Relationship between Characteristics of Households and Food Accessibility in Rhamu, Mandera County; Kenya

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DOI: 10.29322/IJSRP.11.04.2021.p11239
http://dx.doi.org/10.29322/IJSRP.11.04.2021.p11239

Abstract
The purpose of this study was to assess Relationship between Characteristics of Households and Food Accessibility in Rhamu, Mandera County in Kenya. A correlational research strategy was adopted to conduct the study. A descriptive research design strategy was embraced during the study where only quantitative data were utilized. The study examined the Relationship between Characteristics of Households and Food Accessibility in Rhamu. The selected variables include gender of head of household, age of head of household, household size, education of head of household, sources of household income and access to land by households. It was concluded that there was no significant relationship between gender and food security (accessibility). The findings also indicated that food security status (accessibility) varies with age of the head of household while on the other hand, food security (accessibility) decreased with an increase in household size. Likewise, there was no clear relationship between source of a household income and food security (accessibility). It was equally evident that there is no relationship between household food security (accessibility) and the increasing educational attainment of the household heads. Finally, it was evident that food security (accessibility) had no relationship with the size of land a household has access to, and the size of land owned by a household or area cultivated for crop production. The study recommended that the Government of Kenya to have policy interventions that embraces new faming technology that enhances agricultural productivity and that similar studies be undertaken in other places in the world to provide more data that may be required by other scholars globally.

Key words: Food Security, Socio- economic determinants, Household, Food accessibility

1. Introduction

FAO (2013), define food security as the availability, access and utilization at all times of adequate basic food supplies to sustain continuous food consumption and to offset fluctuations in production and prices among households. Akakpo, et al (2015) on the other hand defines food insecurity as lack of sufficient, safe, and nutritious food and dietary needs necessary for an active and healthy life resulting in malnutrition and infectious disease. Consequently, Malnutrition reduces productivity and hampers economic growth particularly in agriculture-dependent societies like Africa and especially in Kenya.

A study by FAO, IFAD, & WFP *et. al,* (2012) concurred with Barrett (2010)'s findings but postulating that Eastern Kenya's agricultural sector has not been spared the devastation of the drought, inter-clan conflicts, over-population, H.I.V./Aids scourge and poor infrastructure leaving the county at a risk of food insecurity among households due to the influence of house hold characteristics. The household characteristics influencing food accessibility in this study included; Gender, age, House hold size, House hold income, level of education and house hold land access.

2. Research Methodology and Design

A correlational research strategy was adopted to conduct the study. Correlational research is research concerned with establishing relationships between two or more variables in the same population or between the same variables in two populations (Kothari, C.R., and Garg, G. 2014). Correlational research studies relationships among variables, some of which may not be the actual cause of another (McBurney & White 2009).

A descriptive research design strategy was embraced during the study where only quantitative data were utilized.

3. Results and Discussion

The study's objective was to investigate the Relationship between Households Characteristics and Food Accessibility in Rhamu, Mandera County in Kenya. The discussion centers around the relationship between household characteristics and food accessibility.

3.1. Relationship between Households Characteristics and Food Accessibility

The purpose of this subsection was to examine the demographic variables of Rhamu Sub-County households using the food accessibility categorization measure. The selected variables include gender, age, household size, education and household income.

3.1.2 Gender of Household Head and Food Security (Accessibility)

The researcher sought to know if there was a relationship between gender and household food security. The findings are presented in Figure 3.1. The results indicate that food security varies substantially between male-headed households (MHH) and female-headed households (FHH). The MHH (6.70%) were more food secure than FHH (2.2%). Food insecurity is mostly prevalent in MHH with moderate and severe food insecurity of 33.7%and 40.4% respectively than FHH of 9.0% and 6.7%. There was no significant effect of gender on food insecurity ($\chi^2 = 0.889$, $p = 0.647$). The results obtained suggest that gender does not play a critical role in enhancing household food security. However, in the researcher's opinion, the results were not consistent because majority of the study respondents were from Male Headed households at 93% and Female Headed Households at 7% which could not be a representation of the Female Headed Households (FHH).

