

# NOURICITY

## PARTNERSHIPS FOR HEALTHY DIETS AND NUTRITION IN URBAN AFRICAN FOOD SYSTEMS – EVIDENCE AND STRATEGIES

### “FOOD SYSTEM MAPPING IN KANYANYA (KAMPALA)”

#### WORKSHOP REPORT

#### DELIVERABLE WP1: NOURICITY - KAMPALA

Vincent Linderhof, Youri Dijkxhoorn (both Wageningen Economic Research), Andrea Fongar (Bioversity International), Joel Onyango (BoP innovation centre), and Martha Nalweyiso

Date of the report 31-12-2019

**Acknowledgement:** The authors are grateful for financial support from the Netherlands Ministry of Agriculture, Nature and Food Quality (grant number BO-43-003.02-009 as part of LEAP-Agri program), and the flagship program Food Systems for Healthier Diets of the CGIAR program Agriculture for Nutrition and Health (A4NH). Furthermore, the authors are grateful for the financial support for the additional activities on migration. The migration activities were undertaken as part of the project “Feeding Cities and Migration” (grant number KB-35-002-001) which is part of the program “Food Security and Valuing Water” financed by the Netherlands Ministry of Agriculture, Nature and Food Quality. Finally, we would like to thank all participants for their valuable contributions to the workshop.

## Objective of the workshop

Food value chains are part of the systemic drivers of urban food and nutrition security. An important part of these value chains are the various informal small actors. These include producers, transporters, processors and retailers. One of the main objectives of the NOURICITY project is to initiate and to implement partnership agreements between different local, national and international stakeholders to improve the urban food system. Therefore, we conducted a workshop as indicated by Work Package 1 of the NOURICITY project. This workshop aims to map the stakeholders of the food system in Kampala and to map the food flows in one of the parishes in Kampala. The parish selected was Kanyanya (Kawempe division). The workshop consisted of two days with two groups of people: the first day for parish representatives and the second day for Kampala and national representatives.

The NOURICITY workshop was organised and facilitated by Vincent Linderhof (WEcR, project leader NOURICITY Kampala), Youri Dijkxhoorn (WEcR), Joel Onyango (BoP innovation centre), Andrea Fongar (Bioversity International), and Martha Nalweyiso.

## October 17: Parish representatives

The objective of the workshop was to provide a complete picture of the food system and the value chain in Kanyanya by mapping all the actors and tracing the food safety and nutritional quality of the products exchanged along the value chain.

### *Participants and program*

- **Participants:** secretary for women (highest local leader present), youth activist; food stall owner; Vice-chairperson of the village council, local health team member; village chairperson; vice-chairman Kanyanya parish; local sanitation representative); bean seller; local food business; business lady; village leader.
- **Location:** Grand Global Hotel, Kampala

### **Program:** Thursday October 17, 2019

Time	Activity	Lead
09:00-09:30	Registration	BOP
09:30-10:00	Welcome and objective NOURICITY	WUR/Bioversity
10:00-11:00	What are the urgencies/challenges in coming to a healthy (and sustainable) diet	WUR/Bio
11:00-11:30	Urban food system mapping validation of the first map based on desk research and a limited number of interviews. Who feeds the settlement? Mapping food marketing, catering and retail (shops)	WUR
11:30-11:45	Tea break	
11:45-12:30	Food processing and manufacturing	WUR
12:30-13:30	Lunch	
13:30-14:30	Consumption (diet) and food waste	WUR
14:30-14:45	Tea break	
14:45-15:00	Discussion	BOP
15:00-16:30	Recapitalization of workshop	WUR
16:30	End of workshop	



*Participant of the workshop on Thursday 17-10.*

### *Challenges and urgencies*

The urban food system in Kanyanya has serious challenges. Many issues have been mentioned by the workshop participants related to food safety risks, availability of healthy food and affordability of healthy food. Some of the key issues mentioned on food safety risks are the overuse and misuse of pesticides at farm level, the handling of the food by traders and retailers, and the unhygienic way of preparing food. Related to the availability of healthy food the seasonality was mentioned as a key constraint, but also issues like the lack of storage. The price of healthy food (affordability) is also considered a major constraint. Poor people in Kanyanya often can only afford one meal a day and they do not have the opportunity to set aside budget for buying (expensive) vegetables. In addition, the preparation of a meal is also costly since it requires charcoal and this is expensive.

