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INFLUENCE OF CULTURAL NORMS AND TRADITIONS ON FOOD INSECURITY AMONG SMALL-SCALE FARMERS IN MARMANET WARD, LAIKIPIA COUNTY, KENYA

Maina A. Nyambura*, Muiruri Philomena, Mbutia Susan

Kenyatta University, Kenya.

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ABSTRACT

This study sought to determine how cultural norms and traditions influence food insecurity among small-scale farmers in Marmanet ward, Laikipia County, Kenya. The study used a cross-sectional research design to get data from the study area, as this allowed both dependent and independent variables to be measured at the same time using a single questionnaire. The target population was 8158 farmers. Using Yamane's formula, a sample size of 381 small-scale farmers was obtained from Marmanet ward using a systematic random sampling technique. Data analysis was done using descriptive statistics and a multiple linear regression model was used to test the hypothesis at 5% level of significance. Statistical Package for Social Science was used in data analysis. Therefore, the null hypothesis was Cultural norms and traditional factors have no significant influence on food insecurity among rural households was rejected. The findings of the study were cultural norms and traditional factors significantly ($p < 0.05$) influence food insecurity among rural households in Marmanet ward, Laikipia County. The study recommends that decision-making should be a collective responsibility of husband and wife to reduce financial and resource wastage because of poor decision-making thus boosting food security status. The results imply that extension agents need to address the cultural and traditional factors.

Corresponding Author: Maina A. Nyambura

Email: nyamburamaina.nm@gmail.com

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INTRODUCTION

Culture influences farm task in such different tasks are done by different households' members where men predominantly do tillage and other greater percentage of activities is done by women. Men are the main decision makers in food production, on sale and in management of the money while some ethnic groups discriminate women against when accessing resources (Bhawani *et al.*, 2013). Cultural and religious beliefs determine food properties and eating behavior as determinants of food allocation. Religious beliefs may affect the distribution of

food for example, beliefs about the meaning of food, such as the act of eating being considered a form of worship in Islam was suggested as a determinant of food allocation while fasting causes less food allocation (Hellen *et al.*, 2017).

Cultural practices are vital in communities and are known to influence dietary practices. The limited access to financial resources and decision making among women has direct implications on the health of the women and their children. For example, the Maasai culture prohibits the consumption of wild animals,

chicken and fish thus limiting the food scope. This leads to food insecurity especially when there is none/minimal animal products (Chege *et al.*, 2015). Cultural differences have a strong influence on a number of meals, preference of different foods and agricultural production and hence food security at the household level. Ethnicity directly influences cultural practices which dictate those foods that can be utilized by specific groups of society and those that cannot (Olum *et al.*, 2017).

What food is produced and traded depends on what is classified as food. Culturally transmitted classifications of available sources of nutrition as food and nonfood determine what potential foods are included in the regular diet and thereby influence the composition of local food production, sales, and trade (Elena *et al.* 2017). Culture shapes how food is produced. It influences producers' acceptance of new food technologies and their willingness to incorporate innovations in food production. Traditional cultural beliefs and practices make farmers cling to the poor traditional methods of farming where most farmers neglect new seed and stick to their own varieties because they believe that the best seeds are those obtained directly after harvest from their own locality (Pedrini *et al.*, 2020). Low education and cultural practices lead to low adoption rate of agricultural technology.

Culture influences the processing and storage of food which can promote longer shelf life which can mitigate constraints and contribute to the stability of food consumption. It determines how food is prepared. Taboos restrict the consumption, food preparation techniques and production of certain food in time. For example, the different indigenous ethnic groups in Uganda are to an extent defined by their preferences for traditional foods. Thus, different foods have particular meanings and symbolism attached to them that affect their consumption (Olum *et al.*, 2017). The diversity of culture impacts significantly on food production, distribution and consumption. These cultural attachments that brand things as food or non-food consequently affect food and nutrition security.

Culture affects individual access to food through intra household food distribution. Most of the households produce agricultural commodities for their home consumption. Culture presents a challenge to government agencies and non-governmental

organizations that are active in promoting food security enhancement strategies. For instance, what is accepted by one culture may be rejected in part or in totality by another culture (Olum *et al.* 2017). Food and culture have a strong relationship as food is a strong pillar of any culture. People from culturally diverse are at a high risk of food insecurity. The cultural food preferences of individuals depend on their taste and cultural backgrounds which may affect their food security (Diekmann *et al.*, 2020). Therefore, migrants need to acculturate themselves to the new culture, adapt to the new country and find a way to engage with new environment (Yeo, 2015).

