

City to City Phase 2 Process, Learnings and Outcomes

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I. Introduction

As Phase 2 of the City to City Food System Exchange, Arusha City Council and Commune Urbaine d'Antananarivo were selected as participants, both as signatories to the Milan Urban Food Pact and as Antananarivo had articulated the presence of a food system policy, which Arusha wanted to develop. The aim of the exchange was a learning policy dialogue between both cities, in which Antananarivo, the providing city, would help to shape a process by which Arusha, the receiving city, could develop a food system policy.

What followed was a baseline workshop in Arusha (31 October – 2 November 2018) to understand the state, challenges and opportunities present in Arusha, a first exchange visit by Arusha City Council delegates to Antananarivo (12-16 November 2018) and a second exchange by Commune Urbaine d'Antananarivo delegates to Arusha (9-13 December 2018). What emerged from the site visits and reflective policy dialogues were a number of identified synergies between cities, in which the one could learn from the other. While the initial framing was for Arusha to receive from Antananarivo, it was clear that a number of key interventions taking place in Arusha could be of use in Antananarivo – this was confirmed upon the second exchange visit.

ICLEI Africa, on behalf of project partners, occupied the role of coordinator, facilitator and rapporteur, helping the delegates reflect upon the visits and apply the learnings to their own contexts. In this role ICLEI Africa strove to use the ideas and framings which emerged from delegates to shape the conversation and co-develop the final outputs.

What is shared in this document are notes and images to elicit further discussion – through sharing and adding by participants, it is not intended to be complete, but to showcase some of the dialogue, thinking, challenge and inspiration experienced through this process. These elicitations will be used in framing policy interventions in Arusha and later in Antananarivo for further development and execution.

Arusha Innovative Urban Food Governance Practices Workshop: 31-2 November 2018

2.1. Participants

- 1. Agrey Mawole, Agricultural Engineer, Arusha City Council, Arusha, Tanzania
- 2. Beatrice Minde, Trias East Africa, Arusha, Tanzania
- 3. Beatrice Tarimo, Trade Officer, Arusha City Council, Arusha, Tanzania
- 4. Charles D Hotay, Monaban Production Manager, Monaban, Arusha, Tanzania

- 5. Eric Mwesigwa, Standards for food safety coordinator, Tanzania Horticulture Association, Arusha, Tanzania
- 6. Eunice Elibariki Tondi, Primary Education Officer, Arusha City Council, Arusha, Tanzania
- 7. Fatuma S Ibrahimu, Public Relations Advisor, Arusha City Council, Arusha, Tanzania
- 8. Harold Molly, Arusha Poultry Keepers Association, Arusha, Tanzania
- 9. Hulda Kombe, Owner, Moshoa Mills Animal Feeds, Arusha, Tanzania
- 10. Idda Makawia, Arusha Poultry Keepers Association, Arusha, Tanzania
- 11. Isaac Paul, Food Safety Technical Trainer, Kilicert, Arusha, Tanzania
- 12. Jeremia Thomas Ayo, Muvikiho, Arusha, Tanzania
- 13. Mark Blackett, Rikolto East Africa, Tanzania
- 14. Monica Chazles Ngonyani, Nutrition Officer, Arusha City Council, Arusha, Tanzania
- 15. Rebecca Mongi, Chief Agriculture Officer, Arusha City Council, Arusha, Tanzania
- 16. Redemza Maffa, Plant Health Inspector, National Ministry of Agriculture, Livestock & Fisheries, Arusha, Tanzania
- 17. Rosemary Kirange, Urban Planner, Arusha City Council, Arusha, Tanzania
- 18. Salome Kapanga, Economist, Arusha City Council, Arusha, Tanzania
- 19. Silvia Ceppi, Scientific Adviser, Oikos, Arusha, Tanzania
- 20. Simon Chacha, City Medical Officer, Arusha City Council, Arusha, Tanzania
- 21. Sophia Kasubi, Executive Assistant, Echo East Africa



2.2. Aims

The aims of the workshop were:

- To showcase best practices of food governance from around the world to elicit thinking among stakeholders about what could be possible in Arusha and the region.
- To explore different dimensions of food systems
- To draw out key challenges affecting Arusha's food system, identify potential interventions to address them, and prioritise these interventions by ease of implementation and importance
- To map Arusha food systems stakeholders and their relationships

2.3. Current State of Arusha Food System: Challenges & Opportunities¹

Using world café methodology, we circulated in groups to build a conversation around each aspect of the food system (Antananarivo provided this framing as: Production, Transportation, Processing, Distribution, Consumption), with six provocations: Nutrition & Health, Poverty/Urban Hunger, Waste, Sustainable Resource Use, Urban Planning. For each of these provocations, we asked participants to identify the threats/challenges and opportunities. At the end of the circulations, we asked participants to record the one lesson or issue which struck them the most for each of the aspects of the food system. These harvested inputs are recorded in Annex Section 9.5, and were used for further provocations and as boundary objects for exploring food systems interventions.



Figure 1: World Café about key issues and opportunities observed in Arusha's Food System

2.4. Prioritizing Initiatives for Improving the Arusha Food System

Using the framework of entry-points towards an integrated food systems policy articulated in IPBES-Food 2017², shown below, the contributions of session 2 were organised under the identified categories of:

¹ Information about the state of Arusha's Food System has been collated from the experts involved in the workshop. Academic and decision support studies of different aspects of Arusha's food system have been undertaken as separate work from what is presented in this report.

² IPES-Food. 2017. What Makes Urban Food Policy Happen? Insights from five case studies:1–112.

- Food Safety
- Food Security (we called this "Availability / Production")
- Food Access
- Public Health
- Climate Change (and Environmental Stewardship)
- Food Waste
- Local Economy

Participants were asked to organise key points about different aspects of the food system by these headings and encouraged to challenge how others categorised them. In this way, deep discussion was encouraged between participants.







What is notable is the large number of points focused on local economy, food safety and food access, with less detail for food waste, climate change & environment, public health, and food availability. Based on facilitator observation, this categorisation suggests two things: First, that the **expertise of those in the room was well oriented to food safety** (particularly related to chemical application and transport/distribution logistics), that key desires for intervention relate to improved **economic productivity** through food production and processing, and to improved **food access**. Second, the reduced focus on waste and environment, suggest that **food system priorities are**

directed more towards socio-economic determinants of food system success, and could benefit from more holistic approaches to sustainability intervention – it is noted that during the development of food system values for Arusha on December 8th, the environment was not a central consideration in determining these values. Both of these observations suggest that Arusha's **food policy process requires wider stakeholders** be drawn into future engagements.

Each issue/intervention was then ranked on a plane based on the ease or difficulty of addressing/implementing it, and the relative importance of addressing it. The key observations are listed here:

- Educational and Awareness campaigns were stated to be among the easiest interventions, but a key point was made that education is only useful if the current system formation allows those being educated or sensitized to effectively use this information. (for example, teaching a farmer how to use a new technology is only valuable if the farmer has access physically and financially to this technology; educating consumers about dangers of pesticide is only valuable if there are systemic structures which allow consumers to distinguish, access, and afford safe food).
- No agreement was reached about whether improving current marketplaces was more
 important than building new ones; this includes a discussion on building specialised markets
 for single goods or improving the effective separation of food types within markets (for
 example, keeping fish well clear of horticultural produce.
- The most difficult and important intervention was noted to be *approaching food policy* development in a participatory and inclusive manner (a point which had good resonance with the outcomes of the exchange to Antananarivo)
- Points which engaged the longest and recurring discussion are listed here and in bold in Table 1:
 - o Awareness on environmental management and proper use of environment
 - Develop traceability system for food safety
 - Education to growers and processors
 - Enforcement of bylaws for regulating food processing
 - Establish school feeding programmes
 - Food processing can be a good employment opportunity
 - Give Arusha a food identity
 - Market improvement
 - More markets distributed around the city
 - o Nutrition education
 - o Participatory food policy development and implementation
 - Poor production due to lack of capital to invest
 - Programmes for feeding vulnerable groups
 - Promotion of local food to tourists
 - Specialisation of markets according to products (eg. Chicken abattoir)
 - Tax collection