The challenges and urgencies in relation to the food system include i) Food safety, ii) Availability of healthy food i.e. nutrient-rich food, and iii) Affordability: Price of healthy food

#### Food safety challenge

- Food in Kanyanya is often not considered to be safe:
  - Food is already rotten before it is sold in the market - The transportation time is long and when it reaches the table it is rotten (e.g. some of the vendors make juice from rotten fruits with potential health complications);
  - It is unclear how much pesticides are used;
  - Posho unclean (other particles in the flour such as iron shavings/particles during production);
  - Groundnuts sauce (popularly known as groundnut sauce) is often bought already milled/ground, and often not inspected for potential contaminants (can be contaminated with iron parts, dirt etc.);
- Food is being placed on the ground which is a direct contamination risk;
- There is a lack of water/safe water for washing of food – at home, or for commercial purposes (food stalls). As a result, foodstuffs are washed with poor quality water;
- It is highly likely that there are pesticide residues present in fresh produce;
- In processed food, there are impurities e.g. metal/iron in the food. Food processor do not have machines that have magnets to remove metal pieces from the food;
- Water availability is inadequate. In particular, take-away food kiosks often do not wash their food. For example, they chop tomatoes without washing them and use the chopped tomatoes in their cooking and products;
- Aerial contaminants - this includes contaminants from atmospheric fallouts such as particulate material (e.g. soil) that end up affecting the food. For instance, charcoal dust blows on food in the case of street vendors. Food eaten in-between activities (for example in industrial areas) is not covered and affected with dirt.: Cooking with inadequate temperature (too high for and too low depending on the food item cooked), inadequate utensils (materials of the utensils), How food is eaten and perceived. The consumption of food is sometimes not the main activity, it is consumed in-between other activities;
- The traditional cooking methods affect the nutritional values of meals. For example, cooking time of traditional meals is very long, which results into loss of nutritional value of food (e.g. vitamins from vegetables); and the (over) use of cooking oil (with the belief that cooking

needs to include use of oil) that would result into the food quality being poorer (i.e. considering that excess oil in foods results into health complications);

- Utensils for cooking leading to contamination of cooked food – e.g. clay vs metallic. The sentiment was tied to the belief that using clay utensils (especially traditional pots) would not introduce metal particles into the food;
- Recycling food waste in restaurants – e.g. chips leftover put back into the pot to serve the next customer;
- Cultural perspectives – some of the food is traditionally prepared while covered by banana leaves, however, with the banana leaves cover, pieces of the food (e.g. matoke) gets entangled into the leaves and therefore becoming a "lost quantity". To mitigate against this loss, people have adopted the use of polythene bags which may result to overcooking on one hand, and on the other, the polythene bags are reused and could introduce contaminants into food (e.g. lead). Local restaurants/food preparation often cook food in polythene bags.

Challenge of availability of healthy food i.e. nutrient-rich food like vegetables and fruits for instance.

- Cheap vegetables – while there are cheaper vegetables' alternatives, they are not explored by many households in the area. Thus, the ones explored are more expensive and have to be "imported" from other regions in the country. In the end, the vegetables consumed have higher prices ;
- Some people in Kanyanya grow vegetables in small gardens (urban farming);
- In local restaurants – guests arriving early get vegetables with their meals, guests arriving later do not get vegetables with their meals. Restaurant holders only buy a limited amount of vegetables, because vegetables are considered to be too expensive;
- In general, consumers are ignorant about the nutritious content and the importance of eating vegetables. People are familiar with only a few vegetable varieties – e.g. sukuma wiki, spinach but they do not know amaranths for instance. This relates to the point above of cheap vegetables. Other varieties (amaranths) are cheaper than the preferred greens for example;
- Transport from farm to markets loses nutritional value – it would be better to grow vegetables in home garden for eating;
- Storage facilities for perishables are inadequate –market/retail – supermarkets have no or poor storage of fresh vegetables which result in nutritional values reduction;
- Poor people can only afford one meal – thus they do not have the opportunity to set aside a budget for buying vegetables. They cannot afford vegetables.

