WFE Women Food Entrepreneurs

Policy Brief 02

Food and nutrition survey report
Nyalenda and Kisumu informal settlements in Kenya

Introduction

In Kisumu, agriculture and food-related activities are essential for income generation, nutrition and health. The study provides tools for understanding the dynamics among urban farming, food consumption, culture, customs and health. In this policy brief, key messages for agriculture, nutrition and health policies are presented.

Methodology

A survey, key informant interviews and focused group discussions (FGDs) were carried out. The survey was conducted in Kisumu County (see Figure 1) during a presumed food neutral period, i.e., no food

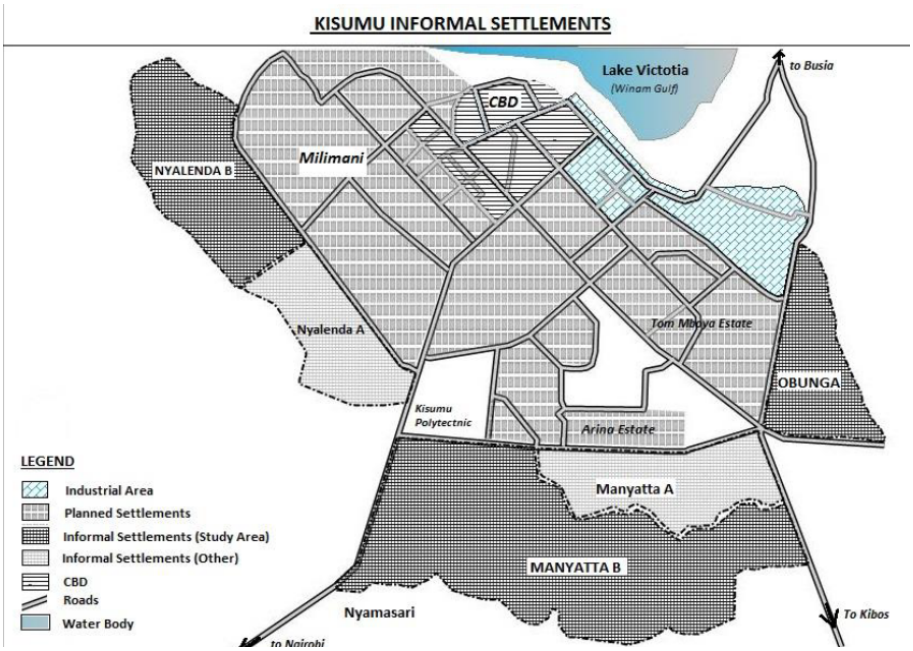


Figure 1. Study area map
Source: VIRED, Food and Nutrition Survey Report, 2017

scarcity season. A total number of 120 respondents (14 men and 106 women) were distributed among three slums areas: Nyalenda (24%), Nyalenda B (60%), and Obunga (16%). The households were selected through systematic random sampling. All respondents gave their free and knowledgeable consent to participate in the study. The interviews were also conducted with a selected sample of healthcare workers, policy makers, and service users. Further, food vendors, farmers, and retailers were part of the focus group discussions.

The World Food Program (2008) methodology was applied to compute Food Variety Score (FVS), Household Dietary Diversity Score (HDDS) and Food Consumption Score (FCS) at household level based on a 7-day recall survey. The FVS is the sum of different food items consumed from all possible items disregarding the food groups. The score ranges from 9 to 20. The diversity of the household diet is elucidated by HDDS which is the number of food groups consumed by a household. It ranges from 0 to 12, each value in the scale represents a specific food group. Finally

FCS is based on dietary diversity, food frequency, and relative nutritional importance of different food groups. The score indicates: a) food poverty when it is set between 0 and 21, b) borderline between 21.5 and 35 and c) an acceptable status more than 35 points. Since this score shows the food household consumption status, it has been well-associated with other proxies of food security.

Nyalenda, Nyalenda B and Obunga slums

The families in the three areas are, on average, composed of 6 members and about 66% of the households which are headed by men. Within each area, the proportion of female headed households ranges between 26% and 45%. Most of the interviewees are concentrated in the 31 to 40 year-old-age group, the majority are married (65%) and has reached secondary education (53%). The source of income is mainly related to farming (13%), fishmonger (10%), cooked-food vendor (10%) and vegetable vendors (22%).