Figure 2: Ranking of Food System Priorities

Difficult – Most Important

Easy - I	Most Im	portant
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Difficult Wost Important				Lasy Wost Important
Participatory food policy development and implementation Contribution of community in food policy making Enforcement of rules and policies In order to have a good food system there is a need to address climate change and environmental issues Planning for infrastructure, roads, markets, distribution points, etc is important	Market improvement Transport and distribution infrastructure to be taken care of so that what is produced meets the final consumer in good condition			Awareness on environmental management and proper use of the environment Awareness on food system involving media, radio, education and experts, local media, education campaigns in collaboration with media.
Multipurpose uses of infrastructure will influence the economic growth and lead Arusha city into comfortability on moving from one place to another Coordination of government policies on processing is needed Poor production due to lack of capital to invest may lead to poverty and urban hunger Energy resources used in cooking could be replaced by solar and gasses Develop Standards	Many small food producers but many lack education on packaging, promoting their products - It is my wish that the city will make follow up on this to with support – they are contributing to food availability in the city Tax collection Packaging waste solution Alternative food packaging materials	Good processing of agriculture products prolongs the shelf life of the products hence improve food security and reduce poverty Finforcement of bylaws for regulating food processing There is value to food waste – invest in value addition	Good and economic use of agricultural chemicals / pesticides Fortification of food to add minerals and vitamins Establish school feeding programmes Early child nutrition	Education to growers and processors Safety and hygiene production from sharribas, seeds, fertiliser, pesticides Poor storage of produce leads to poor nutrition Education to farmers on proper storage Campaigns on cleanliness Educating community on environment preservation Climate change awareness – sensitisation on irrigation and afforestation
Food processing can be a good employment opportunity Interested in how road network infrastructure impacts economic growth Processing contributes to environmental pollution: water, air, ground Education and awareness to people on how to manage separation of waste. Eg liquid, solid, gas – purposefully recycling	Organic products Improve urban food production Regular maintenance of infrastructure People in poverty consume poor or local food due to lack of income Programmes for feeding vulnerable groups	How do we ensure sustainable, safe food production in Arusha, given that food doesn't originate in the city? Sensitize around food hygiene Improve Post-harvest handling for food safety Food hygiene and safety should be assured		Promotion of local food to tourists Proper methods of food preparation leads to good nutrition Proper food planning leads to good health Proper waste management in production to protect environment and humans
Land survey to demark agriculture land vs residential/commercial land Develop traceability system for food safety Urban planning should consider proper location of processing industries to avoid environmental hazard among the people	Waste + environmental pollution = product recycling Scale up of pilot initiatives such as themi living garden Promote more sustainable street food systems for tourist consumption	Give Arusha a food identity	Nutrition education Consumption of poorly prepared food may lead to bad nutrition / unhealthy disposal of wastes Education on urban malnutrition (micronutrient deficiency / obesity / stunting)	
	More markets distributed around the city	Support production - structured marketing (distribution challenges) be adhered to and implemented Specialisation of markets according to products (eg. Chicken abattoir) The urban planning should think about having a big market place with enough space to provide services to the expanding city		

Difficult – Less Important

Easy – Less Important

2.5. Stakeholder Mapping

A Communal Social Network Mapping process was undertaken to first identify the array of stakeholders operating in the Arusha Food System, and second, draw the connections between organisations which work together consistently. **The value of a social network map is to draw out who the key actors are in the system, and to understand how the network can be strengthened.** Presented below is the first iteration, produced as part of the 31 October – 2 November Arusha Workshop; It provides a number of insights elucidated below, but is also only a part of the story, and requires a second phase to improve its completeness and accuracy. This second phase would involve surveying the stakeholders who were listed, but not present to draw their linkages, about which organisations they work with. This will present a more accurate network, for future discussion.



Figure 3: Participatory Social Network Data Capture

Figure 4 shows the draft social network of food system actors operating in and around Arusha. Only labels of Arusha City Council are shown here to protect anonymity of other actors. A few

- The organisation nodes (circles) are sized by *betweenness* which is an indicator of who are the most important brokers of relationships in this network. This is different from the actors which have the most relationships. For example, if an external organisation wished to connect to the most organisations in this network, it would have a greater chance to do so if it formed a relationship with those with large betweenness. In this case, these organisations are a mix of private, civil society and local government types.
- The organisation nodes are coloured by organisation type, showing large representation of
 private, government and non-government organisations. This could be a function of who
 attended the workshop, and further snow-balling research will provide further stakeholders
 to add to the map. Nevertheless, there are clear groupings of private with development
 organisations, NGOs and government entities.
- This social network map shows high modularity, which is valuable as it suggests adaptability and multiple organisations of influence, as opposed to a centralised network. Clusters of

- private organisations, government organisations and NGOs are clearly visible, but do show good levels of interaction between organisation types.
- Arusha City Council Departments of Health, Planning, Livestock and Fisheries, and
 Agriculture seem well integrated with each other. However, while Agriculture shows
 connection only to Urban Planning, which suggests limited horizontal integration with other
 departments, it is connected to regional government and national ministries, suggesting
 good vertical integration.
- A number of organisations are not connected to any others, suggesting this map would benefit from further development by surveying organisations which did not participate at the workshop.

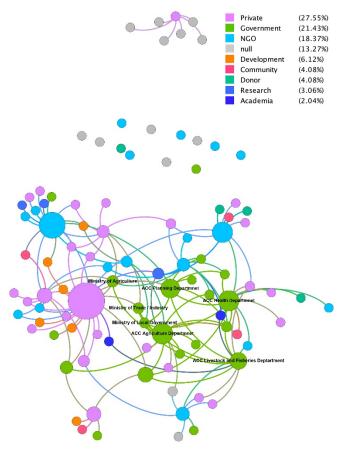


Figure 4: Social Network Analysis of Arusha food system actors – nodes sized by betweenness and coloured by organisation type.

3. Commune Urbaine d'Antananarivo Exchange Visit – 12-16 November 2018

"We do not locate the policy in the Commune as if the Mayor leaves, the projects are lost. Rather, we lead and facilitate as the major stakeholder and focus on the projects. We identify stakeholders with high potential and we partner with them, and we fit them like pieces of the puzzle towards a sustainable food system. That's our policy and that's our approach."

---- Olivier Andrianarisoa, Deputy Mayor, Commune Urbaine d'Antananarivo

"The essential thing is that our challenges are almost the same, with some minor differences – this elicits lots of ideas about the potentials in our city."

---- Rebecca Mongi, Chief Agricultural Officer, Arusha City Council

3.1. Delegation

Visitors

- Rebecca Mongi, Arusha City Council
- Anna Marianus Mwambene, Arusha City Council
- Maria Maina, Rikilto East Africa
- Paul Currie, ICLEI Africa
- Nachi Majoe, ICLEI Africa

Hosts

- Olivier Andrianarisoa, Commune Urbaine d'Antananarivo
- Carmen Zuleta, Commune Urbaine d'Antananarivo



Figure 5: City to City Exchange Delegation is welcomed by Maire Lalao Ravalomanana

3.2. Overview of Antananarivo

Commune Urbaine d'Antananarivo articulates a triple challenge of population growth, climate change and unplanned urbanism – in terms of food systems this draws out the key question: **how to feed the city?** The main mayoral priority is to develop sustainable food systems governed across levels of government towards:

- Reduced fertiliser and pesticide
- Local production, less reliant on transportation. The commune is underbound, with the city stretching over a number of other communes, requiring partnering across boundaries
- Addressing the needs of the population without putting the environment in jeopardy

A mayoral priority to empower women has been showcased in the Mayor's Evangelisaiton programme to empower vulnerable groups – ASA project has trained women to grow vegetables – the Mayor has spoken widely at women's day events.

It was noted by both the Arushan and Antananrivan delegations that while the cities are quite different, they share challenges, and a number of synergies are found in which one city showcases an issue and the other has developed solutions for this issue. Key observed features and challenges in Antananarivo included rapid population growth, large numbers of street children, high teenage pregnancy, child malnutrition and stunting, abundant urban agriculture, some of which is polluted by litter and wastewater runoff, encroachment of informal settlements on agricultural land, gridlock traffic, poor final-stage waste collection, resulting in piles of waste, often right where food is being sold, abundant street traders, often selling similar products, construction in flood zones, backfilling of flood areas that cause flooding, and construction in non-constructible areas that cause landslides and death.



Figure 6: Antananarivo City and Surrounding Rice Farms

While Commune Urbaine d'Antananarivo, does not yet have a written food system policy, what became clear through the visits of this exchange is that they showcase policy as practice, improving a number of processes at strategic points in their food systems, aimed at collective impact. Some of these interventions are aimed at adaptation, for example, lessening the effects of child malnutrition through feeding schemes, while most are mitigative, for example building demand for higher quality produce, or connecting producers directly to consumers. Through wide engagements with a number of food system actors, the Commune has developed a food policy council, who undertake their own food system initiatives, and who will guide the writing of the food system policy in the future.

3.1. Observations while driving through the city



Figure 7: Decentralised DIY vegetable gardens are showcased outside of City Hall



Figure 8: Antananarivo has 192 fokontany (small administrative divisions), each of which have their own markets.



Figure 9: Watercress production is a large urban undertaking, as it grows quickly – it is threatened by urban expansion, and those fields in low-lying areas are affected by wastewater runoff, trash and sewage from blocked canals.



Figure 10: Waste management is a dual government function; the Commune is responsible for collecting municipal solid waste at collection points, and National government is expected to remove the waste to landfill. National has not been undertaking its duty (cited as politically motivated), resulting in large piles of waste visible around cities.

3.2. Observations at markets



Figure 11: Meat is hung and served in premises which do not show good storage, refrigeration and hygiene options. Flies are also visible on fish and meat – kept momentarily at bay by fly-swatters.

There is a tension between those selling products inside the market and those selling outside the market, as they sell the same products thus competing for customers and those trading inside have to pay an occupancy fee while the ones trading outside do not pay a fee. Typically on the street, much of the food is sold on the floor, or next to waste piles, which presents health risks. This is in the context of a lack of quality control systems for foods.



Figure 12: The lack of effective storage, or mismatch of supply and demand (and lack of processing to save food for longer periods) results in visible food waste at a number of stages of the food chain.

3.1. Anosibe Market

This wholesale market is the first stop for food products entering Antananarivo. Forty per cent of market produce goes from here to other cities, with 60% sold in the Commune; of which 10% of products are perishable. The market is managed by the Commune, with an appointed manager working here and about 2 400 traders. There are tensions between those who pay rent for space inside the market and those who operate outside of the market. Tarrifs vary by type of space used by traders — maximum Ariary 100 000, minimum Ariary 40 000 and currently all spaces are occupied. Public finance laws do not allow the charging of rent for street locations as people/land-use is not registered for this purpose. The traders inside the market would not like the outside traders to pay rent as this would provide legitimacy and rather call for their removal. It was suggested that a new market be built for the street traders, the challenge with this is that when a new market is built, more street traders emerge. Finance is not fully traceable as tax collectors are stealing money/rent revenues.

