

POLICY BRIEF

July 2017

Cost of the Diet: Turkana Central Pastoral Livelihood Zone

This policy brief is for policy makers, program managers, researchers and other professionals working in nutrition, health, food security, social protection, behaviour change and those interested in improving the food security and nutritional status of communities in Turkana County.

This policy brief discusses the cost of a nutritious diet for individuals and households living in the central pastoral livelihood zone in Turkana County and gives recommendations for decision makers and programs to improve the diets and nutrition of children and households.

Situated North-West of Kenya, Turkana County is endowed with vast natural resources and a rich cultural heritage and yet is one of the poorest counties with chronically high rates of acute malnutrition. To gain a better understanding of the causes of malnutrition, Save the Children, funded by UNICEF, carried out a Cost of the Diet assessment to assess the extent to which access to a nutritious diet may be affected by economic constraints and availability of nutritious foods in the county. The assessment was carried out in March 2017 in the Central Pastoral Livelihood zone which covers 6 Sub-counties. The study found that a nutritious diet that takes into account local food habits costs KES 1,132 daily and is therefore unaffordable to a majority of the residents in the livelihood zone. This calls for urgent investment in policies and programs by the county government and partners to improve the situation especially for the vulnerable groups such as young children, pregnant and lactating mothers, adolescent girls and the poor.

Introduction

What is Cost of the Diet?

The Cost of the Diet (COtD) is a method and software used to model the cost of a theoretical, simulated diet (food basket) which meets all nutritional requirements of individuals in a household of interest (e.g. breastfed child, lactating mother, and other members) at the minimal possible cost, based on the availability, price, and nutrient content of local foods. When combined with household income data, the COtD can be used

to estimate the proportion of households within a given livelihood zone that could theoretically afford a nutritious diet. The COtD tool:

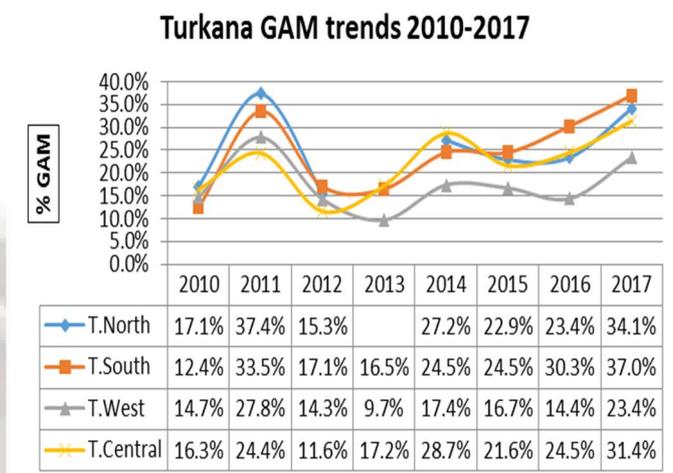
- Is most useful when chronic malnutrition levels have been identified as a problem.
- Helps to understand changes in food and nutrition insecurity.
- Helps understand the extent to which economic poverty, food habits and availability of food prevents households from consuming a nutritious diet.
- Can be used to inform nutrition, food security, livelihood and social protection programmes.

Why the Cost of the diet analysis in Turkana?

One of the main challenges affecting Turkana people are the historically high trends of chronic and acute malnutrition in children under five. Stunting rates are at 23.9% (KNBS, 2014) while recent trend analyses of acute malnutrition rates have shown fluctuations, yet little variation since 2011. Recent nutrition surveys across the counties have recorded alarmingly high global acute

malnutrition (GAM) rates of above 30% with Turkana South recording GAM rates of 37% necessitating scaled up emergency response to save lives.

Figure 1: Trends in Global Acute Malnutrition 2010-2016



Turkana North (TN); Turkana South (TS); Turkana West (TW); Turkana Central (TC)

The main barriers and bottlenecks to good nutrition in Turkana include: chronic food insecurity resulting in inadequate intake of food of the appropriate quality and quantity; inadequate access to quality health services; insecurity causing displacement of populations and loss of livelihoods; poor access to potable water and good sanitation; cultural habits and beliefs that lead to poor feeding practices; low literacy rates especially amongst women, weak unintegrated markets, and poor infrastructure among others. Although the county (and most of the country) is facing a drought crisis, the chronically high acute malnutrition rates have raised questions as to the nature of malnutrition in Turkana and the determinants driving this trend.