METHODS

Characterization of the Study Area

The study was carried out in Marmanet ward located in Laikipia West Sub County in Laikipia County. The ward covers a total surface area of 364 km² and it lies between longitudes 36°15 East and 36°30 East (Laikipia County Integrated Development Plan 2018 – 2022, 2017). It has an altitude of about 2611 meters above sea level. Relief type of rainfall is common with an average rainfall of over 900 mm where long rains occur from March to May while short rains between October and November. It has seven administrative units which comprise of Muhotetu, Karaba, Thigio, Kiambogo, Melwa, Marmanet and Siron locations.

According to Kenya National Bureau of Statistics and Society for International Development (2019), Marmanet ward has a population of 10877 households out of these 75% are small scale farmers (8158 households). It is a home to ethnically diverse communities such as Kikuyu, Kalenjin, Luo, Okiek, Njemps, Samburu, Luhya, Kamba, Kisii and Turkana and is largely rural in settlement with two settlement schemes with a total of 7680 hectares. The area has the highest potential for forestry and mixed farming due to the presence of loam soils. The main economic activities are crop farming, livestock rearing, retail and wholesale trade. The main crops grown include maize, beans, wheat, potatoes and vegetables. Maize takes about 51% of the total planted area. Livestock includes cows, sheep and goats. The area experiences wildlife menace which is manifested through crop damage and loss of human lives (County government of Laikipia report, 2018). Marmanet ward is served by bitumen surfaced road – Nyahururu – Kinamba and Nyahururu – Rumuruti roads

(GOK, 2007). Other small feeder and murramed roads that connect farmlands are present. Markets centres present include Oljabet, Kwa Njiku and Maili Saba.

Research Design

The study used a cross sectional research design to get data from the study area, as this allowed both dependent and independent variables to be measured at the same time using a single questionnaire. According to Paz-Graniel *et al.* (2019) cross sectional research design can be conducted faster and are relatively cheap in comparison to a longitudinal one.

Population of the Study

The target population for the study was small-scale farmers who own less than two hectares of land in Marmanet ward of Laikipia west Sub County. The total number of farmers in Marmanet ward is 10877 farmers out of which 8158 are small-scale farmers while 2719 are large-scale farmers (Kenya National Bureau of Statistics and Society for International Development 2019). Therefore, the accessible population was 8158 farmers.

Sample Size and Sampling Procedure

In this study, sample size was determined by the Yamane (1967) formula. Sample size was calculated at 95% confidence level

$$\text{Where "e" will be 0.05, } n = \frac{N}{1+N(e)^2}$$

Where;

n is the sample size,

N is the population size and

e is the level of precision.

Equating small-scale farmers' population size, which is 8158 farmers and the level of precision that is 0.05 then the sample size for the study will be 381 small-scale farmers.

$$n = \frac{8158}{1+8158(0.05)^2} = 381 \text{ small-scale farmers.}$$

Instrumentation

Data was collected through questionnaire which was administered to the farmers in Marmanet ward. The questionnaire contained closed ended items which allowed respondent to be objective to the study. Researcher administered questionnaire was used for data collection since not all farmers were able to read and interpret.

Data Analysis

Descriptive statistics was used to describe key variables such as socioeconomic, demographic and cultural characteristics of the households. The data was presented using frequency tables, bar charts and pie charts. Quantitative data was analyzed with the use of SPSS version 26 to obtain frequencies, percentages, averages, standard deviation, and measures of association. Regression analysis was used to test the hypothesis of the study. The model is widely used to explain observations of a dependent variable (Y) with observed values of independent variables. It also has an error term which captures sources of errors that were not captured by other variables.

$$Y = B_0 + B_i X_i + \varepsilon_i \dots\dots\dots 1$$

Bo and Bi are unknown parameters to be estimated, Xi are the explanatory variables which range from gender, infrastructure, cultural norms and traditions and expenditure on food. ε_i will be a random error term with a zero mean and constant variance (Olvera-Astivia and Zumbo, 2019).