Traders manage the security and cleanliness of the market – understanding that this contributes to attracting customers. Forty-four delegates are elected by farmers and traders in the market to voice needs and issues to the commune administrators. The infrastructure is old so there is only so much that can be done. Additionally, there are no measures in place to assure quality produce and there is

food waste, with low quality produce being discarded; not returned to the system or processed – the commune aims to develop a program to provide food to the vulnerable based on almost-off food.



Figure 13: Inside Anosibe Market

3.2. NutriZAZA

This organisation facilitates the operation of 42 *Hotelin-jazakely* (baby hotels) across the Commune, at which babies and children are weighed, mothers are given education and social workers serve fortified cereal (*koba aina* – life porridge). The municipality provides a plot of land to the social enterprise (NutriZAZA) and necessary documents to show their legitimacy. The hotelin-jazakely are strategically placed next to social/vulnerable enterprises – for example next to a communal laundry – for improved visibility and impact. This is a collaboration between the commune, the social enterprise and the company providing the cereal (TAF).



The group addresses two issues: lack of hygiene and lack of time to cook. Social workers cook porridge early in the morning (and sometimes for lunch):

- 1. parents take kids to get the cooked porridge
- 2. or buy uncooked packs
- 3. Social workers deliver ladles of cooked porridge for 250 (\$.06) in vulnerable neighbourhoods



Figure 14: A key benefit of social worker visits is that the porridge gives an opportunity to check in with parents and children to offer support if needed

Koba Aina is available in uncooked form at hotelin-jazakely, Supermarkets and Pharmacies. Costs are reduced for NGOs who buy in bulk.

Monitoring of the impacts of the hotelin-jazakely and social workers is not systematic, but is planned as part of future work. This is supposed to be coordinated by the national ministry which is in charge of nutrition.

3.3. Action Against Hunger

The organisation focusses on early child nutrition and support for pregnant mothers and new parents. Each day, the office hosts discussion groups about specific focus areas — each day being devoted to one group (expecting mothers, young children, new parents, etc) and they are visited by about 60 people a week. They weigh children frequently to assess risk of stunting, diagnose malnutrition based on the national manual and teach mothers how to bathe and play/stimulate their children. WFP provides sachets of fortified porridge, which are provided to mothers with young children — one sachet per malnourished child — if a mother has multiple children, some of whom are not malnourished, the organisation suspects the mother is sharing the single serving among them, undermining the nutritional intervention.

With more space, they would like to showcase garden farming, start a feeding programme and a washing and hygiene programme.

Every semester, the National Nutrition Office has a meeting with groups working in the area, to assess momentum of these projects. Unclear how detailed a record of child weights/malnutrition is kept.

Rebecca: "I saw a baby who was malnourished and clearly won't grow up to be a healthy adult; the mother doesn't know what is happening to her baby, she is already pregnant with the next one and still but a child herself"

3.4. Municipal Nursery

This nursery was established in 2011 as a *place of reference for all citizens to develop the Commune's food programme*. Its aims are: to provide support for people to self-address malnutrition; a **central point for conducting conversations about food systems**; and **protect the environment**. It is presented as a public space in which to showcase a full food production, consumption, waste collection and composting cycle. It has three principles:

- Healthy veggies and greens
- Fight undernourishment
- Protect the environment

A key intervention offered is how to produce healthy food with low or no available space. It provides trainings on how to build **upright vegetable gardens** using old wood pallets, rice bags or water tanks, with information about how to treat soil and look after vegetables without using chemicals.



Figure 15: Demonstration of planting boxes and containers in the Municipal Nursery

3.5. Commune school feeding programme

School feeding programmes in the commune were subsidized by World Food Programme, who supplied supplements of beans – however beans were difficult to digest, so WFP sponsored school gardens to supplement meals with fresh produce.

The city has 94 Schools, the initial plan was to work with all primary schools. Instead, a selection process was undertaken for the current 20 beneficiary schools, with a few criteria such as the school being interested in the programme (to ensure likelihood of longevity) and having a security guard to look after the plot. The most important factor was a principal or teachers showing interest in the project and requesting to take on the project – showing strong likelihood of longevity.

Project was 50% French, 50% WFP funded; it is now autonomous, with more schools demanding participation.

It costs \pm \$200 to set up a school garden – working with waste and procuring quality soil. One person is paid to follow up with each school to maintain momentum of projects. Most gardens are maintained by the school guard or gardener.

Considerations for setting up a school feeding programme:

- How much space in the school ground for growing otherwise build decentralised vegetable gardens
- Calendar for crop planting to ensure consistent yields most schools can harvest twice/thrice a week
- Some have land produces food faster
- Potential to develop greenhouses for seed production
- Composting areas, if land allows
- Meals consist to rice with bean powder and soup with garden veggies
- Green leafy vegetables are quick, as they have a short growing cycle and are the healthiest
- Schools have a parent association who contribute to costs of gardens, thereby sustaining it
- Not just about food but about building students' knowledge of the food cycle and they will hopefully replicate at home
- Challenges in getting parents to contribute
- Commune funds one guard but must include gardening in the contract.

- Important to relate gardening to place, not chore
- Main intervention is for diversification now 20-30 gardens working



3.6. ASA project (sales area and farms)

Project is nationally coordinated, with 102 communes participating and 48 000 benefitting farmers. The project has nine principles, listed below, and provides support for fruit and vegetables, chicken farming, fish farming in rice fields, dairy farming, and carbonisation projects, such as through reforestation (this is challenging as there is a predominant use of charcoal by 90% of households). The local land office in each commune provides certificates to farmers for land tenure, while the commune provides land for markets and events to promote premium food products. This is part of giving farmers ownership (of land, of information) – land ownership has shown reduced fires and farmers are empowered with price information.

Commercialisation of production is taking place between producer and consumer. There are 5 000 farmers; 80 collectors – 60 farms per collector based on geography. Technical training is provided to promote bio (organic) products and agroecological practice. Collectors are trained in marketing and management; producers are given seeds and technical support to produce quality products. Some of the challenges of the project is seasonality and that the quality required by agro ecological practice cannot be controlled

Principles for this work:

- Protect the environment
- Ensure the health of the producer and client
- Use what you have
- Use natural fertilizers / compost / insecticides
- Technical principles: agronomic methods how to use and care for soil
- Feed the capital with quality food
- Reduce poverty
- Preserving nature
- Use of agronomy



Figure 16: Arusha delegates admiring ASA produce

The cooperative sells at locations sponsored by the Commune, delivers directly to clients which include private individuals, hotels and restaurants. Internet sales allow easy market analysis — sell organic, agroecological and regular products, mass media is used to advertise the products and the project participates in trade shows. The project does not set the prices or intervene — it is an open market

Key gap – farmers do not have the means to advertise the premium nature of their produce – the demand is also not high enough, resulting in premium produce being sold for regular prices by the collector when they cannot find buyers...



Figure 17: Exchange Delegation visiting an ASA Farm

Chicken farming

The project is facing a number of challenges, for example after training, many farmers do not have the means to purchase technology or implement learnings, medicine and chicken feed are expensive. Chicken feed could be a valuable local business, as such there is a need for training in feed making.

Financial literacy and economic support are needed. Matching supply and demand is difficult – not currently stable. The biggest success is that the chickens hatch three time more than when other techniques are used.



3.7. Fish Farming (visit to a fingerling producer)

NGO support to fish farming for small-scale farmers (±30kg of fish per season for auto consumption and trading) working in communes around Antananarivo. Fish farming can take place in rice fields for a portion of the year — Carp are used given they can survive in 14 degree water — while tilapia have a preference, they need warm water. Reproduction of Carp requires grass, so the fish farming market needs fingerling producers to provide small fish to populate rice fields. The project follows a step-by-step approach to increase productivity. The most costly aspect of fish farming are the fingerlings.

Rakoto (left in the picture below) has been providing baby fish since 2017 – while farming fish for a while, he joined the project and received training. Produced 300 fingerlings before and now is producing about 7 000. Individual fish are sold at Ariary 150. Through this, he has been able to invest in concrete fish ponds with a 20 000 fingerling capacity, its main benefit is that it is easier for seeing/catching fish. There is high demand now, but the market of fish growers needs to increase to keep his demand up. The challenges faced by the project are a lack of water, lack of land for baby fish production and change in weather which can affect the growth of the fish

Comment by Mantel: "government want big flashy projects, but we are demonstrating decentralised, small innovations which can be aggregated very effectively."



Figure 18: Rakoto and his Carp fingerlings

3.8. Final Reflections voiced by the delegation and learnings to take forward

1. What was Shocking?

- Waste management
 - Trash next to watercress waste management there is a solution
 - O How can we make a strategic plan for waste materials?
 - Kids playing on garbage
- Traders & Trading places/markets
 - o Number of traders conflict between those inside and outside markets
 - Some traders not adhering to food safety and hygiene mud floors, selling on the floor, hands?
 - Traders leaving market places to sell on the street shared challenge with Arusha –
 Arusha has good mechanisms for collecting revenues
 - Perishables being handled in open markets especially meat

Traffic

o Congestion and traffic in the city makes small trips lengthy endeavours.

Farming/produce

- Farmers use abundant chemicals on produce for resale, but no chemicals on their patch of produce for auto consumption.
- Chicken farmers could learn from federation they could pool resources for better economic development

Health

- Lack of family planning and teen pregnancy a cultural consideration associating children with wealth
- Very visible malnutrition and too many street children need to partner feeding schemes with family planning.