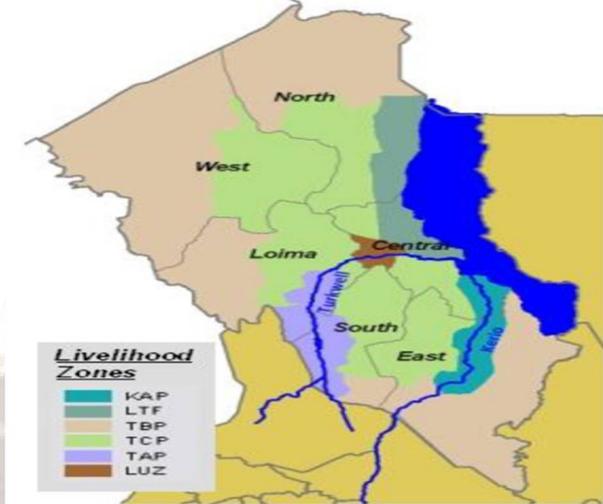
Methods

The aim of the study was to identify whether a nutritious diet can be achieved using locally available foods, to estimate the cheapest cost of a nutritious diet, and to determine whether this diet can be afforded by households in the Central Pastoral Livelihood Zone in Turkana County.

The zone (marked by the acronym TCP in the map) is central to Turkana, lying across all six of Turkana’s sub-counties. The main livelihood is pastoralism, although two thirds of Turkana people live off a combination of self-employment (for example, the sale of charcoal or firewood), wild foods gathering and safety nets.

The central pastoral zone receives less rainfall than its neighbouring zones, and it benefits from better access to the main markets and to services, such as health centres and schools (FEG et al., 2016).

Figure 2: Map of Turkana Livelihood Zones



Market prices and dietary habits data were collected from 10 markets and 6 villages respectively. The market survey collected price and weight data of all the foods available in the market using a food list developed with the local people. For each food item, 4 sets of weight and prices across 4 seasons were collected (therefore a total of 12 weights per food). Seasonal price data was collected retrospectively covering the period March 2017 – April 2016.

Individual interviews and Focus Group Discussions (FGD) were held with women from different wealth groups to discuss the frequency with which foods available in the market are consumed, dietary habits, especially for children under two years of age and pregnant and lactating women, the variety of foods grown at home or livestock kept, food taboos and use of wild foods.

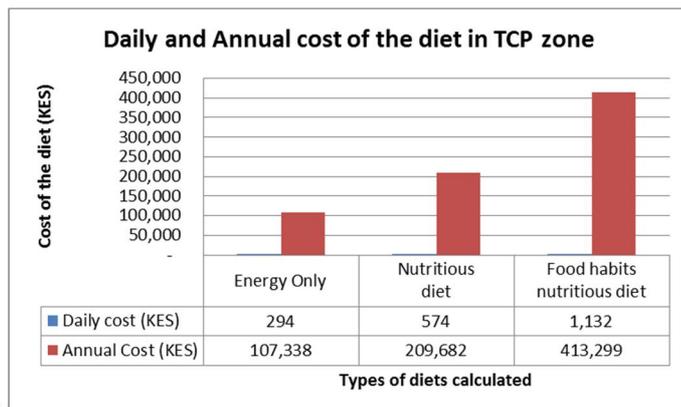
Three diets were analysed by the software:

- **Energy Only Diet (EO)**- A lowest cost diet that only meets the average energy requirements of the members of the household
- **Nutritious Diet (NUT)**- A lowest cost diet that meets the average energy and the recommended nutrient requirements of the household
- **Food Habits**

- **Nutritious Diet (FHAB)** - A lowest cost diet that meets the average energy and the recommended nutrient requirements of the household and reflects cultural consumption patterns

