling milk or meat from even relatively low herd numbers [15], [16]. Despite long-term declines, and the effects of subsidised meat and milk products being dumped on African markets [17], broadly favourable terms of trade still underpin successful pastoral economies [18] and [19], although drought or epidemic can precipitate rapid collapse into famine [20]. Similarly recent studies by [21] reported that farmers in Narok east sub-county are slow in embracing crop diversification as a strategy for climate change adaptation.

Maasai herders, normally keep cows which are grazers. They often split their herds and move them to different areas mitigating risk from localized droughts and disease outbreaks. They develop social relationships through livestock (stock friends) and exchange animals with them as a further insurance strategy. Over the last decade or so, however, there has been growing recognition that pastoralists are diversifying their sources of livelihood beyond livestock herding activities. While livestock rearing is still very important in most areas, it is supplemented by other activities including livestock and non-livestock trade and various degrees and types of cultivation [22]. According to [23], non-pastoral income livelihoods in ASALs areas of Isiolo county helps to reduce risks of livestock loss during droughts. Earlier findings by [24] reported that low marginal return to labour in pastoralism suggests that existence of surplus labour can be transferred to non-pastoral activities.

The essence of this research was to find out if livelihood diversification has improved the wellbeing of households in particular to the women in Isinya, Kajiado county. Traditionally, according to Maasai culture, the men leave home to graze the cattle and women are left home to take care of the needs of the children and the calves. Men would be out for even as long as a week and the women are set to provide for the family behind.

With the changing situations in Maasailand, the women are changing from their traditional roles and practices and engaging in non-conventional or emerging activities to improve the family wellbeing [25]. Today, there are several indicators of livelihood diversification among the Maasai women who are vulnerable to climate change.

The increase in human population, reduction of land size as well as climate change has added more pressure causing a shift in the lifestyles of the Maasai community from the traditional activities of herding livestock to diversification to other livelihood sources in order to adopt to the existing conditions [21]. This study therefore addresses how livelihood diversification has influenced the socioeconomic wellbeing of Maasai women of Isinya, Kajiado County.

The specific objectives of the study was to assess the household's diversification to business and wildlife related activities and their influence on the socioeconomic wellbeing of Maasai women in Isinya location, Kajiado County.

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## 2 Material and methods

### 2.1 Study site description

The study was conducted in Isinya location, Kajiado County, Kenya. Kajiado County is located in Rift Valley region and covers an area of 21,901Km<sup>2</sup> and a population of 807,070 in 2009 [26]. The County is divided into five administrative sub-counties namely: Kajiado Central, Kajiado North, Loitokitok, Isinya and Mashuuru with a total of 17 administrative divisions.

Isinya is a town in Kajiado County, Kenya and is located at 1.67° latitude and 36.85° longitude. It is also located 58 km south of Nairobi and 19 km north of Kajiado, the capital of the district. The town of Isinya is situated along the Nairobi-Arusha highway. It has a population of 8,670 [27].

The research was done in 5 randomly selected villages within Isinya area. The county has an annual population growth rate of 5.5 percent and in the year 2012 the total population was estimated at 807,069 with 401,784 being females and 405,285 males [28].

### 2.2 Sampling design

The study targeted households with single, married or widowed women in Isinya who were involved in any one of the diversified livelihoods. According to data by [28], Isinya area has an average of 600 households. The sample size required was calculated using the formula described by [29]. Based on the population of the women (600) and the required sample size was 250 women. The sample population was stratified into five to create a group of women who were engaged in business and wildlife/tourism livelihood activities.

Stratified random sampling was used for this study. The women were divided into five groups based on the livelihood they were engaged in (wildlife & tourism related and business). The women activities were identified from the administrative records and 2 lists of the women were created. Then using a *table of random numbers* the sample was randomly selected from the lists

The study used three research instruments and these were: a researcher administered interview schedule, a Focus Group Discussion guide and Key Informants Interview to collect data from the respondents. The study Questionnaire consisted of closed ended questions based on the study variables, the women socio-demographic characteristics, livelihood diversification activities (business ventures & wildlife and tourism related activities) and socioeconomic wellbeing.

### 2.3 Data analysis

The variable business activities were analyzed through the following indices: participation in kiosk, grains and cereal selling, clothes sale. Retail business and others as indicated and suggested by the respondents. On the other hand, wildlife and tourism related activities were operationalized as an index involving four of the following indicators: handicraft development for sale to tourists, Manyatta campsites, curio sales and shops and production of leather crafts. The four indicators were then combined to form the index of wildlife/tourism related activities. Data for the variables was analyzed using simple regression model and Chi-square test at  $p < 0.001$  [30].