General

- Wider systemic issues of economic development and education must be addressed
 can't just focus on food.
- Tourists around Antananarivo (and Arusha) don't come into the city potential for using food as economic boost for the city – promote food tourism

2. What was Impressive?

- Agricultural space within the city
- City showcasing DIY food gardens at its gates!
- Koba aina & hotelin-jazakely how can we take this to scale?
- Farmers reframing themselves to be distributers filling their own supply chain gaps taking agency over price – agroecological farmers connected directly to purchasers – challenge is building a better market for this produce
- Community gardens under the church NGO how can the municipality partner outside of its jurisdiction?
- Huge markets which are well built
- School gardens are simple but effective a number of school programmes could learn from this
- Municipal nursery a community educational tool to show citizens and kids where food comes from
- Visit to partners confirmed the jigsaw partnership is very visible, especially through the attention given to our delegation.
- In Arusha it is difficult to know who is using industrial fertilizer yet in Antananarivo they are attempting to distinguish between two quality streams of food.

3. Under development for Antananarivo:

- a. Waste management community clean-up projects
- 4. Food policy council has about 30 members representing multiple/ different structures.
 - a. What's working is members willing to work to the same goal through copying and sharing between partners
 - b. What's not working:
 - i. is duplication of efforts due to poor communication they are still trying to find the best tools for facilitation –
 - ii. having no physical entity to run the food policy council administration;
 - iii. minimal data are available, but a new programme attempts to shape new indicators for food system
 - iv. no monitoring framework yet in place
 - v. missing a data baseline estimate that about 50% of food comes from within provincial boundaries.

4. Arusha City Council Exchange Visit – 9-14 December 2018

"What we need here is storage – notice how much is being lost as perishable! We must build infrastructure to ensure that what we produce is not wasted."

--- Kalist Lazaro Lord Mayor, Arusha City Council

"Most NGOs start with the farmer, training them to produce something the market doesn't want – rather, start with the market and help improve what the farmers must supply"

--- Meat King Company

4.1. Delegation

Visitors

- Yolande Razafindrakoto, Commune Urbaine d'Antananarivo
- Carmen Zuleta, Commune Urbaine d'Antananarivo
- Paul Currie, ICLEI Africa
- Ryan Fisher, ICLEI Africa

Hosts

- Rebecca Mongi, Arusha City Council
- Maria Maina, Rikilto East Africa
- Grace Mabula, Arusha City Council
- Denis Kanawa, Arusha City Council
- Agrey Maule, Arusha City Council
- Deniss Epesper, Arusha City Council
- O Mandike, Arusha City Council
- Nuru Ginana, Arusha City Council



Figure 19: The delegation is welcomed by Arusha City Council a-Lord Mayor Kalist Lazaro and b- City director Maulid S Madeni

4.2. Arusha Context

Arusha has a population of about 500 000, up from 5320 in 1948. It has 25 administrative wards with 190 Mta (hamlet level), and covers about 270 sqkm. It has about 25 large industries, ±200 small industries, though under capacity so not competitive with imports, and 20 000 traders. Recent revenue enhancement programmes shifted in 2014 from manual systems to digital, showing a number of benefits:

- time management
- accuracy
- reporting
- transparency
- timely information
- improved data quality and organisation

- Business/industry are eager to meet tax obligations
- More options for tax payments mpesa, tigopesa, banks, point of sale machines
- Training and awareness
- There are incentives to staff who supervise revenue collection

Challenges of LGRCIS:

- Network availability can bounce or mis-convey transactions or lead to delays in transactions arriving
- Training for using machines at lower levels
- Moving to GPG network

Revenue is collected from: business licence fees, central busses, market fees, public toilets, forest licences, fines and penalties, hotel levies, legal licence fees, etc. Land rent, property tax, traffic fines and energy and water go to central government. Arusha has a budget of Tsh 13-15 Billion. Some discrepancies are seen due to competition with TRA over property taxes. Revenue is used 60% for development and 40% for operations.

10% of total own source revenue goes to revolving loans for women, youth (aged 15-35) and disability groups. Criteria: must be in 25 Arusha wards, minimum 5 members, registered organisation, account needed at local bank, must be known at street (mta) level, must be familiar with all members in group; an application must be processed by ward level committee who visits group and then sends it to Council level. Used to have an interest rate for 2018/2019 – now loans are free. One year to repay. Maximum 10 million minimum 5 million.

Arusha is considered food secure, with 70% carbohydrate requirement coming from cereal. Most food comes from outside the borders of the Council presenting challenges in managing its safety and stability. Child malnutrition is present, however there is only between 0.1-0.4% severe acute malnutrition, with between 3-9% Moderate acute malnutrition, with the remainders showing acceptable nutritional status.

4.3. Arusha Meat Company

Arusha City Council owns and operates the slaughterhouse and requires that all animals in or entering the Council are slaughtered here, to ensure cleanliness and safety of the meat. Animals are inspected before and after slaughter by city council officers. There is some challenge with small-scale slaughterhouses, or with farmers slaughtering themselves. There is no control over meat which is slaughtered outside of the council. The company slaughters about 200 cattle/day and ±200 sheep and goats. However, if running efficiently the facility could process 500 cattle a day. Slaughter is done in halaal manner – minimal advocacy around animal welfare. Currently no slaughterhouse for chicken operates in the city, though there are plans to build one – just awaiting financing. Pigs are slaughtered privately or at other facilities.

The building is old and in need of refurbishment. There are challenges keeping people following the rules of the facility especially when there are lots of owners bringing their animals. Fees for slaughter are about Tsh 2300/sheep and 16 000 per cow. Arusha Meat Company slaughters and dresses the carcass, and the owner takes the carcass to meat shops and butchers – about 20 vans offer this service (registered with TFDA).

Arusha Meat also has a processor to provide meat to supermarket or hotels – cuts and sausages. Animal wastes are processed: blood is dried for chicken feed; marrow and horns sent to an animal feed processor; decomposition pit if the animal is found with disease.



4.4. Markets

Arusha has three major markets and 9 smaller ones. Central market sees about 800 people per day. Sellers are charged monthly rent if they use a location, or daily if they are street vendors. Good revenue collection system using mobile devices (keeps accountability and records, with direct data connection into the city revenue system). Market master is an Arusha City Council employee. Aim to build new markets to shift street vendors there, and enforce a bylaw to keep people from selling on streets. Market doesn't intervene in food chain system. Most vendors source produce from wholesale market in the morning for resale at Central.



Figure 20: Chicken Cooperative brings together 10 seller at Central Market





Figure 21: Mama Macky (Hilda Semkiwa) sources wholesale from NMU market based on her eyes and the look of the produce – she sells to familiar customers, many who call her with orders.



Figure 22: Market waste is managed by an Arusha City Council agent who collects revenue seller by seller from all in the market. Tsh 10 000 per month for large shops; small shop or floor: Tsh 5000.

4.5. Arusha Poultry Keepers Association (Apoka)

Registered in 2008 with 15 members to 120 members before dropping to 60. Aimed to undo the bottlenecks in the poultry industry as left from transition from socialism to free market. Lots of industry challenges undermined farmers: Quality of feed, chicks, drugs. Increased competition improved local quality yet other countries subsidise chicken so imported chicken is also cheap. The

association has lobbied government to restrict imports. Apoka has also encouraged the establishment of associations in other regions and a new apex association which can speak for all. Jointly approached banks for loans. Awarded loans for six members (of 30 applications) – lack of loans demoralised some members who left. But now feel they are in a better position for demonstrating trust for receiving more loans.

Plans to establish a communal farm for members to rent space.

Creation of the association increased the ability to communicate with city and made itself more visible for the city and others. They provide training and technical support to members; Good relationship with city council who provided incubators for 3000 chicks – particularly for crossbreed birds. Hope the city will develop an abattoir for chicken to ensure good hygiene of slaughtering. Key challenge is a shortage of broiler chicks – a local company is slated to start producing (though other sources suggest the business is finding difficulty with Tanzanian regulations).

Apoka was started to build a market – market was found but too big for current supply – thus more work is needed to improve the stability of supply. The value in being urban production is that packaging is not needed, that there is high demand due to urban population, it is easy to meet as an association and easy to gather feed and access markets.



Figure 23: a- Apoka meets the delegation; b- Cages are useful for keeping monitoring of birds, halting fighting and keeping them healthy

4.6. Monaban Milling

A milling and commodity trading company which is setting a new strategy. In the meantime, processing sorghum for World Food Programme. They work directly with farmers to forecast demand and set up contracts for purchasing crops. Rely on cooperatives to aggregate to the quantities they need. Their granaries have 40 000 ton storage capacity - enough space to feed Arusha's population for 3 months. Processed grains are done so using TBS standards, correct refortification with lost minerals.



4.7. TASAF project: Goats

Tanzania Social Action Fund supported 9 women to house and keep goats. Selected based on their vulnerability by their community. Provided with 9 goats – 3 died and each now have 2 kids – 2 years of looking after them. Aim is for each goat to have 5 kids before they start selling – long lead time for refinancing. TASAF provides 6 months of training and assistance. New costs are covered themselves until they can make money off the goats.



4.8. Youth Horticulture Farm

Awarded a loan from City Council, the youth group prepared and cultivates plots of land rented by those who own land. Hope to expand business to large scale – now 2ha to 5/6 ha. Hope the council could help in securing markets and more capital. Have demonstrated the profitability of horticulture, though are potentially a bit precarious given limited land security.