RESULTS AND DISCUSSION

Demographic characteristics

Gender of respondents

Majority of the respondents were men with 55% while women had 45% contribution in sample. The men dominance is because women have less access to landownership in most of Saharan countries. The findings of this study are in tandem with a study by Diiro *et al.* (2018b) who cited that in Kenya, only 0.5% of women has access to financial services while the study estimated that only 6% of women own land. Further the study indicated that women do not inherit land in most Kenyan communities thus making women less active in agriculture as men are the ones owning land and makes major agricultural decisions. Another study by Muzari (2016) postulates that most women devote much of their financial resources in their children's health, schooling and clothing as opposed to men. Therefore, women are less involved in small-scale farming as their major focus is geared towards family well-being and sustainability. In addition, the study cited that African cultural factor like religion and age limit women's population in agriculture. It is estimated that in the entire African continent, only 1% of women own land.

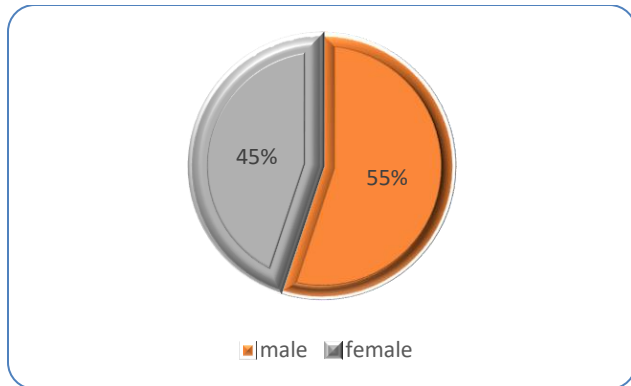


Figure 1. Gender of Respondents.

This results also agree with a survey by USAID (2018) that aimed at women empowerment in Senegal cited that women participated in domestic chores like fetching water and to some extent trading thus they had less interest in agriculture. In addition, women owned land through their husbands, in-laws, pledges and loans thus this limited their participation in agriculture. In addition, a few women who had land was less fertile and mostly in remote areas something that made women opt for other sources of income like trading, tailoring and operating food-shops.

Age of respondents

The findings revealed that the youngest farmer aged 25 years (Figure 2). Majority of farmers (34%) were aged between 45-54 years, followed by 55-64 years who constituted 25%, 35-44 years constituted 22% and those aged 25-34 years constituted 17%. The farmers who aged above 75 years constituted only 2%. This findings agrees with a study by Heide-Ottosen (2014) on the survey of age of farmers in rural areas that cited that majority of Sub-Saharan Africa are aged 50 years and above. Above 75 years, most farmers have allocated their properties to their children as a custom of inheritance thus, only a few (2%) farmers were active in farming. In addition, as people age, their concentration shifts from most investment activities to specifically maintaining their health (Yiallouris *et al.*, 2019).

The age bracket of 25-34 years consists of the youths. At this age, they are mostly looking jobs and earn a living, others happen to be schooling and at this age most youths do not own or possess land for farming. This contention is in tandem with findings of Food and

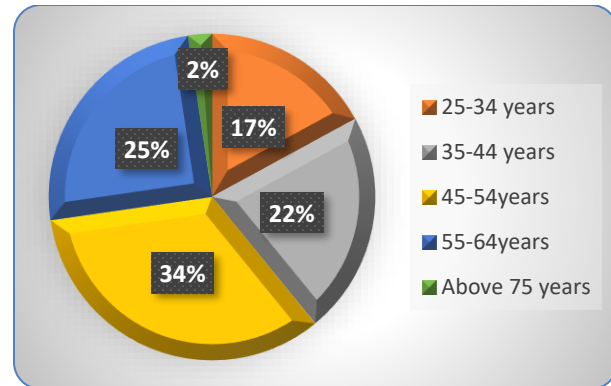


Figure 2. Age of the respondents.

Agriculture Organization of the United Nations *et al.* (2014) which cited a number of reasons and challenges as to why Youths in Kenya, Uganda, Tanzania, Brazil, Ghana, Zambia and Cambodia have less dominance in agriculture. Some of the challenges were; youths do not have sufficient access to knowledge and skills on practical agriculture. The graduates mostly have theoretical concepts which is contributed to the mode of instruction at colleges. In addition, youths experience limit to financial services, limited access to land, and difficulties in accessing white-collar jobs.

It is estimated that youths make 77% of the African population (United Nations Economic Commission for Africa, 2017). Globally, 80% of rural households earn a living through agriculture. Therefore, the existence of few (17%) youths in agriculture is one of the factors leading to food insecurity because elderly people tend to be conservative in nature as they apply traditional farming practices, which negatively influences crop yields. The farmers aged above 45-64 years have experienced much farming thus they are free to allocate their resources to try an income from farming. A study by Van-Winsen *et al.* (2016) cited that youths perceive agriculture to be a risky enterprise as its returns are not guaranteed thus opting for other alternative enterprises.