Affordability challenge: Price of healthy food

- Food is considered to be rather expensive within Kampala, especially certain commodities (example: matoke). Food prices are high during the year, because of high fuel prices;
- Many people are unemployment – a large share of the people in Kanyanya cannot afford to have 3 meals (only once – eating to survive);
- Distance and transportation time are long and result in higher prices of the food products (and poor quality, as mentioned above);
- Difference between season:

- Wet season – poor roads – higher prices even with more available food;
- Dry season – less availability, thus higher pricing;
- Corruption adding to the cost of food– e.g. traffic police;
- As a result of the high prices of fuelwood (charcoal), which is scarce in Kanyanya, the preparation of cheap meals with beans, for instance, becomes expensive.

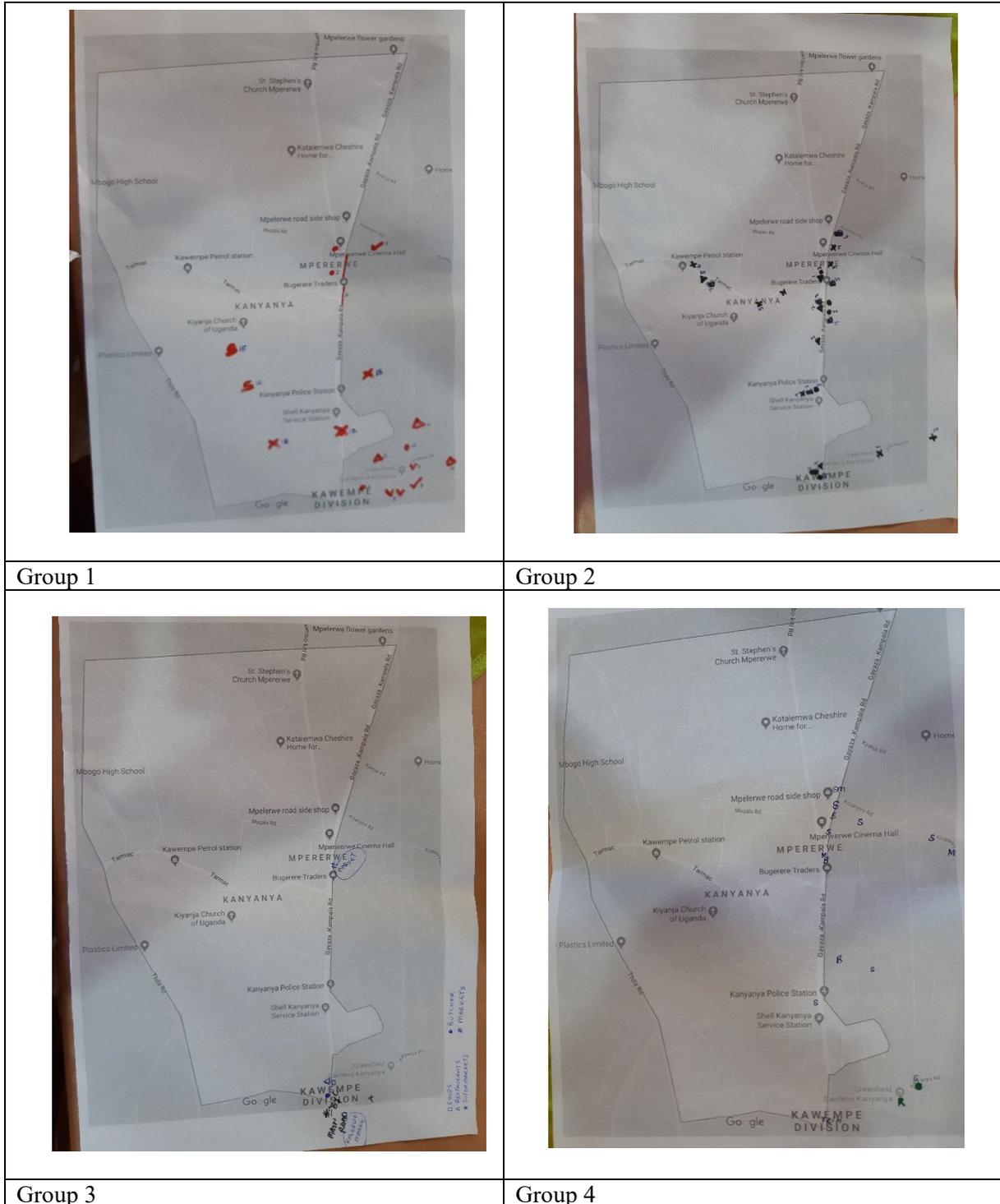


Figure 1: Four maps of food outlets in Kanyanya prepared by the groups of participants

### *Mapping of the urban food system*

Most of the retail shops/markets in Kanyanya are located on the primary roads namely Gayaza-Kampala road and Tarmac road on the east side and north side of Kanyanya. These markets include mainly farmers themselves, supermarkets, butchers and restaurants. In the tradition of Kanyanya (informal), retailers are predominantly selling their food product in small volumes to the urban poor people. They operate on small local markets, in food stalls, or in small shops. This kind of retail makes it difficult to purchase certain foodstuffs in bulk to benefit from economies of scale. In the outlets in Kanyanya, there is also a limited supply of healthy food products.

During the workshop, we randomly divided the group into 4 subgroups. We provided each subgroup with a map of the area to map their urban food system. The overlay of the four maps provides an overview of the different retail points, markets, supermarkets and some restaurants in Kanyanya. The 4 maps in Figure 1 below present the different maps drafted by the groups of participants. The maps partly overlap. When we make an overlay, it will result in a more complete map with food outlets in Kanyanya.



*One of the groups presenting their maps with food outlets during the workshop (17-10)*