4.9. MUVIKIHO

Association of farmers ensures farming for business security. Make themselves attractive by using international standards – Global Gap. The certification is expensive, so could benefit from a local certification, which is promoted / recognised by local and international groups. Rikolto sponsored the building where they have their meetings and do processing. Their members occupy 3 climactic zones, allowing different supply of food through the year – for improved stability. Beans and peas are exported, while indigenous vegetables are sold at market – same practices are applied across food types, allowing local consumers to benefit from good practices, whose costs are subsidised by export. There is currently no way to differentiate produce in the market, as local people don't know of the standards. Preconceptions about how food is sold (used to seeing it with minimal sanitation) limits the marketing of a premier product as people automatically think its is more expensive if it is vended 'hygienically' (such as on a shelf).

People respect TBS, so their development of a standard could be valuable. Packaging could add storage value but the packaging would have to be high quality. Getting high quality food into hotels often meets with chefs who have preferred suppliers. Ideas offered:

- Space in Arusha markets with logo or information about quality of food
- 'eat-free' agroecological day at which Arushan citizens can taste the benefit of good local food
- Promotion of nutrition education using fun recipes which use certain produce (eg carrots for carrot cake)
- How do they guarantee to Arusha City Council that the food is safe if there were a stall in the market what traceability can be offered?



4.10. Arusha Landfill

Landfill is managed by Arusha City Council. Ward level community-based organisations and private companies tender to provide collection services using their trucks. If they do not have trucks, Council rents them out. Tender criteria: organisation must have an environmental health expert; show a financial statement; registered as a CBO or organisation. Notes that CBOs provide better service than private as they know their communities better, allowing better collection of waste tariffs. All revenue is received by Council, who then dispenses 85% of it back to the service provider.



Waste pickers collect what they deem valuable and take it on to processors before the remnants are compacted. Landfill has difficulty ensuring safety of waste pickers — all who work on site are registered in a ledger, and each time there is a meeting, role call is done against this ledger to see who is present.

Landfill has 12m height limit and 23.5 years of capacity left, based on current compaction rates. Leachate is collected in ponds for evaporation in dry season, and pumped back onto the landfill in rainy season.

Arusha runs cleanliness campaigns each month – with public announcements 1 week before. All citizens are expected to clean their area. Arusha was voted 2nd cleanest city in Tanzania this year, after Iringa.



Figure 24: David weighing waste – a basic categorisation was undertaken before the site was built: domestic waste accounts for 61%, with 7% garden refuse, 23% rubble/soil, 5% paper and 4% other. A new categorisation could provide further detail to shape waste reduction strategies.

Waste production – high and un-regulated – waste minimisation campaigns could have good impacts

Waste collection – well executed

Waste treatment – traditional landfill – innovation would be valuable

4.11. Baraa Primary School feeding programme

Traditionally, central government provides free education for all students, with the expectation that parents will cover the costs of feeding the children at school. It is unclear whether some parents are unwilling to do this due to misconception about the value of nutrition or due to lack of resources.

iThemba foundation subsidises the school feeding programme at Baraa Primary, feeding all students in grades 4 and 7, who have their exams that year, as well as those who medical checks show are malnourished. Three groups: supplemental meals for students with HIV, students fed by parents or iThemba and those who receive no food – challenge is a form of social stigmatisation for students who feel inferior if parents haven't paid for food.

The foundation is tracking how academic performance is improved based on feeding – this can be used as educational basis for parents (if this is the reason for non-payment), as well as to get further sponsorship for feeding.

School garden exists to supplement malnourished students. Some students are employed once they leave the school to maintain it. Rainwater tanks are used to catch water for the garden

4.12. Grande Demam Dairy

Professionally a vet, Dr Deo Temba started keeping 2 cows for autoconsumption, producing 60litres a day. This was too much, so explored ways to add value to it and store it. He helped his neighbours too, taking excess milk for processing. In 2013 opened a factory, producing 100 litres a day, in 2014 500 litres, in 2018, 2500 litres. Factory now produces drinking yogurt, sour milk, thick yogurt, cheese, cream and ghee. Hotels are main consumers of yogurt, cream and cheese. National government has raised tax of imported milk products, so there is an improved market. There is high demand for products in Dar es Salaam, but does not have enough trucks yet. Buying milk at Tsh1000

per litre and selling yogurt (50% loss of raw product) at Tsh8000 per litre means 4X return. Good business. Next steps are procuring real fruit for yogurt - Uses agents to sell milk in Dar es Salaam and parts of Arusha – driving a branded car. Agents must commit with a deposit.

Finance is the key limiter – milk is purchased daily with cash, while products are sold based on long credit cycles. Cash flow is tricky to manage. Banks do not offer useful loans, so the business grows slowly. (a revolving loan facility with beneficial interest options would be useful)

EFTA provides support with equipment loans with 17% interest.



Figure 25: Milk pasteurisation machine

TBS requires that there is option for customer feedback, so there is a call line which gets through to administrator and on the production manager.

Arusha City Council can help by promoting milk products as nutritious, and facilitating linkages with people with knowledge, technology and financing.

4.13. Mt Meru Millers

Produce sunflower oil of two grades: 10% oil from first press becomes Sunola, while 20% further oil from solvent extraction plant becomes Singida. Remnant sunflower meal is sold as feed (30% protein). Factory works to demand, able to process from seed to oil in 15 days. Process of refining the oil is Degumming, Separation, Bleaching and Deodorising. The process produces no waste – sawdust and lumber offcuts from Arusha are used for the boiler. Wastewater is treated to stabilise pH and regulate hardness levels.

4.14. RedGold Processors

Darsh Industries Ltd has been operating since 1999 producing processed tomato and fruit products. They buy directly from the farmers, receiving the tomatoes directly in front of the farmers. Arusha has the full processing plant; When there was a shortage of tomatoes in the north, an Iringa primary

processing facility was opened to produce the raw tomato concentrate. In Arusha, if the farmers which to receive the seeds back, the pasteurisation process is done cold. The company has extension teams to support farmers in growing good tomatoes. Some difficulties faced if farmers break contact as they get better prices at market. Buy at Tsh150/kg – sell sauce at ±Tsh1000/kg. The factory keeps raw stock and produces on a daily basis based on demand. Key products are tomato sauce, chili sauce, fruit jams, tomato paste. Challenge faced as Chinese products compete on the market – TBS is banning these products due to health risks of external products, falsely advertised.

City must improve road and rail for 30t vehicles which are used – maximum tax comes from industry area, but improvements have not yet been seen.

Effluent is treated; solid wastes are returned to farms in Dodoma. Employs 130-140 people.

4.15. Meat King

The factory has 2 streams of meat processing – halaal (beef, lamb, chicken) and non-halaal (pork) – all knives, boards, tables are colour coded to ensure use with only one type of meat. They produce meat cuts or portions as well as processed products. Operating for 25 years, they are Tanzania's largest meat processor in terms of product diversity and able to process 920t per annum.

No commercial farmers of meat – about 800 different suppliers: farmers, butchers, buyers. 600 are low income. 46 buyers to find meat from around the region. Pig slaughtering at Sanoarri really bad – pigs are kept near to where they are slaughtered – produces adrenaline which stiffens meat – better animal husbandry practices could improve meat quality across the board. Only about 32% of the pig is usable – improving farming practices could improve meat offering. Deeper education is needed at systemic levels, explain the why of systems instead of the rules, so people understand the consequences/benefit.

Company attempts to enforce its own quality standards, but there is only so much that can be done with the raw product. Chicken quality is excellent, though diversity of poultry could improve the market – currently saturated with chicken. The new hatchery that is promised might not even open as they can't bring parent stock into the country due to new regulations.

No need to export as the market is big enough – 80% of high-end products are imported. Yet despite having the second largest livestock market, there is not enough raw material.

"Most NGOs start with the farmer, training them to produce something the market doesn't want – rather, start with the market and help improve what the farmers must supply"

Benefits of being based in Arusha are access to hotels for tourist consumption.

4.16. Final Reflections and Learnings to take forward

1. What was Shocking?

- Goats were kept in such small pens; difficulty with land area? Too little time (6 months) for financial support and training was provided by TASAF
- Food safety at central market chickens everywhere near other forms of produce
- Poor management of waste no plans by city or pickers to address their occupational health

 particularly no information provided on the long-term costs of their work pickers were

 90% women too. Maybe some gum boots but no gloves observed...
- Puzzled that waste pickers don't have proper gear thinks the municipality should be stricter about upholding safety standards

• Council doesn't seem to have full knowledge of food procurement – how do we improve knowledge about food value chains? – Traceability needed – development of a platform to track food – this could be a key facilitator role for Arusha City Council.

