

Household Food Security and Dietary Diversity in Different Agro-ecological Zones in Western Kenya

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Introduction

Household food insecurity is associated with diets that lack diversity and which contribute to poor nutrition and health especially in developing countries. This study aimed to assess household food security and dietary diversity in different agro-ecological zones (AEZs) in Western Kenya.

Methodology

- A cross-sectional baseline survey was conducted in July/August 2012 in 5 AEZs in Teso South and Bondo districts.
- The 5 AEZs were grouped into two zones:
 - Humid zone in Teso South district: humid LM1 and sub-humid LM2 AEZs (n=148).
 - Dry zone in Bondo district: semi-humid LM3, transitional LM4 and semi-arid LM5 AEZs (n=145).
- Two-stage cluster sampling was applied:
 - 30 villages were selected proportional to population size.
 - Households with children aged 6-23 months and their caregivers were randomly selected from each village.
- Semi-structured questionnaires were used to assess household socio-demographic characteristics. The household hunger scale was used to assess household food security. 24 hour recalls were conducted to document the household dietary intakes.
- Household dietary diversity scores (HDDS) were computed based on 12 food groups¹. The household hunger score (HHS) with a high score meaning severe hunger, and a household wealth indicator (WI)³ with a high score meaning high wealth were calculated.

Results

Characteristics of the study participants are presented in Table 1.

Table 1: Characteristics of participants in the humid and dry zones in Western Kenya

Characteristics	Min	Max	Mean	SD
Age of women (years)	16	52	25.8	±6.4
Household size	2	17	6.0	±2.5
Household dietary diversity score	1	11	6.9	±1.6
Household hunger score	0	6	1.2	±1.2
Household wealth Index	-6.1	13.1	-3.4	±3.0

- Overall 34.5% and 3.4% of the households in the study area experienced moderate and severe hunger, respectively (Figure 1).
- Households in the dry zones experienced less hunger and had higher HDDS values compared to those in the humid zones (Table 2).
- There was a significant difference between the humid and dry zones in the proportion of households that consumed fruits ($P=0.017$); eggs ($P=0.003$); fish, pulses, legumes & nuts, and sugar/honey (all $P_s < 0.001$) and spices, condiments and beverages, $P=0.001$, during the last 24 hours (Figure 2).
- There was a significant negative relationship between HHS and HDDS, $r=-.35$, $P<0.001$. WI related negatively with HHS, $r=-.13$, $P=0.027$, but positively with HDDS, $r=0.21$, $P<0.001$ (Table 3).

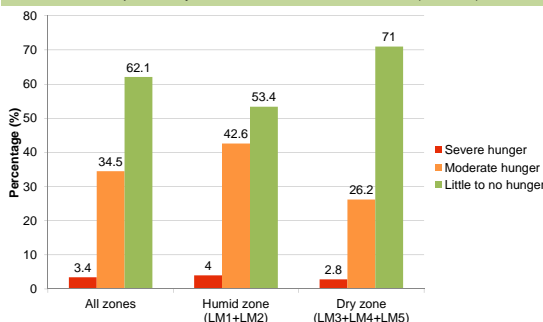


Figure 1: Prevalence of hunger among households in the humid and dry zones in Teso South and Bondo districts, Western Kenya

Table 2: Mean household hunger scores and household dietary diversity scores in the humid and dry zones in Teso South and Bondo districts, Western Kenya

Characteristics	Humid zone (LM1+LM2) n=148	Dry zone (LM3+LM4+LM5) n=145	P*
Household hunger scores	1.45±1.27	0.94±1.14	<0.001
Household dietary diversity scores	6.38±1.66	7.42±1.42	<0.001

*Mann-Whitney test

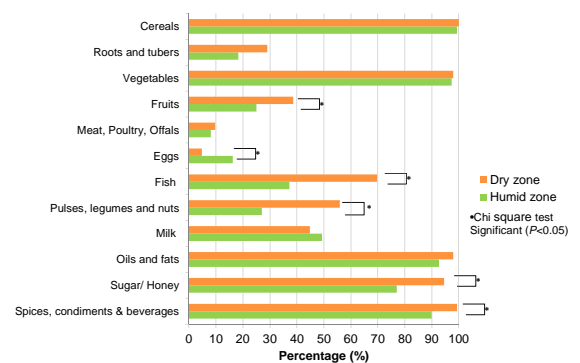


Figure 2: Proportion of households consuming foods from different food groups during the last 24 hours in the humid and dry zones in Teso South and Bondo districts, Western Kenya

Table 3: Relationship between HHS, HDDS and WI in the humid and dry zones in Teso South and Bondo districts, Western Kenya

Variable 1	Variable 2	r*	P
HHS	HDDS	-.35	<0.001
HHS	WI	-.13	0.027
HDDS	WI	0.21	<0.001

*Spearman's rho correlation

HHS= Household hunger score, HDDS= Household dietary diversity scores and WI= Wealth index

Conclusions

- The study findings revealed that food access and household dietary diversity were better in the drier than humid zones. This contradicts the common pattern of low food availability in drier zones. This could be attributed to better coping strategies among households in the drier zones due to differences in districts structures.
- The study findings also confirmed that less varied diets are usually found in poor and food insecure households.
- There is need for further investigations taking into consideration other variables to understand whether the AEZs alone or other district-related factors have an influence on food security and household dietary diversity.
- Strategies focusing on increasing food and nutrition security and that promote the utilization of a variety of locally available foods are needed in rural communities.

References:

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