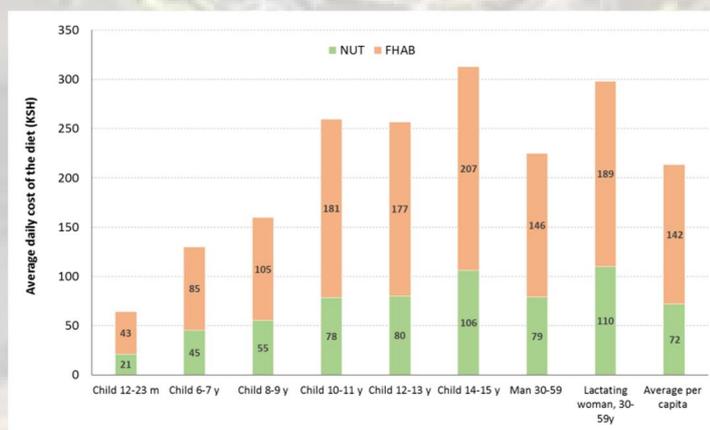
For the purpose of this analysis, a household of 8 individuals (a man, a woman and 6 children) was used, representing the average number of individuals in poor and very poor households. The Household characteristics applied for the analysis were obtained from the results of the Household Economy Analysis (HEA) undertaken in November 2016 and include:

- Very poor wealth group – 35% of the households are classified as very poor, have an average size of 8 members, 1 wife and a livestock holding of 10-20 goats and 5-15 sheep.
- Poor wealth group - 30% of the households are classified as poor, have an average size of 8 members, 1 wife and a livestock holding of 0-3 camels; 15-25 goats and 5-15 sheep.
- Middle wealth group - 23% of the households are classified in the middle wealth group, have an average size of 11 members, have 1-2 wives and a livestock holding of 5-15 camels; 30-80 goats and 20-50 sheep.
- Better off wealth group - 12% of the households are classified in the better off wealth group, have an average size of 13 members, have 2-3 wives and a livestock holding of 15-25 camels; 50-150 goats and 40-80 sheep.



The graph below illustrates the extra cost of meeting a nutritious diet influenced by dietary habits. **The analysis revealed cost of the diet is highest for children aged 14-15 years (due to the increased nutrient requirements during adolescence).**

Figure 4: Cost of the Diet for individual family members



For children under 2 years of age, legumes contributed the most to the cost of the diet with breastfeeding crucial for meeting both energy and nutrient requirements.

Findings

How much does a nutritious diet cost?¹

The analysis revealed that a nutritious diet was possible using the available foods in the market however; the requirements for Iron were the hardest to meet especially for children aged 6-11 months, Pregnant and lactating women and adolescent girls. The analysis also revealed that Legumes were the cheapest source of both energy and nutrients (including Iron).

Figure 3: Cost of the diets

¹ The detailed report can be obtained from Save the Children

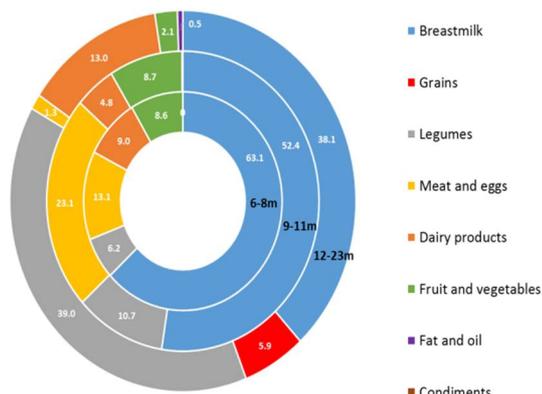
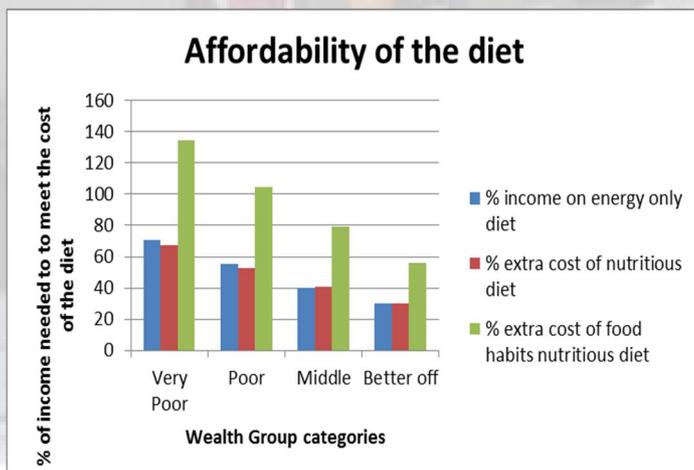


Figure 5: Percentage of energy (kcal) met by each food group for a child 6-8 months, a child 9-11 months, and a child 12-23 months.

