

# Food Security, Dietary Practices and Nutrition Status of Mothers/Caregivers and Children in Laikipia County, Kenya

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## Introduction

Malnutrition can occur in the presence of adequate energy intake. In Kenya, a third of both under-fives and women suffer from chronic malnutrition<sup>1</sup>. Diets are dominated by starchy, energy-dense foods, with low consumption of nutrient-rich fruits and vegetables, and animal source foods. This study assessed household food security status and determined its relationship with dietary practices and nutrition status of mothers and children in Laikipia County, Kenya.

## Material and methods

- Two sites selected in Laikipia County, east and west sub-counties (Fig. 1), an arid and semi-arid region of Kenya.
- 152 households with mothers and children age 6-59 months interviewed.
- Anthropometric measurements taken – weight, height
- Structured questionnaire used to collect data – food production and purchase, dietary diversity and Months of Adequate Household Food Provisioning (MAHFP).
- Spearman's rho – to establish relationships between variables
- Chi-square tests – to test the association between variables (\*, \*\* significant at P ≤ .05, .01 respectively).

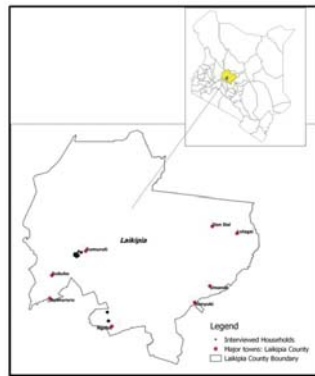


Fig. 1 Map of Laikipia County, Kenya

## Results – household food security

- Mean land size – 0.7ha and 55%, 41% and 33% of households grow staples/pulses, vegetables and fruits on-farm respectively, mostly for consumption, while 81% kept livestock (Fig. 2).
- Mean weekly expenditure on food – KES820±660 (\$8.2±6.6) (mostly on starchy staples) (Fig. 3).
- Median MAHFP of 9 (Mean 8.1± 3.0 months)

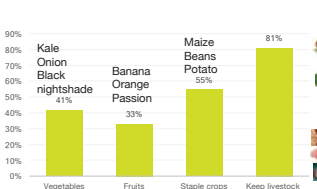


Fig. 2 Main foods produced on farms in study sites

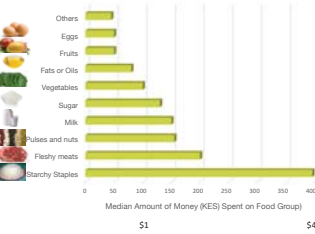


Fig. 3 Weekly expenditure on food in study sites

## Results – dietary diversity of children and their mothers/caregivers

- Dietary diversity is an indicator of an individual's diet quality.
- Only 35% of mothers/caregivers consumed foods from 5 or more food groups (Fig. 4).
- 57% of children (<2 years) did not achieve Minimum Dietary Diversity (MDD) of 4 out of 7 food groups a day (Fig. 4).
- Most consumed starchy staples and dairy produce (Fig. 5 & Fig. 6).

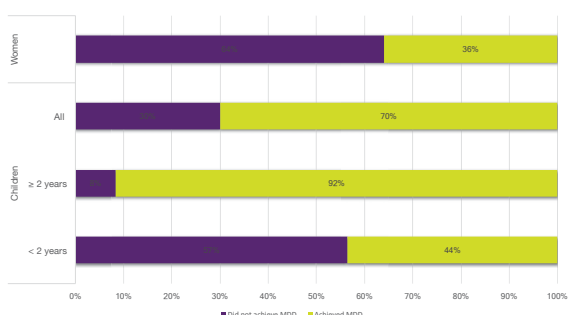


Fig. 4 Minimum dietary diversity of mothers/caregivers and children

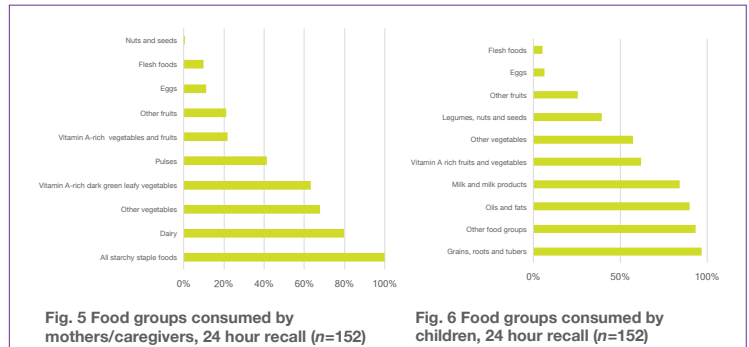


Fig. 5 Food groups consumed by mothers/caregivers, 24 hour recall (n=152)