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## 3 Results and discussion

### 3.1 Business Activities and Household wellbeing of Maasai women in Isinya, Kajiado County

The results showed that majority of the women (60.6 %) had no businesses which they rely upon opting instead for other forms of income. This was followed by at least 38.4% of the women who own and operate one business from the

determined categories. A final, lowest that is, 0.7% have ownership, control or participate in more than two businesses (Table 1).

**Table 1** Frequency Distribution and Descriptive Statistics for Business Activities

No of Businesses	Frequency	Percent
0.00 (None)	170	60.9
1.00	107	38.4
2.00	2	0.7
Total	279	100.0

Simple linear regression analysis was used to determine the effects of business activities on the wellbeing of the Maasai households. The index of household socioeconomic wellbeing formed the dependent variable, while the index of business activities the independent variable. The results of the regression model are presented in Table 2

**Table 2** Regression Model for Business Activities

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.451a	0.203	0.200	1.25641

The model indicates an adjusted  $R^2$  value of 0.203; this means that the independent variable business activities explained approximately 20.3 % of the variation in dependent variable household socioeconomic wellbeing. The regression coefficients of the model showing the beta, t statistics and the tolerance levels are shown in Table 3

**Table 3** Regression Model Summary of Business Activities

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
	B	Std. Error	Beta			VIF
(Constant)	5.568	0.096		58.100	0.000	
Business	1.254	0.149	0.451	8.400	0.000	1.000

Dependent variable: index of household socioeconomic wellbeing

The regression analysis indicates that business had a positive and significant influence ( $\beta = 0.451$ ,  $p = 0.001$ ) on the household socioeconomic wellbeing of the Maasai women in Isinya. Business in itself provides a more steady and reliable income, allowing women to venture into new areas that were previously inaccessible such as trainings, education provision for children and improving the family living standards.

Business and market economy entail competitive sale of goods and services to consumers (whose tastes are dynamic) purposely to realize profit. For their livelihood, people in such an economy depend on the sale for money of goods and services- labour, cattle and agricultural produce. In a market economy, all goods (including land and labour) and services are commodities that can be sold [31]. Similarly, a market economy opened up new outlets for pastoral products as well as new investment opportunities (livestock trade, shop keeping, butcheries, wage labour, purchase of farm machinery and real estate).

With expanded opportunities Maasai pastoralists have shifted from subsistence crop production to commercial production. This may be expanding their economic muscle since it empowers them to be able to afford the determinants of well- being such as improved standards of living, access to health care, feeling of safety, improved social relations, spiritual fulfilment, and control of the state of environment, and emotions and affiliations [31]. According to work by

[10], richer households benefit much more from non-farm activities compared with poor ones. However, the current study did not capture the income disparity of the respondents. On the other hand, studies by [21] showed that the Maasai community in Narok were not adopting crop diversification as a climate change adaptation strategy despite the current prevailing problems. Earlier studies by [9] stated that men opted for paid labour in urban centres as a way of livelihood diversification while women took up non-farm self-employed enterprises.

### 3.2 Effect of Wildlife and tourism Activities on Household Wellbeing of Maasai women in Isinya, Kajiado County

Results showed that majority of the women (95%) did not participate in any form of wildlife related activities (Table 4), despite the community being popular for the same. The reason can perhaps be found in the research by [32] who showed that the traditional Maasai culture disregarded women who participate in tourism trade. They are often regarded as being loose and hence an immoral behavior by the other women.

**Table 4** Frequency Distribution and Descriptive Statistics for Variable Agency Coordination in wildlife/tourism related activities

Scale	Frequency	Percent
0.00	265	95.0
2.00	3	1.1
3.00	3	1.1
4.00	8	2.9
Total	279	100.0

Mean .165±0.045, median 0, mode 0, Std.dev , minimum 0, maximum 4, range 4

A simple linear regression was calculated to predict the effects on household wellbeing based on wildlife activities in the study area. The index of household socioeconomic wellbeing formed the dependent variable, while the index of wildlife activities the independent variable. The results of the regression model are presented in Table 5.

**Table 5** Regression Model Summary of Wildlife Activities

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.328 <sup>a</sup>	0.107	0.104	1.32973

a. Predictors: (Constant), wildlife related activities

**Table 6** Regression Coefficients for Wildlife Activities

Model	Unstandardized Coefficients		Standardized Coefficients	t	p.	Collinearity Statistics
	B	Std. Error	Beta			VIF
(Constant)	5.965	0.082		73.127	0.000	1.000
wildlife related activities	0.608	0.105	0.328	5.770	0.000	

a. Dependent Variable: index of wellbeing

The model indicates an adjusted R<sup>2</sup> value of 0.104; this means that the independent variable wildlife activities explained approximately 10.4 % of the variation in dependent variable household socioeconomic wellbeing. The regression coefficients of the model showing the beta, t statistics and the tolerance levels are shown in Table 6.