### *Food processing and manufacturing*

The participants in the workshop identified various (food) processing activities in Kanyanya. The processing activities range from small to large and serve the local market but also the international market. Participants informed us that Kanyanya has many hills. The downstream flows of rainwater

are creating serious environmental issues during the rainy season. Also, the use of pit latrines is contaminating the water during the rainy season (e.g. overflowing).

#### Processing of food

- Dairy and livestock processing is limited;
- Mostly carpentry, metal fabrication business is practised in Kanyanya. However, there are different food processors on both small and large scale such as the tea factory, fish and banana wine factories, groundnut and butcheries and lastly curry powder factory. These food processing units sell to different markets locally, regionally and internationally, see Table 1;
- Machines used may be old and outdated with instances of malfunctions, and may not be suitable for food processing which may risk food safety thus an urgency. Additives used or added to the food and machines for example use of transformer oil to prepare fast foods, food colours may all be a threat to food safety and health;
- Poor law enforcement of food safety from the authorities like Kampala Capital City Authority (KCCA), Ministry of Health (MoH) and Uganda National Bureau of Standards (UNBS) was noted as the root cause for the poor food safety status and concerns in Kanyanya;
- Participants mentioned that there is a need to change from inorganic to organic fertilizers and pesticides; e.g. pepper mixed with water used for pest control instead of chemical control. However, the NOURICITY project does not focus on interventions at the farm level, and consumers could raise their voice to push for change.

*Table 1: Main products and main of the food producing/processing facilities located in Kanyanya*

Factory/ Business	Product (where does it come from?)	Market
Fish factory (FTRA)	Kyebando	Export
Butcheries		Hotels, Home consumption
Curry powder processing		Wholesale (high level); Nationwide, Export East Africa
Groundnut mill	Groundnuts	Small scale (local consumers)
Local Brewers	Banana wine or juice; millet and sorghum wine	90% retail – local market
Tea processing		Nationwide, Export East Africa