2. What was Impressive?

- Chicken cages interesting and efficient management of chickens and eggs
- How MUVIKIHO managed such a large area and consortium how they plan to solve challenges
- Impressed by women who recovered from chicken disease and was expanding her business
- Interested by how the whole food system fits together
- Inspired by the youth group wonderful that it is a national program to provide support directly from own-source revenue
- Youth farm was awesome the young boy said he managed to build a house with his father with two bedrooms incredible to see this is possible with agriculture.
- MUVIKIHO come to be aware of prices what if government gave farmers the opportunity to sell at correct market price?
- The role of the city council in getting revenue for reinvestment a big lesson for how to increase revenue strategies

5. Outcomes of the Workshop and Exchange Visits

The activities undertaken as part of the City-to-City food systems exchange project resulted in fruitful outputs, particularly related to improved knowledge for prioritising actions, relationship building for continued dialogue, and draft documents which can be used as boundary objects for further interaction between stakeholders, and for strategizing implementation of food system interventions. These outputs are explained below:

- Improved Food Systems Knowledge in both Antananarivo & Arusha was facilitated through the provision of external commentary by visiting cities on the visited cities programmes and initiatives. The visits with stakeholders and to food system facilities provided experiential knowledge with which to engage and reflect. This knowledge is not readily measurable, but will continue to shape the delegates' thought processes and activities into the future. Further, the experiences in both cities has provided ICLEI with unique insight into what projects could be ready for enhancement / support.
- Investment in a **new relationship between** Arusha City Council and Commune Urbaine d'Antananarivo, which both cities are keen to take forward.
- Conceptual and empirical gaps were identified at the Arusha Workshop as well as through
 visits. For example, the lack of participation of representatives and inputs from environment,
 health and waste suggests that stakeholders working in these areas must be approached and
 involved in future work.
- Possible policies and/or interventions for Arusha were prioritized by stakeholders. Further, the stakeholders identified the need for a strategy of implementation, which resulted in the development of Policy Pathways.
- Policy Pathways towards a sustainable food system in Arusha were co-developed at the end of the Arusha Exchange Visit as a policy brief by delegates from Arusha, Antananarivo, Rikolto East Africa and ICLEI Africa. The framing of policy pathways fits into the orientation of policy as practice, and may be used as a basis for directing implementation and priority action by Arusha City Council and partner stakeholders. They were designed with a nexus approach in mind to be to be fluid and adaptive as new priorities emerge. The pathways, while open for adaptation and addition, were identified as:
 - Governance: How to develop a food policy council?
 - Food Safety

- Food Nutrition
- School Feeding Programmes
- Commercialization Economic Opportunities
- Awareness and Food Identity
- Waste Management
- Environmental Stewardship
- To help draw together partners around shared values towards a sustainable food system in Arusha, a *Value Statement* for Arusha's Food System was conceptualised with Arusha City Council. These values are articulated as food systems that are:
 - Safe citizens in Arusha, no matter where they source their food, should confidently receive food safe from pesticide and chemical contamination
 - Nourishing no citizen in Arusha should experience Malnutrition in any form, least of all our children, who should receive appropriate first 1000-day nutrition and quality food thereafter. Diverse, balanced diets should become familiar and expected features of our food system.
 - Economic food production and processing are opportunities for improved employment, particularly for our youth. Our regional food and cuisine should contribute to improved cultural tourism which celebrates the offerings of our city and country.
 - Inclusive our food system should ensure that all vulnerable populations, including elderly, youth, sick, differently-abled, or unemployed, are supported to access to good quality food.
 - Improved through partnering given the nature of our food system, which crosses
 multiple functional and political boundaries, we can only approach a sustainable food
 system by partnering with multiple actors across boundaries through a shared vision
 towards shared success.

6. Reflection on City-to-City Exchange Process

A number of **challenges were experienced in facilitating this project**. These are articulated below.

- Getting political buy-in for the exchange visits took time; this was due to a change in city directors and the need to find the appropriate person in Arusha City Council to sign off on activities.
- The advent of the Madagascan elections towards the end of 2018 made identifying an appropriate time for visiting Antananarivo difficult, and meant that many of the Commune officers were understandable preoccupied with the election processes.
- The initial project orientation of City Provider vs City Receiver led to a programme design which assume a unidirectional learning exchange from Antananarivo to Arusha. However, in practice, it became clear that both cities had much to learn from each other; In the course of the exchange, we did take time to highlight lessons for Antananarivo, but given the initial delineation of provider/receiver (SLA Output A.2.1), the focus was aimed at developing a policy brief for Arusha. Despite many desires to develop an appropriate output for Antananarivo, there was no time nor budget allotted to properly articulate a way forward for Antananarivo

Despite various challenges, the project surpassed its initial aims and has provided methodological lessons for how this learning exchange process can be undertaken in the future. **Considerations for effective undertaking of future exchanges are listed below.**

- Exchange must strongly articulate equal exchange/benefit/outcome for each city and ensure that an appropriate and desired output is developed for each participant
- Each city took the lead in designing the visits, with a overview schedule to guide them each city focussed predominantly on visiting food system actors and facilities, with limited time for

seated policy dialogue – this often took place in gaps between travel and visits – more time must be allocated for reflection and comparison of programmes, as well as closing reflections.

- The visits utilised a soft-facilitation style which ensured buy-in by all actors, but it risked that certain information was not effectively conveyed – strong facilitation is needed for the arrival/orientation to ensure visitors understand the political structure/urban context of each place...
- A well facilitated introductory session on Day 1 must provide overview on food system approach, aim of the visit, and introduction to the context and challenges of the city.
- Each city organised transport and lunches, which gave a strong sense of being welcomed and hosted by the local government.
- Lunches were purposefully about tasting local food of different varieties; this was important
 for delegates to fully immerse themselves in the food system and to experience the challenges
 related to food safety, nutrition and access, as well as participate in the socio-cultural aspects
 of food.
- Managing energy levels while undertaking visits is important; there needs to be a balance of comfortable/appropriate reflection space, and visits
 - Travel time was challenging in many instances... hosts could potentially balance visits with long travel lead time with calmer reflection in the morning or afternoon
- Ensure reflections on each day's visits are undertaken to ensure that all participant's observations are recorded and heard by others – space must be created for the quietest delegates to share observations
- A third-party translator is necessary to avoid potential bias of City officials interpreting the questions and answers for each stakeholder/facility visited
- The translator must also provide clear introduction of the delegation to each visited site, so
 as to make clear the expectations of the delegation and ensure that incorrect expectations
 are not raised for those visited.

While there were many lessons elucidated throughout this project, detailed in the preceding sections, a few themes became consistent reference points throughout the project. These were:

- Questions of *policy as practice* while there was initial confusion as to Commune Urbaine d'Antananarivo's food policy approach, the explorations and visits in Antananarivo provided a clear sense of what the Commune was attempting. This is articulated effectively by the Deputy Mayor, Olivier Adrianarisoa: "We do not locate the policy in the Commune as if the Mayor leaves, the projects are lost. Rather, we lead and facilitate as the major stakeholder and focus on the projects. We identify stakeholders with high potential and we partner with them, and we fit them like pieces of the puzzle towards a sustainable food system. That's our policy and that's our approach."
- The sheer complexity of Antananarivo's food and social programmes drew comments about where a starting point would be for approaching sustainability of this city: here, a systems-based prioritization and decision tool could be valuable for navigating urban sustainability in the context of overwhelming complexity.
- Across visits to food programmes and initiatives, it was tangible to see which programmes
 were internal and which were externally developed. One stakeholder put it well that there is
 often a mismatch of where programmes are focused. For example, much attention is focussed
 on building producer capacities and providing access to markets, yet often the processers or
 consumers of the products are not consulted about what they need. Following demand-driven
 approaches may lead to more effective and long-lasting implementation of projects

7. Way Forward

The outputs of this project have elicited a number of exciting and valuable opportunities for continued work. A number of activities are listed below as a way forward after project conclusion.

- The outcomes of this project must influence/ find expression into Arusha City Council and disseminated to the Arusha food system stakeholders present and identified at the first workshop (31 October 2 November).
- Completion of the Social Network Analysis (page 11) of the Arusha food system actors with further inputs by the identified stakeholders who were not present at the workshop will provide valuable insight for future work in the following manners:
 - Social network analysis is a valuable tool for understanding existing relationships and for building stronger ones between actors in this system
 - It articulates the specific roles which each actor undertakes, allowing identification of organisation and functional gaps or duplications of efforts; knowing these can contribute to enhancing system relationships and functions
 - The analysis also provides insight into how Arusha City Council can improve interactions with stakeholders and its food system governance processes
- ICLEI aims to use the Policy Pathways document and Value Statement to convene a dialogue of wider food system actors and this session would:
 - share the outcomes of the project;
 - initiate a process towards establishing a food policy council, as undertaken in Antananarivo. This policy council would ideally take forward the work described in this project.
- ICLEI aims to further develop the methodology of City-to-City exchanges, based on considerations above, through the ICLEI-RUAF CITYFOOD Network
 - Such a methodology will be aimed at exploring how local governments can facilitate effective governance of food systems in rapidly changing or politically uncertain contexts
 - The methodology would facilitate a three-part process of city learning exchanges baseline context and policy development, and food system interventions and is based on an orientation of policy as practice.
- ICLEI aims to scale out City-to-City exchange processes with multiple cities in Africa and the world, facilitated by ICLEI and its partners

8. Annex I - Innovative Urban Food Governance Practices Workshop PROGRAMME

Date: 31 October 2018 – 2 November 2018

Time: Day 1 (09:00 – 15:45), Day 2 (09:00 – 16:00), Day 3 (field visits)
Where: Olasiti Lodges And Garden Park Ltd, Arusha, Tanzania

Workshop Purpose:

This workshop aims to build a shared understanding of urban food system governance, promote innovative food governance initiatives from around the world. It will improve the understanding of sustainable food systems in the context of urban & territorial planning in Arusha City Council, the RAS and National Department of Agriculture in Tanzania. Using this understanding, stakeholders will identify and map different aspects of Arusha City Region's food system, and co-produce a framework for Arusha's ongoing urban food system framework drafting process.