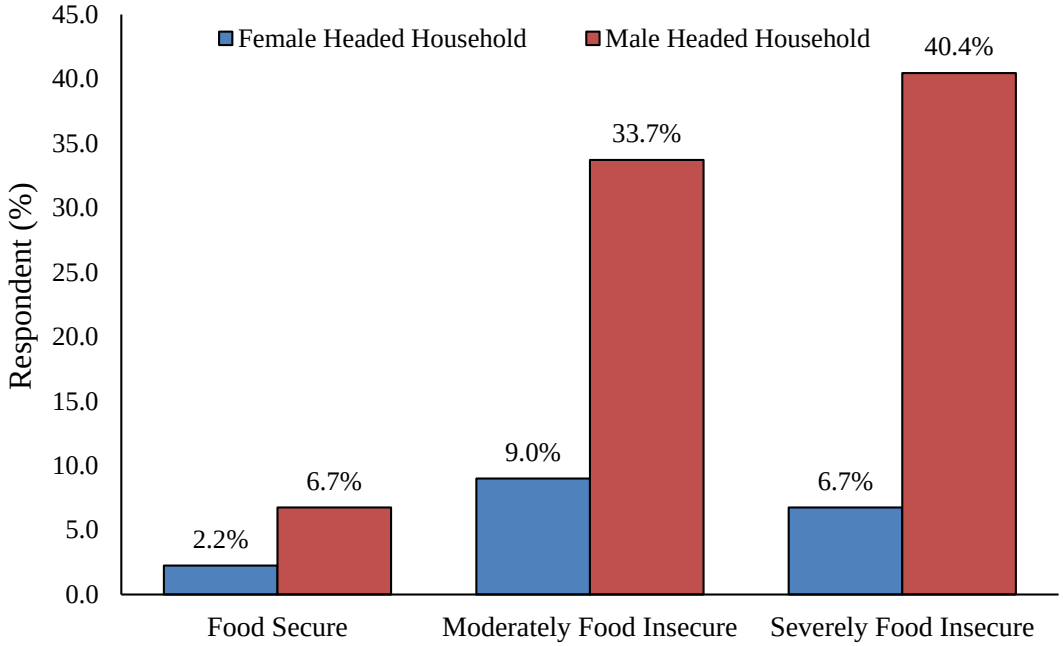

Figure 3.1: Gender of Household Head and Food Security

The results are not in line with previous studies which have found significant gender differences in household food security. For example, Gitu, (2011). had reported that MHH experience less food insecurity than FHH since women generally do not have sufficient access to productive resources and also have low educational levels. Increased vulnerability to food insecurity was found in households headed by females in the neighboring Ethiopia (Global Assessment Report 2013).

3.1.3 Relationship between Age of Household Head and Food Security

The study sought to establish the relationship between age of house hold heads and food security. The result in Figure 3.2 indicate that food security status varies with age. The incidence of severe food insecurity is higher among the bracket of 26-35 (26.7%) and 36-45(12.8%) and lower for those who are 36-45 years and older at 3.30%. Similarly, the incidences of moderate food insecurity are higher among the bracket of 26-35 (23.3%) and 36-45(9.3%) and lower for those who are 36-45 years and older at 2.30%. The results imply that older household heads are more food secure than younger household

heads. The results are consistent with similar studies by Nord, M. and Bickel, G. (2002), which found high incidences of food insecurity in households headed by young people. One of the reasons is that older household heads are likely to have better access to agricultural land for food production compared to younger household heads. This factor is important in improving food security for the older headed households. Furthermore, those households headed by people who are over 65 years of age are more food secure because they have more experience in social and physical environment as well as subsistence farming activities (Omotesho, *et al*., 2006).