Affordability of the diet

Based on annual income and expenditure figures identified during the Household Economy Assessment (HEA) for poor, very poor, middle and better-off wealth groups, an affordability analysis was carried out to assess the ability of typical households to afford a diet that meets all their nutrient requirement specifications. The analysis took into account essential non-food expenditure, such as healthcare, schooling and clothes. The analysis also considered livestock products consumed from own production and added the equivalent cash value to the available income.



The analysis revealed an **affordability gap across all wealth groups for the Food Habits diet (FHAB)** with a range between 37% (for better-off households) and 186% (for very poor households). This means that the additional amount to current income required to afford a nutritious diet and afford non-food expenditure (such as school fees, health care etc) is:

- **Very poor: 186% = 281,976 KES (250,240 KES with 5,400 bi-monthly cash transfer)**
- **Poor: 130% = 253,175 KES ((220,336 KES with 5,400 bi-monthly cash transfer)**
- **Middle: 77% = 285,401 KES**

- **Better-off: 37% = 215,379 KES**

What would be the impact of different interventions on the cost of diet?

The cost of the diet software was used to model interventions to see the impact on decreasing or increasing the cost, or improving/worsening the quality, dietary diversity or affordability of the diet. Some of the interventions modelled included:

- Impact of consumption of own milk production (able to reduce the cost of the diet by KES 42,753 for the poor and KES 218,934 for the better off)
- Chicken rearing (able to reduce the cost of the diet by KES 5,625 for the poor and KES 15,796 for the better off)
- Subsidization of prices of maize and legumes (there was little impact on reducing the cost of the diet)

Implications and Recommendations

- **Improve investment in transport infrastructure to enable efficient transport of fresh produce from other parts of the country into the county and to other zones.** The repair of A1 road (Lodwar to Kitale) and other feeder roads have the potential to considerably impact households living in the central pastoral livelihood zone and the wider county. This demands support of both the national government through its relevant agencies (KURA) and the County government. Improved infrastructure will possibly decrease the extent of food degradation and nutrient depletion due to heat and travel conditions.
- **Improve social safety net for the poorest households:** the incomes of the very poor and poor wealth groups are not enough to afford a nutritious diet. The current drought has exacerbated the situation and the current hunger safety net program (HSNP) transfer amounts are not sufficient to cushion households and enable them to purchase nutritious foods.
- The County government and development partners should invest in developing and strengthening innovative programs/approaches to support all year round milk production for households living in the central pastoral zone. The analysis clearly demonstrates how milk (camel, goat, sheep) can contribute greatly to meeting a nutritious diet and its contribution outweighs its cash value. A recalculated affordability gap shows a narrower gap when milk consumption is added to the diet.
- **The County government and partners to develop and invest in a sustainable Iron supplementation program targeting children between 6 to 11 months, pregnant and lactating mothers, adolescent girls and the population in the zone in general.** Based on the current availability of foods, there is need to supplement the diets with micronutrients (with a focus on iron) in order to ensure adequate iron intake to aid healthy growth and development.
- **Intensify behaviour change communication around complementary feeding.** The analysis identified vulnerability in children under two due to insufficiency of iron rich foods in the area; additionally, majority of children do not receive adequate complementary feeding. Messaging around appropriate feeding practices should therefore be reinforced alongside interventions to increase availability of diverse foods especially those rich in iron.
- **The County government and development partners should invest in programs to address adolescent nutrition:** The cost of the diet was most expensive for children 14-15 years followed by pregnant and lactating women. This is mostly due to the increased

nutrient requirements and especially for iron which was the most expensive nutrient.

- Invest in appropriate technologies for preservation and storage of food (milk, meat, vegetables) to increase availability during the dry season. Drying foods could be a means for households to preserve foods during seasons of (relative) abundance and prepare for the lean (dry) seasons, using methods such as solar drying. Storage solutions should also be investigated to store surplus local produce for use during the dry seasons.

References

Food Economy Group and Save the Children. 2016. *Livelihood Profiles Baseline Update: Six Livelihood Zones in Turkana County, Kenya*. Save the Children.

Kenya National Bureau of Statistics and ICF Macro. 2014. *Kenya Demographic and Health Survey*. Calverton, Maryland: KNBS and ICF Macro.

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