#### Environmental issues

- The area has various zones. For instance, there is a well-off (richer) area and swampy (poorer) area. For the swampy area, there is one well, however, there is an investor that set-up a septic tank close to the richer area that overflows during the rainy season posing public health issues by contaminating the water source (i.e. the well in the swampy area).;
- Number of wells (low) and quality of the water from the wells (many wells are unprotected) leading to contamination of the water
- The downstream flow of surface run-off water carries solid waste from 5 zones around the parish/zone. Moreover, Kanyanya has a poor drainage system, which easily overflows and is used by too many zones within the parish;
- Solid waste disposal – dependant on the municipal council collection of waste – if they fail and it rains, the solid waste is carried into the surface water. The waste is carried back into the parish, and it blocks and contaminates the water channels, which are mostly unprotected and the unprotected water sources (wells);

- The odour from disposal site: Kiteezi landfill air flow might affect the health of the community;
- Leakage from solid waste trucks when they are passing on the main road to go the Kiteezi landfill located 2-3 km north of the Parish – e.g. solid waste dropping from the truck.

### *Consumption (diet) and food waste*

The participants in the workshop noted that people in Kanyanya eat poor dietary meals. Alternative nutrient-rich food is expensive and unavailable due to low income, attitude, mindset, and ignorance. Most people prepare their food at home and preparation time is usually long and nutrients in food disappear. Also out of home consumption is gaining importance, since it is cheaper than buying own food. Food is hardly wasted and is often used for making juices or for animal feed. Regular waste is collected by a service provider at a charge. People, therefore, tend to dispose their waste at their own land or on the streets, creating environmental and health issues.

### Food Consumption

- Diets are not diverse;
- It was noted that people in Kanyanya eat poor dietary meals. Typical meals like posho, beans, matooke are highly consumed which are high in carbohydrates. These foods are low on micronutrients and this was attributed to the changes in food patterns in the country and community;
- Alternative nutrient-rich food is expensive and unavailable due to low incomes, attitude, mindset, and ignorance. Lack of information, awareness and low incomes make the choice for a nutrient-balanced diet tricky. The information on the nutrition, nutritional values of food and healthy diets are based on learnings from school or leisure reading. Target is to have some carbs, even with tea. E.g. roast maize and a cup of tea as a meal. Most of the vegetables are associated with poverty thus their low consumption. Attitude – ignorance of nutrition. Posho vs Milk – quantity over quality. Income makes it variable. Also, carbs-rich food is often cheaper. It was noted that lack of consumer knowledge about healthy foods, preparation of healthy diets hinders their consumption;
- Many people prepare their food at home and preparation time is usually long and nutrients in food vanish. Environmental issues such as the use of charcoal, cultural aspects of meals (changing preparation) affect consumption of some the nutrient-rich foods;
- Carbs are accompanied by sauces. Sometimes the sauce is made up of some fried tomatoes and onions;
- “We eat for survival, not for the diet”, e.g. Posho and porridge, or maize and porridge;
- Poverty – low incomes. Priorities between rent or school fees and food options (e.g. meat, fruits –mango). People who can afford (mango between 500 and 1,000 Uganda shillings, compared to posho of 1,000 Uganda shillings).

### Food waste

- Where is the waste disposed? There is a service provider that collects waste, but this service is considered to be expensive. There is no system for sorting garbage;

- Waste is collected by private companies to a dump site 2 km north of Kanyanya which is owned by the municipality. However, in most homes and retailers it was noted that food waste is rare since most people feed on one meal due to poverty;
- Waste collection at a cost (5,000 Uganda shillings) by private companies. KCCA only collects waste from public areas. Some people with big land areas dispose within their land – e.g. organic waste for fertilization/manure. If you cannot afford, then they dump indiscriminately e.g. in drainages. The remaining waste is often burned;
- Supermarkets and shops – waste disposal through private companies – access to facilities is restricted;
- KCCA (local government) owns the Kiteezi landfill – and access is only through licensed vendors. The licensees only are allowed to weigh and dump the waste;
- Community cleaning – community garbage collection is done once a month, although it is required to be done once a week. Some people, however, hide not to be involved in community cleaning. The village chairman is responsible for organising the -voluntary- community cleanups. The KCCA waste collection service has only 4 vehicles, which is no longer viable in supporting waste collection logistics for the area;
- Some of the residents use organic food residues/wastes as manure;
- Feed collected with animals on the Kiteezi landfill;
- Seeds from fruits can be reused for tea (to boost immunity).