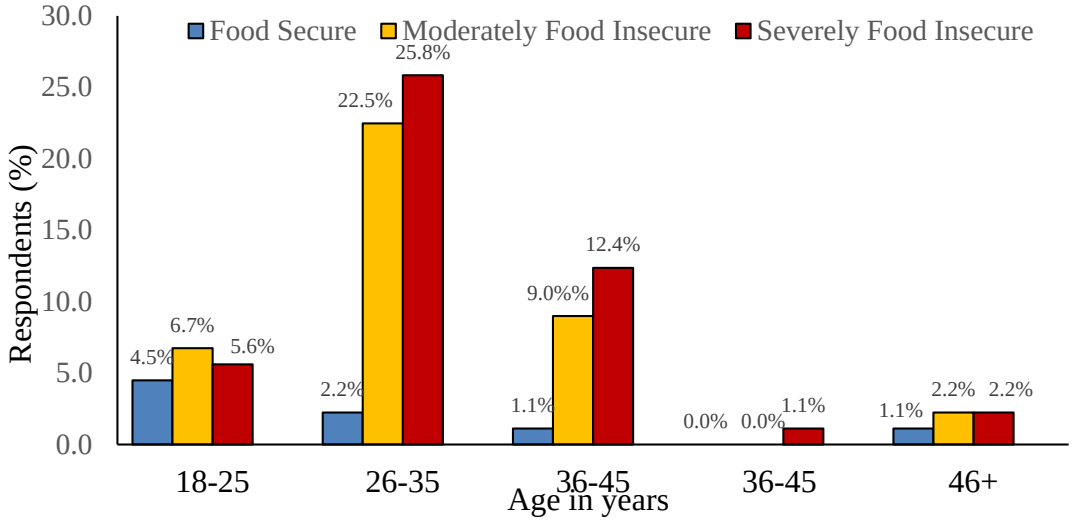

Figure 3.2: Age of the Household Head and Food Insecurity

3.1.4 Relationship between Household Size and Food Accessibility

The study went ahead to establish the relationship between house hold size on food security (accessibility). The results are indicated in figure 3.3. From the findings, food security decreased with an increase in household size. Food security (11.6%) is only found in small households with 0-4 members. At the same time households with 0 to 4 members experienced combined higher incidences of severe and moderate food insecurity (44.3%) than those with 5-8 members or more than 9 members (8% and 10.2% respectively).

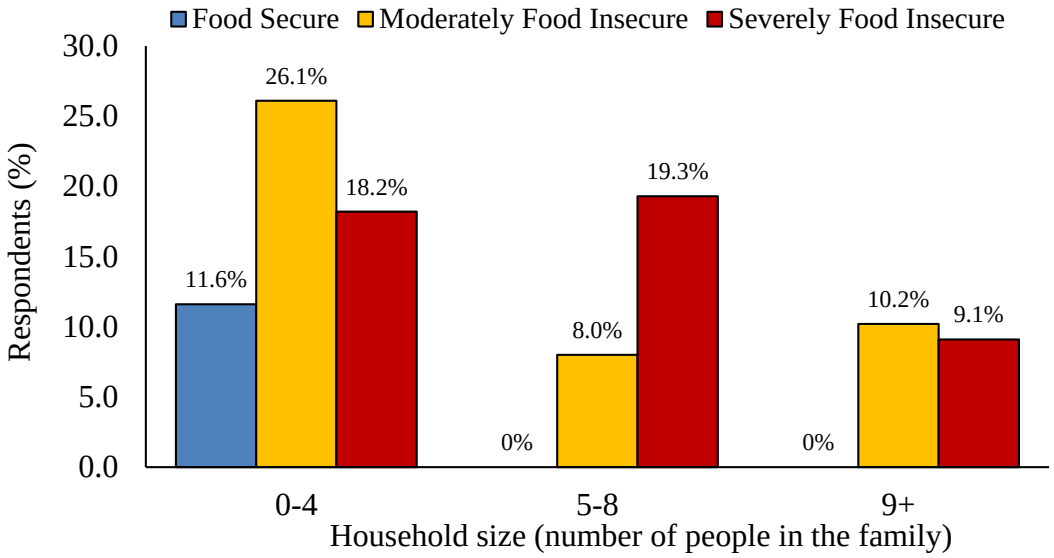

Figure 3.3: Relationship between Household Size and Food Security

3.1.5 Relationship between Household Income and Food Accessibility

The researcher sought to understand the relationship between house hold income and food security. The findings are illustrated in Figure 3.4. From the results, there was no clear relationship between source of a household's income and food

insecurity. Food security problems affected 82% of households reliant on crop farming, formal employment and livestock keeping. Incidences of food insecurity are highest in households whose source of income is crop farming with moderately and severely at 28.1% and 21.3%respectively. Households whose main source of income was either relief aid, remittances from relatives or trade had the lowest rate of food insecurity (7.3%). Social assistance such as remittances from relatives are not particularly vulnerable to food insecurity.