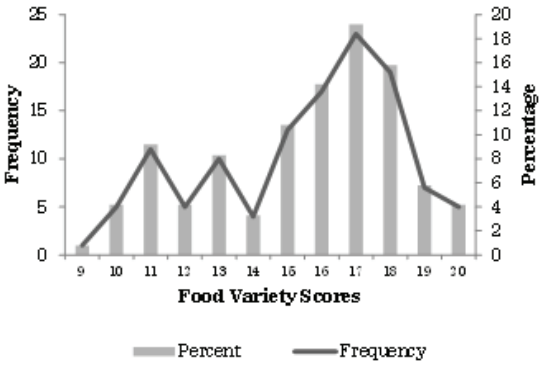
The results

Consumption patterns

The usual and most **popular local diet** consists of ***'Ugali'* (100% of households)** accompanied by leafy vegetables **(82% of households consume kales).** Although the rice consumption is not consistent during the week, this is the second most consumed carbohydrate (63%), followed by *chapati* (40%). On vegetable consumption: 82% eat kale, 49% cowpeas and 43% black nightshade. These three vegetables are consumed mostly twice a week. More than half of the respondents consume kale 4 times or more during the week. Even though, meat is reported unaffordable protein, households usually consume fish three times during the week, especially *'omena'* (76%) and Nile perch (49%). And a considerable proportion of households (particularly children and workers) consume meals and snacks outside home.

Based on food type and frequency of consumption, the Food Variety Score (FVS), the Household Dietary Diversity (HDDS) and the Food Consumption (FCS) Score were computed. On average, 15.5 different items are consumed, out of a list of 20 items (FVS=15.5). Most of the households (19%) consume different 17 items, which seems adequately varied. Fruits are rarely consumed in the study sites. However, the number of different food items varies widely between 9 and 20 items (see Figure 2)

Figure 2. Food Variety Scores (N=120)



Source: VIRED, Food and Nutrition Survey Report, 2017

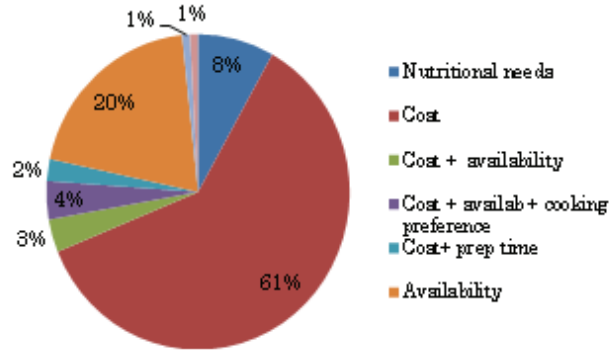
The average HDDS calculated for the areas (7.48) indicates that households have diets moderately diverse; in between **7 and 8 food groups out of 12 are consumed** during the week. The HDDS in Kisumu ranges between 5 and 10, which indicates the **nutritional inequality** among the households. Nyalenda B has the highest score reaching 8.1, followed by Obunga (7.4) and Nyalenda A (7.3). In the areas studied, the FCS scores 40, which represents an **acceptable food consumption status.**

What is shaping the food consumption in Kisumu?

Food taste, cost, and availability along with time and income restrictions, culture, and perceptions about farming impact on people's food preferences. The cost and availability of the food are the main factors that influence preferences (see Figure 3). Fish is culturally preferred and also accessed in a relatively high frequency by Kisumu households. They prefer *'omena'* (dried fish) and Nile perch over other fish because of their low cost.

In respect to vegetables, not only cost but also availability are the main factors that make kale one of the most frequently eaten vegetable. Furthermore, this vegetable is easily available throughout the year, it withstands long-distance journeys and requires less time to prepare. *'Ugali'* is preferred for the same reasons as *omena* and kales but its nutritional facts are also considered.

Figue 3. Factors affecting food preferences. (N=120)



Source: VIRED, Food and Nutrition Survey Report, 2017

Note: N=120, number of respondents and n=28, number of foodstuff consulted. The percentages reflect the proportion of respondents grouping food items according to the factors that affect their preferences. E.g. among the 28 food items, cost is mentioned 126 times (out of 356 responses) as a factor affecting the consumption preferences.

Some families are not able to consume three meals per day due to resource constraints. In this context, a foodstuff trade system based on small-quantities, called **'kitu kidogo'** is used by families in order to get meals according to their daily income. Usually, they seek **low-priced food and cheap prepared meals.** Regardless the lack of taste of the 'China fish' (an introduced type of fish), the consumption of this fish is increasing due to its low cost. Besides the cost, food consumption patterns are influenced by **children's/adolescents' preferences as well.**

In the informal settlements, farmers prefer producing what they perceived as **highly demanded and valued** crops able to provide a constant flow of income. Kale and maize crops are extensively grown (23% and 18%, respectively) and consumed.

These crops are ranked, by more than 15% of respondents, as the most valued crops (above 1.1 thousand Kenya shillings per crop harvested) (see Table 1).