#### Food preparation

- Single people mainly consume ready food;
- Most people buy uncooked food, and prepare it at home;
- Already cooked food is cheaper than home cooking – due to the cost of fuel (e.g. charcoal);
- Even those who can afford, there is a serious lack of knowledge on the nutritional benefits of diversified diets. Pride of eating kaunga as energy, rather than the nutritional benefits of the diversified diets.

#### *Emerging issues*

- The food we eat and where we procure – what should they plant in the kitchen gardens e.g. spinach, mango etc. They stop going to the market after some time for the food if they can produce themselves. Perhaps not covered in school – information and awareness needed on preparing kitchen garden. Caution- don't cut down mango trees for fuelwood. Awareness or action of kitchen garden;
- Teaching in urban farming – 10x10 feet to grow. Move from flowers to greens, onions in a 15x20 feet urban farm;
- Land fragmentation – dividing the land for other things e.g. brick making, thus knowledge needs to be boosted. Others do not look at long term benefits of other practices. Perhaps community farms or gardens. These initiatives do not exist yet;
- Sensitization – perhaps part of the intervention e.g. cooking lessons (that can save nutrients);
- Perishable – how to introduce value addition on tomatoes – e.g. drying jack fruit, pineapple – some training of community towards these actions. Food systems (production, transport,

processing, consumption) requires agency – awareness of how food is produced, processed and sold among the consumers – and producers on how to produce for a nutritionally sensitive market;

- Consumer mobilisation – organised groups – fight for rights and voice – meet the producers and the market players. How can the research contribute to this type of movement? Through partnerships, where the consumers can be involved – partnerships that can mobilise consumers.

#### Recommendations

- Consumer mobilisation;
- Gender issues that affect food consumption should be involved;
- Partnerships with other agencies and line ministries;
- Technology should be highly considered since it is always evolving;
- Intra- and inter-generational transfer of knowledge should be considered;
- Malnutrition issues;
- Food safety bill of Uganda should be tracked by the line ministry.

## October 18: Kampala and national representatives

### *Objective*

This workshop was with representatives of Kampala and national organisations related to the food system including value chain actors and policymakers to inform them about our project and to create buy-in for future activities.

### *Participants and program*

**Participants:** representatives of Makerere University (MU), ministry of Health (MoH), Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), Ministry of Gender Labour and Social Development (MGLSD), National Agricultural Advisory Services (NAADS), Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), World Vision, Dutch embassy, Kampala City Traders Association (KACITA), International Food Policy Research Institute (IFPRI), Kilimo Trust, Integrated Seed Sector Development programme (ISSD), SNV, Solidaridad, Kyambogo University (KYU), Farm Gain Africa, Volunteers Effort For Development Concern (VEDCO), and Slow Food Uganda, and the Office of the Prime Minister (OPM).

**Location:** Grand Global Hotel

**Program:** Friday October 18, 2019

Time	Activity	Lead
09:00-09:30	Registration	BOP
09:30-10:00	Welcome remarks and objective NOURICITY by WUR.	WUR/Bio
10:00-11:00	Urgencies/challenges in coming to a healthy (and sustainable diet).	WUR/Bio
11:00-11:30	Who feeds the settlement? Urban food system mapping validation of first map based desk research and a limited number of interviews. Validation of mapping food marketing, catering and retail	WUR
11:30-11:45	Tea break	
11:45-12:30	Food processing and manufacturing.	WUR
12:30-13:30	Consumption (diet) and food waste	WUR
13:30-14:15	Discussion and way forward	WUR
14:15	End of workshop	



*Participant of the workshop on Friday 18-10.*

**Perception of food security**

- Various reasons for the food safety issues – e.g. contamination during transport
- Understanding the potential of contamination – in the new people are getting informed on food dangers and the information on the food dangers
- Awareness on pesticides – systematic vs random effects of pesticides. At the moment residents may not be aware of the systematic effects of pesticides while saying that pesticides are only an "on the surface" danger.