Fig. 6 Food groups consumed by children, 24 hour recall (n=152)

## Results – nutrition status of mothers/caregivers and children

- Double burden of malnutrition: 16% of mothers/caregivers underweight, 31% overweight/obese (Fig. 7).
- Prevalence of stunting was 28%, underweight 16% and wasting 2% (Fig. 8).

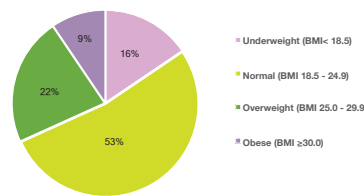


Fig. 7 Nutrition status of mothers/caregivers

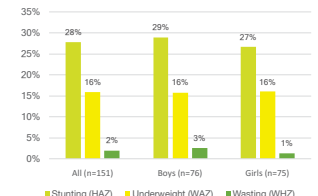


Fig. 8 Children's nutrition status

## Results – food security, dietary diversity and nutrition status

- Cultivation of fruits and vegetables positively correlated with children's dietary diversity and nutrition status of mothers and children (Table 1).
- Weekly expenditure on food correlated with women's BMI but not children's nutritional status (Table 1).

Table 1. Results of Spearman's correlation to establish the relationship between household food security, dietary diversity and nutrition status of mothers/caregivers and children

	Weight-for-age Z-scores (WAZ)	Height-for-age Z-scores (HAZ)	Weight-for-height Z-scores (WHZ)	Caregiver Nutrition Status (BMI)	Women Dietary Diversity Score (DDS)	Children ≥2yrs Dietary Diversity Score (9 groups)	Children <2yrs Dietary Diversity Score (7 groups)
Mother/Caregiver's BMI	0.183*	ns	0.252**	1	ns	ns	ns
Women MDD	ns	ns	0.160*	ns	1	ns	ns
DDS 9 food groups (Children ≥2years)	0.242*	ns	ns	ns	0.706**	1	ns
DDS 7 food groups (Children <2years)	0.266*	ns	ns	ns	0.728**	ns	1
Weekly expenditure on food	ns	ns	ns	0.166*	ns	ns	ns
MAHFP	ns	ns	ns	ns	ns	ns	ns
Currently grow fruits (0=No, 1=Yes)	0.169*	ns	0.180*	0.244**	ns	ns	0.256*
Currently grow vegetables (0=No, 1=Yes)	ns	ns	ns	0.175*	0.188*	ns	0.246*

Note: \*,\*\*correlation is significant at the .05 and .01 level respectively, ns=not significant

- Proportion of children who consumed vegetables significantly higher (70%) in households that cultivated vegetables than (48%) those that did not (52%) ( $\chi^2 (1, n=152)=6.984, p=0.008^*$ ).
- Underweight significantly ( $\chi^2 (1, n=151)=5.474, p=0.019^*$ ) higher among children from households that did not grow fruits (21%) than those that did (6%).

## Conclusion

- Fruits and vegetables not as commonly consumed as starchy/staple foods, and with less weekly expenditure.
- Majority of mothers/caregivers and children not meeting the minimum dietary diversity.
- Dietary practices and nutrition status of mothers and children in Laikipia County influenced by food access (purchase) and availability (production).

## Recommendations

- Fruit and vegetable production and consumption promoted to improve food security, dietary practices and nutrition status of women and children.
- Site-suitable fruit and vegetable species identified, and integrated agriculture and nutrition education training provided to the community.

Reference: <sup>1</sup> Bosted G, Hornell A, Nyberg G. 2016. Agroforestry extension and dietary diversity – an analysis of the importance of fruit and vegetable consumption in West Pokot, Kenya. *Food Security*.

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