Cultural Factors

Household Decision Maker on Land Usage

The small-scale farmers were asked to state who was responsible for decision-making. The options they were given were husband, wife or both of the husband and wife made decisions. The results were recorded as shown in Table 1.

Table 1. Household Decision Maker on Land Usage.

Household decision maker	Frequency	Valid Percent	Cumulative Percent
Husband	195	51.2	51.2
Wife	70	18.4	69.6
Both husband and wife	116	30.4	100.0
Total	381	100.0	

The respondents indicated that 51.2% of farmers were from households where men were decision-makers, 30.4% it was a collective responsibility between men and women in decision making and 18.4% of households' women were decision-makers. Most households' men made decisions to land ownership since they are the immediate owners of the land property from their parents. 18.4% of farmers were single parents and women made decisions. In addition, 30.4% of respondents were men and women who made the decision together as a result of purchasing land together as a family. The findings of this study are in tandem with results recorded by a study conducted by Gaddis *et al.* (2018), who cited a few women own properties like houses and land even where land is abundant. Men are dominant in property ownership because they are household heads. Further, the results cited that in their study that captured 28 African countries, men had an upper hand in family leadership as opposed to women. According to Akinola (2018), "Land is one of the cornerstones of economic

development on which farmers, pastoralists, and other communities base their livelihoods. Land is also a significant component of business assets, which play a significant role in business investment strategies. Thus, securing land rights can have a profound impact on economic development. The land is a source of identity and cultural heritage". Land decision-making is greatly related to who owns the land, controls the land, and who has legitimate access to exploit land in most African countries. In Nigeria, the land act of 1978 advocates for neutrality. However, due to cultural values women do not have much say in decision making especially in land use (Hull *et al.*, 2019).

The Determinant of Type of Food Consumed in a Family

The study sought to determine in a family setup whether men, women, or both of them were involved in making household decisions about the dietary foods consumed. The results were as indicated in Table 2

Table 2. The Determinant of the Type of Food Consumed in a Family.

Determinant the type of food Consumed	Frequency	Valid Percent	Cumulative Percent
Husband	17	4.5	4.5
Wife	330	86.6	91.1
Both husband and wife	34	8.9	100.0
Total	381	100.0	

Source: (Field data, 2022).

The study findings indicated 4.5% of households' men decided what was consumed, women led in decision-making with a constitution of 86.6%, and 8.9% involved husband and wife in deciding the food to be consumed. The high percentage of women deciding on food consumption was associated with the fact that most women spent time at home compared to men who always spent much of their time at the farms. In addition, women are trusted and perceived to be efficient in planning dietary diversity in households. The findings of

this study concur with results recorded by Amugsi *et al.* (2016) who cited that women made decisions in most households regarding food consumption. Women do not inherit or own land in most parts of the world. Therefore, they spend time trading and performing house chores. In addition, women with higher education levels have been recorded to make efficient decisions about food consumption in households something that reduces malnutrition and an efficient expenditure thus promoting food security. A study by Sariyev *et al.* (2020)

cited that households where women have a low education level and they make decisions on food consumption experienced food insecurity.

Determinant of Money Allocation for Food Purchase

The study sought to determine whether women, men, or both decided on the amount of money allocated for purchasing food in the event there was a food shortage. The farmers' responses were recorded as indicated in Table 3.

Table 3. Determinant of Money Allocation for Food Purchase.

Determinant of money allocation	Frequency	Valid Percent	Cumulative Percent
Husband	142	37.3	37.3
wife	74	19.4	56.7
Both husband and wife	165	43.3	100.0
Total	381	100.0	

Source: (Field data, 2022).

About Table 3, only 19.4% of women decided on the amount of money allocated for purchasing food. In most households, it was the wife-husband responsibility to decide on the amount allocated for food. In addition, the findings indicated that 37.3% of small-scale farmers' men made decisions on what was spent on food purchases. From the study findings, men were dominant in land decision making and they owned land.

These results agree with a study conducted in South Africa which cited that households, where women made decisions on money allocation for food and other expenses like clothing and medical care, had high food security. However, in households where men made decisions on the amount of money allocated for food, there was low food security since men were found to allocate less money towards food and more money to some activities some of which were less basic (Booyens

and Guvuriro, 2021). Therefore, women were directed on what to spend on food since men were the ones who were at the forefront to generate family income. Households where per capita income is high per month, allocate more income towards food consumption causing food security (Pei *et al.*, 2018). The majority of respondents indicated; they got income between 4-6 months period. Therefore, this indicates a low food supply thus households are likely to spend less on food within a month to ensure a steady supply of food.