Table 1. Kisumu crops: consumption, value and usage

Food / Type of Crop		Most consumed a	Most valued (=> 1 000 KES) b	Commercial and consumption purposes c
Carbohydrates	Maize (Ugali)	100%	23%	18%
	Rice	63%	2%	2%
Vegetables	Cowpeas	49%	15%	15%
	Kale	82%	15%	23%

Source: Food and Nutrition Survey Report, 2017
Notes: a) proportion of the most consumed carbohydrates and vegetable among all respondents (N=120); b) proportion of the crops ranked as most valued (1000 KES or more) among farmers (N=85); c) proportion of crops used for consumption and commercial purposes (N=61)

Perceptions among the dwellers

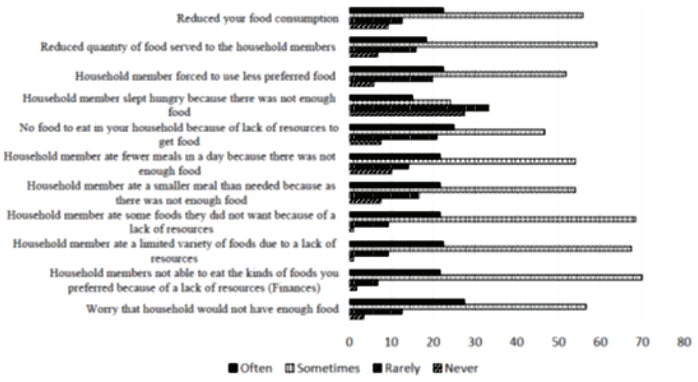


Figure 4: Perceptions among dwellers
Source: VIRED, Food and Nutrition Survey Report, 2017

In this study some perceptions are disclosed regarding food, its quality and food related activities. Although almost 30% of respondents report to have never had a household member sleeping hungry, more than 60% report that sometimes **lack of resources** restricts access to preferred or varied food and 30% in numerous occasions, are concerned about the possibility of not having enough food at home (see Figure 4). The food consumed in the slums is regarded as "good quality" by almost 70% of the respondents. These include: ugali, kale, and black nightshade. Grains, fruits, vegetables and green maize brought in from neighbouring countries are perceived as good quality foodstuff.

Perceptions towards collective action influence decisions regarding group building. **Distrust and time restrictions** limit inhabitants from being part of groups in their communities. About 33% of respondents belong to some organised group. More than a half of these groups are involved in table banking, the rest of the respondents are distributed among food processing; tomatoes, fish, and eggs commercialization and farming activities.

The implications on health of food production, preparation and consumption.
Restricted access to good quality water, inadequately treated sewage, low food hygiene, and some food preparation and handling techniques are the identified factors affecting health and nutrition in Kisumu. The **poor quality of water** is the main structural constraints informal settlements are facing. It affects the entire food chain: from farming to food preparation to consumption to health outcomes. Rivers and springs are sources of irrigation in small-scale farming. Most of the sources are polluted by untreated waste, industrial effluent and run-off from drainages. Obunga and Nyalenda deal with **precarious sanitation systems** leading to high levels of contamination of both underground and surface water. As a consequence, farm products are growing with contaminated water, fields are sowed next to drainages with effluents, and vendors and 'cookers' wash their products with polluted water. This constitutes a serious **health hazard**. The most common food-related diseases reported by dwellers are typhoid fever, cholera, diarrhoea, dysentery, and worms like hookworms, whipworms, roundworms, amoebiasis and stunted growth in children.

On the other hand, key informants highlighted that some **food handling and processing methods** are jeopardizing health and nutrition. For instance, when some fish *(Haplochromis nubilus, Obambo, Ongin pasi and Nile perch)* preparation is carried out under low food hygiene standards or when pieces of fish flesh or the skin of Nile perch (ongin pasi) are deeply fried in old oil. These **techniques reduce the quality of food** undermining the possibility of consuming nutritious food. Finally, among Kisumu inhabitants, kwashiorkor and marasmus are the most mentioned nutritional illnesses affecting children. These diseases are associated with diets **deficient of protein and calories.**

Conclusion

Agriculture and food related activities are important in Nyalenda and Obunga informal settlements. Almost a third of the population is involved in farming activities. The crops commonly grown are those providing **constant income, such as Kale and Ugali.**

Availability and **affordability** are the most important factors shaping food consumption. Lifestyle, culture and introduced customs are playing a role as well. The most common plate in Kisumu is made of *'ugali'* and vegetables, mostly kales. Meat is not frequently consumed but due to their preferences and culture, people eat fish.

In both slums, **food hygiene** is highlighted because some food-related diseases are jeopardizing the health of people. This study identifies some hindrances: poor quality of water, precarious sanitation systems, certain food handling and processing methods. Kisumu inhabitants have access, on average, to a **diverse diet** (HDDS=7.48) and to an **acceptable food consumption status** (FCS=40). However, **food and nutrition inequality** is revealed. The number of different food items and the diversity of food groups consumed vary widely among the population.

Recommendations for public policy

The findings of this study leads to the following policy recommendations:

1) Promote the development of low-cost production technologies and processing and preservation space for small farmers in slums because agriculture and food-related economic activities are the main source of their income.

2) Build sanitation and irrigation systems along with capacity building on food production, food handling, food marketing and food preservation to reduce the risk of contamination in food chain.

3) Enforce sanitary and public health legislation and regulations on the prevalence of food-related diseases.

4) Support training of food chain actors (viz. handlers and processors at hotels, women who are mainly in charge of food provision at households and other food outlets) to safeguard the food sanitation process

Acknowledgements

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