	Day 1: Innovative Urban Food Governance Practices						
1.	09:00 - 10:00	Registration & Survey					
	10:00 - 10:20	Welcome and introductory remarks					
2.	10:00 - 10:15	Workshop Forum opening Dr. Maulid S Madeni, Arush City Director					
	10:15 – 10:30	Opening Remarks & Purpose of Workshop Rebecca Mongi, Arusha City Council					
3.	10:30 – 11:45	Round of introductions	Facilitator: ICLEI-Africa				
	10:45 – 11:30	Setting the scene					
4.	10:45 – 11:00	National Ministry of Agriculture Policy Framework National Ministry for Agriculture					
	11:00 – 11:30	Successful innovative urban food governance practices in small and medium sized cities	ICLEI-Africa				
5.	11:30 – 11:45	Tea/coffee break					
	11:45 – 13:00	World Café: What Food Governance Practices Offer Systems.	Our Organisations /				
6.	11:45 - 12:45 12:45 - 13:00	World Café: participants will break into groups to expand upon innovative governance practices and strategies, and contextualise them in their own organisational contexts and city / food system contexts. Brief Report Back	Facilitator: ICLEI-Africa				
7.	13:00 – 13:30 <i>Lunch break</i>						
	13:30 - 15:00	World Café: Visualising Arusha's Future Food System					
8.	13:30 – 14:30	World Café: participants will break into groups to describe different facets of Arusha's food system, and its current implications	Facilitator: ICLEI-Africa				

	14:30 - 15:00	Report Back & Reflection	
9.	15:30 – 15:45	Tea/coffee break	

	Day 2: Co-designing Arusha's Food Framework Process					
10.). 9:00 – 10:00 Sign-in & Survey					
	10:00 - 11:30	Reflection & Exploring Framework for Action				
	10:00 - 10:30	Recap of Themes from Day 1 & Purpose of Day	Facilitator: ICLEI-Africa			
11.	10:30 - 11:30	Presenting the City-to-City Food Systems Framework for Action: highlighting priorities (and rationale for priority), gaps, financing model, solutions and constraints to making a urban food systems programme function	Facilitator: ICLEI-Africa			
13.	11:30 – 11:45	Tea break				
16.	11:45 – 13:00	Identifying Policy Priorities for Arusha				
	11:45 – 12:40	Break-away by different aspects of food system: to explore policy levers and interests for inclusion in urban food systems framework	Facilitator: ICLEI-Africa			
	12:40 - 13:00	Report back				
15.	15. 13:00 – 13:30 <i>Lunch</i>					
	13:30 – 15:00	Stakeholder mapping & Commitment				
14.	13:30 – 14:30	Co-mapping stakeholders in Arusha's Food System	Facilitator: ICLEI-Africa			
	14:30 – 15:00	Stakeholder commitments to inputs to the framework process				
13.	15:00 – 15:15	15:15 Tea break				
17.	15:15 - 15:45	Round of closing remarks by Attendees	Facilitator: ICLEI-Africa			
18.	3. 15:45 – 16:00 Workshop closure and thanks					

	Day 3: Exploring Arusha's Urban Food System					
19.	09:30 – 13:00	 Field visits – Voluntary to Join: Site Visit – Site of Food Production Site Visit – Site of Food Processing Site Visit – Site of Food Distribution 	Arusha City Council			

9. Annex 2 - Harvested Responses to 5 questions at the first Arusha workshop.

9.1. What does the food system mean to you?

- Different components that support how food moves from production through consumption
- Starts from primary production, processor and to the consumer
- We work with rikolto
 - On this forum we tend to share ninamu
- Urban food system
- Selling of food retail and wholesale in a city
- Urban food governance
- Arusha food governance depends heavily on transportation
- Food system is the process of food production starting from primary level through producer, processor/manufacture, transportation, consumption
- Food systems: production, processing, market, consumers
- Food system means system which the food is produced, distributed and finally reaches the consumer
- Process where food is produced/manufactured and distributed to the end consumer in a safe manner
- Food system means all things concerning food including preparation, processing, ingredient, until a person consumes/eats the food
- Food system is the processing of which includes the whole stage of food from production, transportation, distributing, processing, marketing and final consumption
- This is the system which deals with production of food and all its process form its source to the consumers.
- What does a food system mean for you?
- The food system to me is the mosaic of all actions needed to complete the food chain: planting-growing-harvesting-processig-selling-purchasing-distribution-consuming (including cooking) each step must be sustainable!
- Food systems is wholistic approach which involves production, processing and transportation of food products to consumers
- Different actors, different processes, infrastructure, transportation look in the input needed and output generated
- Food systems means tools, structures, policies and strategies that allow/facilitate production, distribution, and consumption of food among a certain specified community.

9.2. What are factors leading to good governance climate?

- Enabling governance environment for sustainable food system development at the local and regional level require availability of staff from agriculture and livestock, availability of fertile land and availability of capital.
- Cooperatives (farmer groups); structured trading systems across all value chains of food systems; market systems that incentivise production of safe food; consumer awareness on sustainability of food systems; land policy; urban water and energy delivery; reliable public transportation and distribution network
- Food regulation; education and capacity building; Technology; capital; land allocations; market provision
- Food regulations/policy; Education and capacity building on food products; capital for land; technology for production; government support
- Government policy; stakeholders awareness; consumer awareness
- Transportation; education to the people about food systems; market centres; communications and coordination
- Support of PPP modules
- To educate people of the importance of the food they eat
- Food policy (what must be on the plate); infrastructure investment; education on sustainable food systems for actors
- Awareness/education; agricultural inputs; inter- or multi-sector intervention; political and economic willingness
- Actively support small scale producers by tailoring policies that exclude them from cumbersome legal processes (eg expensive registrations!); strongly support organic food systems through incentives; favour local producers through tax incentives etc; include in school syllabus: food systems knowledge
- Improve output extension services; improve transportation system
- Capable human resources: skills and knowledge; funding; multiple stakeholders; improve infrastructure; political commitment
- Political and administrative leadership; Knowledge and capacities of cities/research; inclusive processes: private/public.

9.3. What innovations are currently happening?

- Health education for school children at Arusha city on how to eat balanced diets
- Health education to the pregnant women in health centres
- Workshops taken which dealt with harmful plants which affect food: devil weeds awareness raising and prevention plus what we have acquired here
- We shall take these knowledge and information for the benefit of an office and community at large
- Improve safety of food/fruit and vegetable supplies and consumed in Arusha and environs.
- Improvement of water system for Arusha
- To produce poultry produces and vegetables to ensure food security in Arusha we expand ot meet the needs of our customers ie we supply to local markets/hotels
- To expand our agricultural production to meet the daily need of our urban demand and to ensure the hygiene and safety standards are followed
- Somehow I was aware about such outcomes through innovation pivotal by TBS&TFDA by using media After hearing, I will ensure food safety to my society
- Yes I implemented similar initiative with Solidaridad and TBS to prepare the valid food safety system
- To continue promoting safe food in collaboration with other stakeholders
- To make sure that all activities in gov't departments must include activities based on food/nutrition
- Training of farms on good use of waste in production; education o better way of food system governance and practices
- Establishment of small farms and vegetable gardens with in the schools for their own meals
- Facilitated signature of MFPP; established first urban permaculture pilot initiative with Arusha CC; established in 2014 the Arusha farmers market happening once a month.
- Arusha city master plan (2035); TCCIA have 2 proposed catalytic projects: market strategy for hygiene, safety, identity, etc; city tourism; -- safe food initiative project with support of Rikolto
- Need a more comprehensive sustainable actionable food policy in Arusha!

9.4. What current Innovations are happening in Arusha, or which ones should happen?

- To put efforts into recycling of waste products
- Biogas is not yet expanded enough
- Compost manure for those having big farms
- Amazing infrastructure
- To have specialized markets for specialized foods
- Scale up of pilot initiatives such as themi living garden
- Promote more sustainable street food systems also for tourist consumption
- Education is small for processors on packaging of products to increase their economic potential, increase their income of processors and the city as well
- Expansion of infrastructure
- Separate road for public and private transport
- To invest on sanitation
- Create awareness to people consuming sufficient, safe and nutritious food
- Participatory food policy development and implementation
- Improve the infrastructure: roads
- Improve on market and market infrastructure to reach more people/communities
- Specialisation of markets according to products: eg. Chicken abattoir
- Improvement of food marketing system: market systemic structures
- Increase number of roads to facilitate transfer of foods to consumers
- · Use of biological food waste as manure for growth of more food around and within a city
- Reviews of policy law and regulation on how to manage food safety and production
- Specialisation of market according to items
- To ensure food security to the owners of industries so that to produce safe and nutritional foods
- Master planning and proper uses of available resources and funds will soon change the appearance of our city to become a really Geneva of Africa
- Multistakeholder meetings (ppp)
- Give Arusha identity with local market identity
- Standards
- To improve economics by implementing production
- Surveillance and monitoring; traceability of farm produce through the system
- Market infrastructures that encourage hygiene
- Law enforcement upscale
- Public-private dialogue
- The urban planning should think about having a big market place with enough space with which to provide services to the expanding city of Arusha
- Specifically designed (pilot) programmes or initiatives to empower, connect, or integrate
- Improvement of food handling in the distribution point, like in the markets
- Shops and upscaling of existing infrastructure



9.5. Please name a key innovation, intervention or issue you wish to learn more about for each aspect of the food value chain:

Production

- Urban planning has considered food production
- To avoid getting food which is contaminated by the urban area/market
- Safety and hygiene production from sharribas, seeds, fertiliser, pesticides
- Self-reliant urban centres through urban agriculture
- Production in relation to nutrition employment and poverty eradication
- · Poor production due to lack of capital to invest may lead to poverty and urban hunger
- Production is critical to delivering nutrition and safe food; farmers require more support to produce safe food
 more efforts
- Proper waste management in production to protect environment good and human beings
- Hygiene and safety
- Organic products
- Poor storage of produce leads to poor nutrition
- Education to farmers on proper storage
- Waste management in production process
- Increase economy raise the level
- Sustainability of health to the society of Arusha
- Increase employment opportunities
- Land good agricultural practice
- Use of proper land and agronomist
- Farming as business
- VICOBA+SACCOS
- Human resource must be properly used
- · Resource not ploughing
- PPPs
- Increase income and tax collection through urban planning
- Production increase employment to reduce poverty, create economic growth and increase income
- Interested on how we need sustainably influence safe food production in Arusha considering that food in Arusha doesn't originate in the city
- Good and economic use of agriculture / pesticides
- Production increases income generation employment
- Increase innovation of supply is big (kusindika)



Transportation and distribution

- Poor hygiene with poor facilities affect food and health
- Delay/time cost of business increases and food spoils perishable
- Facilitate economic growth
- Improve production
- Good transportation and distribution is crucial to urban food systems
- Key role of urban planners for food accessibility (eg. Market locations vs. consumers)
- Awareness on food system involving media, radio, education and experts, local media, education campaigns in collaboration with media.
- To be take care of; so that it what is produced reaches the final consumer in good condition for good health at large
- Urban planning
- Planning for infrastructure, roads, markets, distribution points, etc is important
- Inadequate transportation of food may lead to loss of food; might be due to poor urban planning
- Processors should be supported by governments to grow their business and improve quality and become more competitive in the local food markets
- Most of the food consumed in Arusha comes from other regions; transportation critical
- Good infrastructure reduces cost of transport
- Regular maintenance of infrastructure
- Many small food processors but many lack education on packaging or promoting their products. Is my wish that city will make follow up on this support
- They are contributing to availability of food in the city
- Urban planning: improvement of infrastructure and separation of road for difference activities
- Poverty and hunger addressed through making good infrastructure to enable easy accessibility of food
- Lack of good infrastructure
- Increase of price of the product
- Multipurpose uses of infrastructure will influence the economic
- growth and lead arusha city council into comfortability on moving from one place to another
- Interested on how infrastructure of road networks impedes economic growth
- Rehabilitation, important and expansion of the existing infrastructure enhance a sustainable use of resource
- Poor infrastructure/transport facilities
- Delay of goods to the market due to check point or expire dates
- The availability of food to urban reduces prices due to good transportation which is reliable.



Processing

- Food processing can be a good employment opportunity
- Local government intervention is crucial including its bylaws for conducive life of human beings and living things generally at large
- Waste converted into agronomic inputs / animal feed
- Investing in processing creates employment hence economic growth due to value addition and employment
- Poor & too much processing of foods may lead to food without adequate nutrition and unhealthy
- Processing contributes to environmental pollution: water, air, ground
- Urban planning should be adhered to
- Coordination of government policies on processing is needed
- Adding value chain
- Effects of processing on nutrition value
- Fortification of food to add minerals and vitamins
- Economic growth new of marketing
- Waste: environmental pollution
- Product recycling
- High value processed food in supermarkets only afforded by middle class others cannot their urban anger
- Processing creates employment opportunity
- Add value of produce and income generation
- Lack of knowledge, funds, skills or technology can lead food processing into improper product and other way round
- Poor education
- Lack of skills/knowledge
- How processing is a great catalyst of poverty reduction and eradicating urban hunger
- Good processing of agriculture products prolong the shelf life of the products hence improve food security and reduce poverty
- Master planning
- Presence of bylaws
- The processed food industry will have employment hence to reduce poverty and hunger to the family



Consumption

- The availability of specialised market for different food commodities can improve consumer accessibility
- Urban malnutrition, micronutrient deficiency, obesity, non-comm diseases
- Lack of awareness on what constitutes a proper nutrition diet among arusha population
- Proper methods of food preparation leads to good nutrition
- Proper food planning leads to good health
- Economic growth increase in purchasing power of the middle class affecting consumption of goods affecting preferences
- Consumption of poorly prepared food may lead to bad nutrition
- Healthy disposal of wastes
- Nutrition for health have to plan for our diet for better health to avoid disease outbreak
- When consumption is high the economic growth increases
- Sustainable resource use
- Energy resources used in cooking could be replaced by solar and gasses
- Due to balance diet for food to be safe and clean
- Consumption and poverty population increase with increase of consumption leads to scarcity and urban hunger
- Poor consumption without proper use causes hunger and poverty
- Availability of nutrients and health products according to society declined. And also sustainability depends on the proper storage
- Economic growth
- Reduce poverty
- Consumption of food leads to nutritional and health effects due to lack of awreness among consumers
- Learning a good way of identifying a balanced diet for future and health of people/population
- Good urban planning where there is market infrastructure will help to know consumption of the city/urban
- People consume poor food due to lack of income
- Education cookery to make sure that we consume well prepared food produces as well as well cooked



10. Annex 3 – Schedule framework for Exchange Visits

City to City Exchange - Antananarivo Suggested PROGRAMME — to be co-created in Arusha and on Skype

Proposed Date: 12 – 16 November 2018 **Where:** Antananarivo, Madagascar

Exchange Workshop Purpose:

This exchange aims to build a shared understanding of urban food system drivers, risks and opportunities. It will showcase innovative food initiatives taking place in Antananarivo, and relate this to Arusha's food system policy needs. It will contribute to co-drafting a food systems policy for Arusha, and encourage Antananarivo to reflect on its own food system governance.

Exchange Themes / ideas:

- It is envisioned that each day of the exchange could have a thematic focus on one of the 5 'tions' of the food system: Production, Transportation, Processing, Distribution, Consumption
- As this exchange is about food system thinking, it would be valuable for participants to take lunch in different places/locations in the food system, for example:
 - School feeding scheme from garden
 - Local market / street food
 - o How do most Antananarivan citizens eat?
 - Restaurant
- The close of the exchange could just the 6 key participants of the exchanges going to the market for groceries, and cooking the meal together, while reflecting on the week's learnings/experiences. (We could learn how to cook a typical Madagascan meal?)

Exchange Visit Draft Schedule

Day 1

- Setting/revisiting the expectations for this exchange.
- Overview of useful food system theory and frameworks
- Overview of Antananarivo's Food System
 - Antananarivo's urban food policy process
 - Policy as Practice vs Policy as Written
 - Antananarivo's food system initiatives

Day 2

- Visit key sites of Antananarivo's food system initiative
- Reflect on opportunity and challenges of these initiatives

Day 3

- Visit key sites of Antananarivo's food system initiative
- Reflect on opportunity and challenges of these initiatives

Day 4

- Visit key sites of Antananarivo's food system initiative
- Reflect on opportunity and challenges of these initiatives

Day 5

- Reflect on learnings from the week
- Update plan for Arusha Policy Process (particularly scope) and Arusha Visit
- Social & reflection between 2 Antananarivo City Members, 2 Arusha City Council Members and 2 ICLEI Members.

City to City Exchange - Arusha Suggested PROGRAMME - to be co-created in Arusha and on Skype

Proposed Date: 9 -13 December 2018 **Where:** Arusha, Tanzania

Exchange Workshop Purpose:

This exchange aims to build a shared understanding of urban food system drivers, risks and opportunities. It will showcase innovative food initiatives taking place in Arusha, and relate this learnings from the visit to Antananarivo. It will contribute to co-drafting a food systems policy for Arusha, with input from local stakeholders and visitors from Antananarivo.

Exchange Themes / ideas:

- It is envisioned that each day of the exchange could have a thematic focus on one of the 5 'tions' of the food system: Production, Transportation, Processing, Distribution, Consumption
- As this exchange is about food system thinking, it would be valuable for participants to take lunch in different places/locations in the food system, for example:
 - School feeding scheme from garden
 - Local market / street food
 - O How do most Arushan citizens eat?
 - Restaurant
- The close of the exchange could just the 6 key participants of the exchanges going to the market for groceries, and cooking the meal together, while reflecting on the week's learnings/experiences. (We could learn how to cook a typical Tanzinian meal?)

Exchange Visit Draft Schedule

Day 1

- Setting/revisiting the expectations for this exchange.
- Overview of useful food system theory and frameworks
- Overview of Arusha's food system
 - Inputs from initial scoping exercise/workshop
 - Arusha's food system initiatives

Day 2

- Visit key sites of Arusha's food system initiative
- Reflect on opportunity and challenges of these initiatives

Day 3

- Visioning exercise of Arusha food system
- Co-draft Arusha's urban food system policy framework

Day 4

Co-draft Arusha's urban food system policy framework

Day 5

- Co-draft Arusha's urban food system policy framework
- Update plan for Arusha policy process next steps
- Social & reflection between 2 Antananarivo City Members, 2 Arusha City Council Members and 2 ICLEI Members.

II.Annex 4 - Stakeholder Matrix adapted from Commune Urbaine d'Antananarivo for use in Arusha

Stakeholders	Production	Transportation	Processing	Distribution	Consumption
Arusha City Council					
Arusha District					
Regional					
National					
Private Sector					

Civil Society			
Academia			
Media			
International Organisation			
Others?			

12. Annex 5 - Value Matrix adapted from Commune Urbaine d'Antananarivo for use in Arusha, based on Arusha Values

Stakeholders	School Feeding	Nutritious	Economic	Inclusive	Partnering
Production					
Transportation					
Processing					
Distribution					
Consumption					
Consumption					