The regression analysis indicates that wildlife related activities have a positive significant influence ( $\beta=0.328, p=0.001$ ) on the household socioeconomic wellbeing of the women in Isinya. Therefore, it can be concluded that wildlife activities have a positive significant influence on the wellbeing of the households. Women participating in wildlife activities have a form of stable secondary income to support the household income and expenditure. This outcome is strongly agrees

with earlier findings by [33] who stated that for the Maasai culture, wildlife and tourism provides two distinct advantages, the first is that it allows the women to enjoy a high income trade that requires little investment in terms of knowledge and resources.

Secondly, the Maasai culture continues to be quite popular as is touted by the ministry of Tourism to both the local and international tourists creating a wide base of customers willing to pay dearly for ownership of a piece or artifact derived from this culture. Work by [23] in Isiolo County further corroborates with the current findings by stating that non-pastoral incomes in ASALs helps to minimize the livestock risk during severe droughts.

The wildlife or tourism industry has brought a host of other social and economic benefits to Kenya including useful contributions to the reduction of the country's balance of payments, generation of revenues and employment, distribution of incomes to regions and communities, poverty reduction and national development. Tourism has also promoted conservation, encouraged local communities to realize the value and economic significance of their cultures, arts and crafts, environment and natural resources. Work by [34] reported that households in ASALs diversify through sale of mats, brooms, craft and even locally brewed beer.

The Kenyan government continues to promote tourism as one of the key drivers for the realization of the Millennium Development Goals (MDGS) and Vision 2030 in the country. Most wildlife conservation and tourism areas in Kenya are located in the ASALs on land presently or formerly occupied by pastoralist communities especially the Maasai [35]. Maasai communities are usually involved in some wildlife and tourism activities that include hunting, sales of artifacts, entertaining guest using culture, and tour guides. Through this, they earn some money that they use to sustain their families hence touching on the components of their wellbeing positively. According to findings by [24], pastoral communities have low marginal return to labour, hence availability of surplus labour can be devolved into non-pastoral activities. More recent findings by [36] stated that rural households have a more diversified livelihood portfolio compared with urban residents, yet they diversify away from farming overtime.

Kenya is one of the world's most popular tourist destinations owing to its rich diversity of tourist attractions and dependent on tourism as a key driver of its national economy. Today, tourism is Kenya's third largest single source of foreign exchange earnings after horticulture and tea. The sector also contributes approximately 10% to GDP, 10-12 of total wage employment, and 19.2% of export earnings [37].

Traditionally, Maasai community stay on large communal land that is also inhabited by wildlife. They also live close to the national parks and this makes them interact frequently with the wildlife. As tourists visit the parks, they get involved by being tour guides, selling curios and tour drivers. Consequently, they also engage in many other related activities including seeking employment in other sectors and in nearby urban areas [38] and [39]. Cultural tourism is also practiced where some tourist visit to view and learn about Maasai culture and mostly on social aspects. They have unique housing and social structure. When the tourists visit, the women left in the homestead become their guides through the bomas.

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## 4 Conclusion

Women involved in wildlife and tourism activities will in them enjoy a higher state of wellbeing. However, due to the cultural barrier, there are only few women involved in the various wildlife and tourism businesses. This is despite the demand for such products. Majority of the time, women are involved in production of the artefacts associated with the Maasai culture such as beads, jewelry, carvings and garments. However, they are not involved in the sale and marketing of such products. They therefore do not benefit from goods which they have produced.

Business activities have a more than 38% chance of improving the livelihoods of the communities. Despite this information, there are still fewer women who are willing to engage and promote business within the community. This is because, the community ridicules any women whose attention is not fully focused on their domestic responsibilities.

### *Recommendations*

- Demand for wildlife and tourism products, especially authentic products as found in the Maasai culture remains quite high. The community needs to be continually encouraged to participate in wildlife and tourism as an alternative source of income since currently there only a few who are engaged.
- Credit, capital and training should be provided to the Maasai women to allow them to participate more effectively in business. The more successful business investments get, the easier it will be to convince other women to take up the business challenge.

- There is need to encourage the residents to change attitude against the women who are practicing business enterprises in order to have more participants.

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## Compliance with ethical standards

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### *Disclosure of conflict of interest*

The authors wish to declare no conflict of interest as pertaining to the current research paper.

### *Statement of informed consent*

Informed consent was obtained from all individual participants included in the study

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