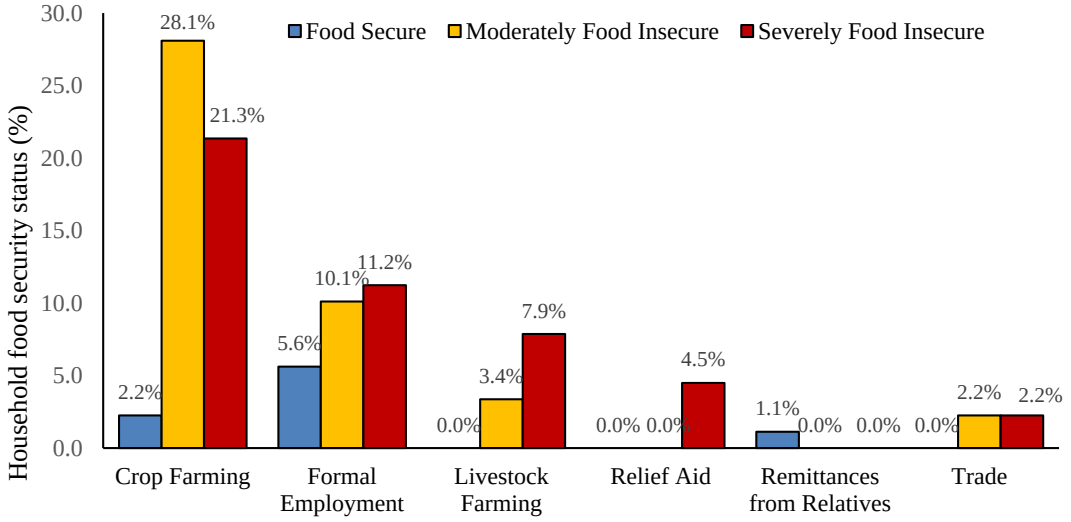

Figure 3.4: Relationship between Household Income and Food Security

3.1.6. Relationship between level of Education of Household Head and Food Insecurity

The attainment of educational level of household heads is provided in Figure 3.5 There is no clear relationship between household food security and the increasing educational attainment of the household head. Food insecurity is equally distributed in households headed by people with higher levels of education.