*Challenges and urgencies*

**Challenges:**

- Transparency and trust – People can do what they want, there is no control. People are not aware of this. Sellers using dirty water even knowing that it is unhealthy;
- Awareness – spraying tomatoes after harvesting; traders want to see pesticide indications on the surface (as an indication of better shelf life);
- Plastic bags for processing food – as a concern;
- Expire dates are not respected, because producers cannot afford to waste food;
- Storage – how it is stored after purchase – exposed to contamination;

- How food is transported – any truck, mixed with other items – could lead to contamination;
- Food handling – cooked in exposed areas;
- Exposure from other items – example animal droppings being used;
- Pesticides – types that are safe;
- Counterfeit goods – substandard products – cheaper. The original products are too expensive e.g. powder milk, plastic rice, eggs;
- Handling during processing and preparation. Including post-harvest handling;
- Weather changes – e.g. rain and drought – thus affecting the perishability of products;
- Harvesting before maturity – to catch expensive price times.

#### Availability of healthy food:

- Negative perception of enriched foods – for example, GMO hinders uptake of food;
- Supply cut-off affecting supply consistency and adoption;
- Economic capacity affects food choices – e.g. tomatoes at 5k, another 2k if same quantity – not looking into aspects of quality/safety. Even if aware ;
- Lack of awareness: ignorance on the contents/value of vegetables that would expand the options – need exposure e.g. amaranth is cheaper than kale, but lifestyle expectations make the consumers prefer one over the other, not based on the nutritive value and quality but based on what they know;
- Socio-cultural setting e.g. food without matoke is not food;
- Most of the food comes from outside of Kanyanya Kaleru market – e.g. Gayaza. Thus adding costs.



*Impression of the workshop on Friday 18-10*

Food prices (transportation, seasonality) – comment:

- Environmental issues (Pollutions dump site; pit latrines flooding rainy season; waste dumping; access to water compromises hygiene)
  - Hygiene within the cooking environment;
  - Fast food usage (Rolex – cheap foods carbs);
- Long-distance of Kanyanya from some markets. Relatively expensive for the Base of the Pyramid class since transportation costs are included in the retail price;
- Seasonality of the vegetables – resulting in higher costs. Priorities are different for the Base of the Pyramid market compared to the other socio-economic classes.

#### *Mapping of the urban food system*

The maps in Figure 1 were presented and briefly discussed. There were two remarks:

- Butcheries important (mentioned by everyone); map used not representative (google maps – some areas not listed);
- Most shops are along the important roads.

#### *Food processing and manufacturing*

The results of the exercise for food processing in Kanyanya of the previous workshop day were presented and discussed. A number of issues were mentioned which could be categorized into two categories namely food processing and, environmental issues.

Food processing:

- Processors could affect the quality of life;
- Located mainly along the main roads;
- Ground truthing through survey and further work;
- Raw materials throughout the year? On the manufacturing of products – not mentioned as a concern;
- Talk to some fabricators and manufacturers (grading, shellers, grinding groundnuts) – where they get their raw materials, and their interactions with the actors;
- Food additives (e.g. curry – cuts across, oil, fast foods, expired food) things to make food cook faster, thus affects food quality – mainly in the areas of food preparation at commercial level – e.g. the Rolexes;
- Use of chemicals and use of transform oils, or expiry date changes – the people are not trusted to be ethical/moral;
- Inspectors and enforcements of the law – who safeguard the consumers;
- Partnerships and involvement/enforcement would contribute to trust;
- Challenge for processors is to get sufficient raw materials.

Environmental issues

- Food preparation environment is poor – thus high chances of contamination;
- Fast foods – the environment around the kiosks is poor;
- Access to water (adequate and of good quality).

### *Consumption (diet) and food waste*

The results of the exercise for food consumption and food waste in Kanyanya of the previous workshop day were presented and discussed. A number of issues were mentioned which could be categorized into three categories namely diets, meal preparation and waste.