Evaluation of Food Preference per Household

The study sought to determine if the small-scale farmers had a food preference at the household level. The results were recorded as indicated in Table 4. The guiding question asked farmers if some foods were not preferred in their households.

Table 4. Evaluation of food Preference per Household.

Food preference	Frequency	Valid Percent	Cumulative Percent
Strongly disagree	54	14.2	14.2
Disagree	250	65.6	79.8
Neutral	67	17.6	97.4
Agree	10	2.6	100.0
Total	381	100.0	

Source: (Field data, 2022).

Concerning Table 4, about 79.8% of respondents had no food preference. Another 2.6% had a preference while 17.6% were not sure about food preference. Food preference is a common practice especially when a household has an adequate food supply. In a situation where the food supply is not adequate, family members

do not have food preferences as they are expected to consume what is available (Lusk and McCluskey, 2018). Therefore, in this context, 79.8% of smallholder farmers had insufficient foods something that made low food preference. A study by McArthur *et al.* (2018) argues that when a family spends money frequently to purchase

food regularly, that is a high indicator of food insecurity. In a household where food is sufficient, the rate of purchase is very low. However, farmers may purchase supplements to diversify their diet.

Regression Analysis

Linear regression was done to test the null hypothesis, which stated that cultural norms and traditional factors have no significant influence on food insecurity among rural households in Marmanet Ward in Laikipia County.

The significance level was 0.05; the results of the analysis were presented by the Model Summary, ANOVA table, and the coefficients. In this context, the ANOVA summary was $F(4; 376) = 39.578, p = 0.000$. The Adjusted R was .289, which translates to 28.9%. Therefore 28.9% of food insecurity can be explained by cultural and traditional norms. That implies that the remaining percentage can be explained by other findings apart from the socio and traditional norms.

Table 5. Regression Coefficients.

	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	1.438	.208		6.921	.000
Who decides on issues regarding land usage?	.186	.061	.200	3.069	.002
Who determines the type of food to be consumed in each meal?	.350	.114	.155	3.074	.002
In case of a shortfall, who determines the amount of money devoted to buying food?	.176	.060	.192	2.908	.004
There is some food not preferred by your household	.323	.061	.254	5.260	.000

ANOVA summary was $F(4; 376) = 39.578, p = 0.000$ Adjusted R was .289

About Table 5, the decision-making in the family was significant at 0.002, the determinant of the food consumption was significant at 0.02, the allocation of the amount of money meant for food was significant at 0.004 and the significance of foods not preferred by the household was significant at 0.000. The overall P-value was 0.000, which was found to be less than the significance level of 0.05 thus the null hypothesis was rejected and the alternative hypothesis; cultural norms and traditional factors have a significant influence on food insecurity among rural households in Marmanet Ward in Laikipia County was accepted. The findings of this study were in tandem with a study by Laura *et al.* (2019) who cited in their study that despite many households having nutritional knowledge, the eating behaviors, the person who made decisions in a family, the funds allocated for foods together with environment formed the cultural aspect that significantly led to food insecurity.

In this study, decision-making and household decision-makers had a very strong influence on food insecurity. From the preceding literature, in most households, men were dominant in land use and decision-making. Therefore, this justifies those cultural and traditional

aspects that determine food insecurity in a manner that where females own land and make decisions there are high chances of food security as they focus on mixed cropping as opposed to males who focus on single crops or enterprises. A study conducted by Safari *et al.* (2022) in the Ngorongoro region of Tanzania cited that when a family does not have a food preference it is an indicator of the high level of a food insecure household. In their study, they indicated that 74% of individuals had no food preference an indicator of food insecurity.

CONCLUSIONS AND RECOMMENDATIONS

The decision-making in the family was significant at 0.002, the determinant of the food consumption was significant at 0.02, the allocation of the amount of money meant for food was significant at 0.004 and the significance of foods not preferred by the household was significant at 0.000. The overall P-value was 0.000, which was found to be less than the significance level of 0.05 thus the null hypothesis was rejected and the alternative hypothesis; *cultural norms and traditional factors have a significant influence on food insecurity among rural households in Marmanet Ward in Laikipia County* was accepted. Men decided how much was spent

on food while most women had a decision on what was to be consumed at the household level. Decision-making should be a collective responsibility of husband and wife to reduce financial and resource wastage.

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