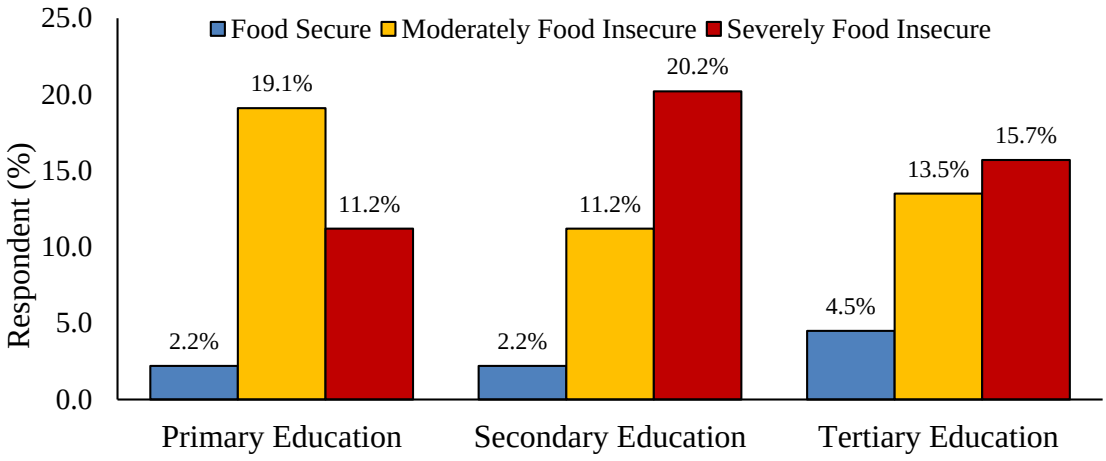

Figure 3.5: **The level of Education of Household Head and Food Insecurity**

3.1.7 Relationship between Household Land Access and Food Security Status

The distribution of household access to land for agricultural production is provided in Figure 3.6. When asked about the access to land for farming, 51.2% of the household respondents reported yes, while 48.8% said no. Among the household respondents who said yes, only 2.4% were food secure while 22.6% and 19% were moderately and severely food insecure, respectively. For those who said no, 7.1% were food secure while 21.4% and 27.4% were moderately and severely food insecure, respectively. As indicated in Figure 3.7, the proportion of the respondents with farm size above 10 acres was higher (55.9%) than with farm size less than 10 acres (44.1%) region. Overall food security was higher 5.7% in farm size above 10 acres and farm size less than 10 acres 1.7%. Food insecurity was higher (50.1%) in farm size above 10 acres than in farm

size less than 10acres (42.4%). In Figure 3.8, the overall result show that farming households with less than 10 acres cultivated land were more food insecure (49.1%) compare to those with more than 10 acres land cultivated.