#### Diet

- Diets very typical are not diverse – very starchy/carbs; low on vitamins;
- Preparation of meals as consequences;
- Lack of micronutrients in urban diets questions on availability or affordability (African nightshade all year round);
- An issue in changing food patterns (determined by small kiosk owners);
- Change in attitude/ traditional micronutrient were diverse in Ugandan diets;
- Cheapest food market in Kampala is Kalwera. It is very close to Parish (an advantage for the Parish). However, most of the food comes from outside of Kaleru market – e.g. Gayaza. Thus is more expensive;
- Seasonality/ micronutrient – expensive for low-income earners;
- Nutrient-rich fruit not available – no demand/ they buy meat, but not amaranth or others → attitude (vegetables are perceived as a type of garnish, not as the main food) – vegetables should not be expensive (many vegetables around – really more about attitude). Private-sector use of micronutrient supplements (fortification);
- Mealtimes (only one meal per day) --> attitude and perception of foods, additional awareness;
- Mindset – some of the food are eaten by poor people – rather meat/chicken etc. – wife can leave if food is only vegetables – rather meats, than greens (greens and Mukejne) eaten by poor people. Even with available vegetables, most people load on meat. Vegetables are associated with poverty. Need to change the attitude;
- A good husband comes home with meat and fish; the bottom of the pyramid need all foods to feed their children (vegan/vegetarian discussion);
- Neglect of locally grown crops;
- MOH: Samalie (as MOH they really try to work on awareness creation, consumption of a variety of food; vegetables can be grown in sacks).

#### Meal preparation

- Trade-offs/ oil/ additives are often used.
- Cultural aspects of meals (food as survival) → Questionnaire: to add questions on cultural perception
- Lack of knowledge;
- Homemade remedies, medical herbal treatments (avocado) --> tea medicinal --> dietary management of certain condition (germplasm seeds – seeds dried, pounded – anaemia and diabetes) --> herbal/medicinal remedies (jambula);
- Micronutrients access is affected by the availability of traditional foods (perceptions);

- Micronutrient of vegetables – traditionally grown – considered orphan. There are traditional vegetables that have since been named as orphan crops and are known to have a high level of micro-nutrients;
- Demand is skewed – even the cheap nutritive ones are not bought. Vegetables are not looked at as the main food component but looked at as spice. E.g. pumpkin, okra, nightshade, amaranth are cheap but considered an important food component.

#### Waste:

- Medicinal purposes from food wastes e.g. seeds – dried, pounded and put into water as remedies;
- Food waste is not simple – no garbage (peels, containers, spoilt food) area – little heart of managing the waste (sack of waste in the middle of the road, or dump in drainage);
- Garbage trucks – timetables on arrival of trucks – upon the community to deliver the waste at some points – when the truck arrives, they have left for work. Thus, they drop the waste indiscriminately – the private companies charging 2,000 Uganda shillings. In public markets, KCCA has standby trucks. If you are out, deliver the waste to the trucks – awareness of the collection by KCCA trucks and its free. Discipline on collection. Access of the trucks to the settlements – for slum dwellers they need to deliver the garbage to the trucks. Some people are paid to drop the garbage and throw it indiscriminately.

#### *Emerging issues*

- Engage parish and village Council leaders to organise the FGD – target to involve them. Intervention areas of concern.
- Gender dimension that can affect the nutritional behaviour and consumption patterns – HH survey take into account the women roles
- Current vs future implications that can change scenarios – static and trends – in the HHS we interview both the pre and postintervention surveys. With time and resource constraints – thus a short time. Partnerships at the end might contribute to the sustainability of the interventions. Not trends – but with functional partnerships, the trends might be taken up
- Factor changes in urban development – e.g. technology – affecting food and nutritional security; youth and infrastructure – potential dynamics.
- Food supply chains – under partnerships

#### *Migration and the food system*

- Migration and food systems – urbanisation (60%), youth migration, refugee migration from rural to urban settings. Cash transfers for refugees – growing market to consider since they can make decisions on what to buy.
- Demanding different food items. People of western Uganda have different eating habits than people of northern Uganda, for instance. This is due to the crops that can be grown and are available in the different areas of Uganda;
- Interaction of sociocultural differences – thus changing food needs

*Closing remarks*

- Urban poverty versus rural poverty
- malnutrition
- Contamination and food safety – aflatoxin
- Fit within the government systems – systems are in place, development partners need to fit into them.