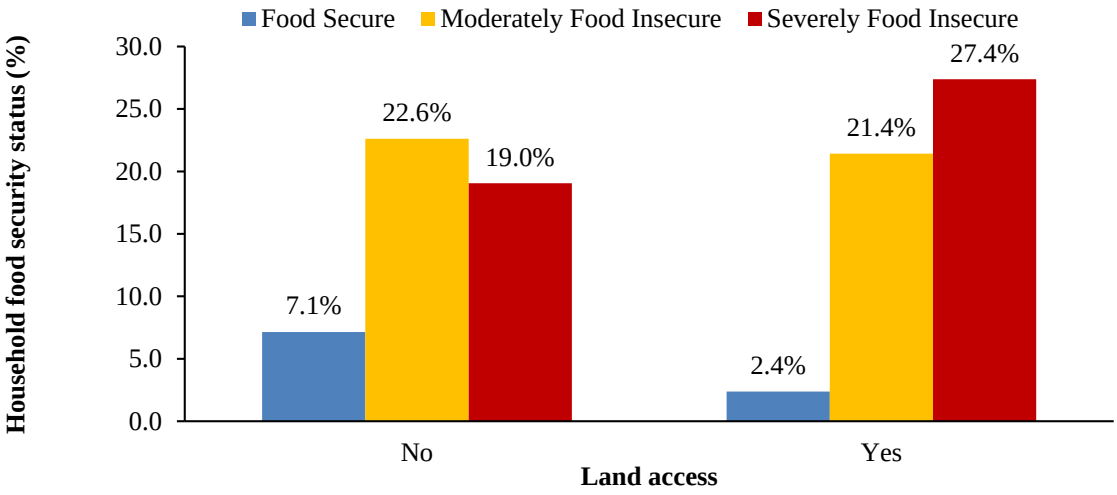

Figure 3.6: Relationship between Household Land Access and Food Security Status

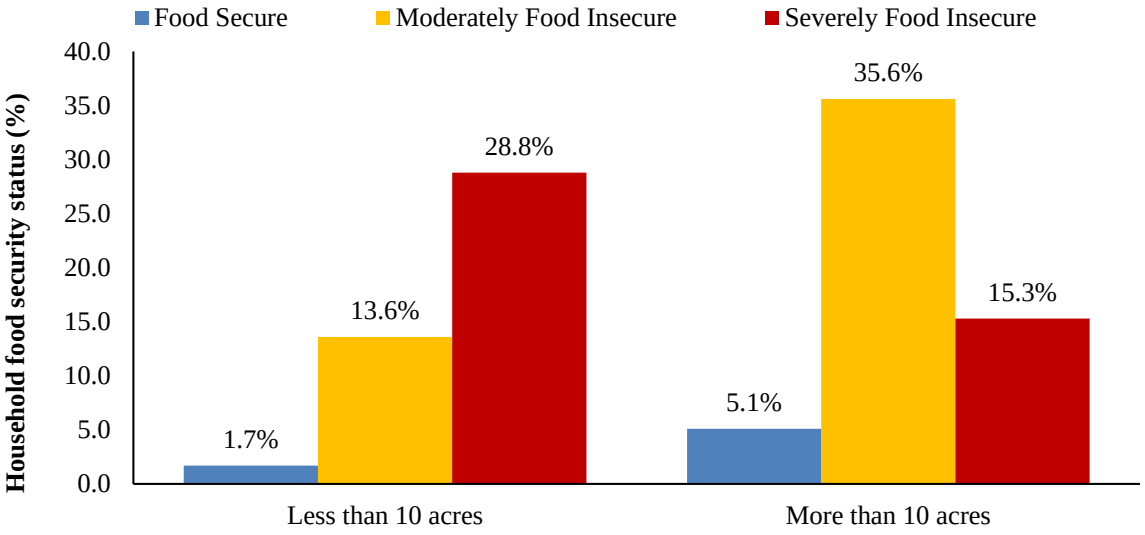

Figure 3.7: Distribution of Household Food Security Status by area of Farmland Owned

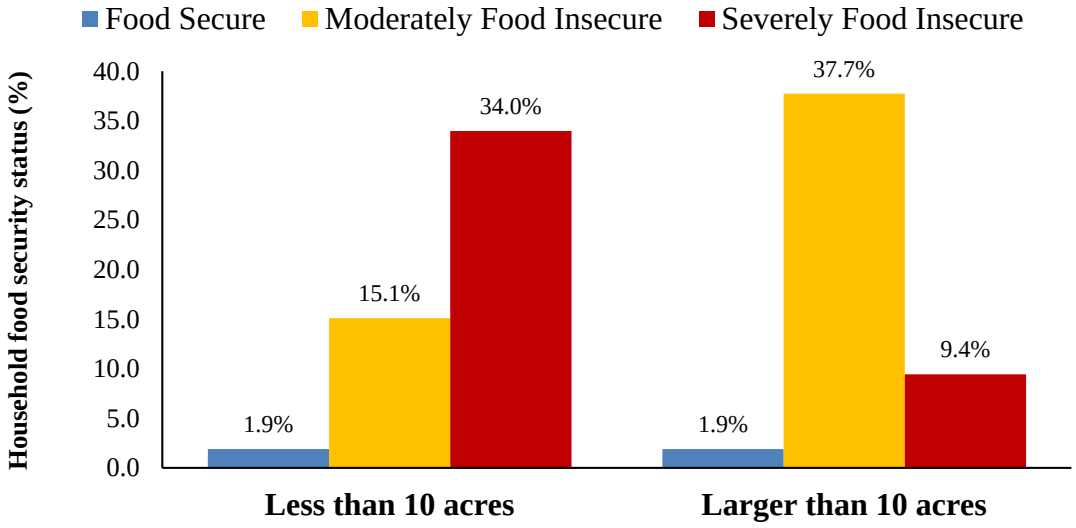

Figure 3.8: Household Food Security Status by Cultivated Land Size Category

From the findings and discussions above, it is evident that food security in Rhamu County is a rampant household problem regardless of the size of access to land, and the house size land owned or area cultivated for crop production.

4. Conclusion and Recommendations

This study examines the Relationship between Households Characteristics and Food Accessibility in Rhamu, Mandera County in Kenya. The selected variables include gender, age, household size, education and household income. It was concluded that there was no significant relationship between gender and food security. The findings indicated that food security status varies with age of the head of household while on the other hand, food security decreased with an increase in household size. Similarly, there was no clear relationship between source of a household's income and food insecurity. It was equally evident that there is no clear relationship between household food security and the increasing educational attainment of the household head. Finally, it was evident that food security in Rhamu County is a rampant household problem regardless of the size of access to land, and the size of land owned by the household or area cultivated for crop production.

The study recommends that the Government of Kenya to have policy interventions that target access to resources suchas land, modern farming technology, credit and training of farmers; promotion of irrigation and rainwater harvesting technologies to food production and allow access to the farms, improve infrastructure and local trade in the area. Finally, it is recommended that similar studies be undertaken in other sub-counties and other counties in the country to provide more data that may be required by other scholars.

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