

Masaka City stakeholders' workshop on the urban food-energy-water and waste nexus

Workshop Report



**February, 27th – 28th 2024,
Masaka Uganda**

**Innovations for Development
In the
Regional Network for Equity in Health in East and Southern Africa
(EQUINET)**

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Cover photo: Participants in the Makasa City workshop on urban food, energy, water and waste, J Gonza, I4D, 2024

Key messages

Delegates at the EQUINET Regional Meeting on Urban Health in East and Southern Africa (ESA) noted that there is rising urbanization, including around extractives, with increasing commercial and climate impacts. They thus called for the region to move from single issue interventions to comprehensive, integrated, area-based approaches; and to shift from project – to process-thinking, designing for sustainability from the onset. There was recognition that promising practices are taking place locally, but not scaled up. Therefore, there is a need to engage and listen to not only affected communities but also other stakeholders to further generate evidence, build synergy and identify multiple actors to address drivers of inequities in food-waste-water-energy nexus.

With support from EQUINET through TARSC and OSPC, I4D organized a stakeholders' capacity-building exercise in Kampala and Masaka cities as an avenue to strengthen mechanisms, processes and capacities of cities to build collaborations, partnerships and engagements that will realise the scale-up of promising practices to achieve equitable urban health and development in the sectors of food, water energy and waste management.

This workshop in Masaka hosted 18 participants from the sectors of water-energy-food-waste in Masaka City and Masaka District Local Government. They participated in a series of sessions that introduced key concepts, knowledge and tools to build capacities to answer the challenging issues in their respective sectors.

Participants were exposed to the framework developed by members of EQUINET. The framework was used as a blueprint to analyse critical bottlenecks, guidelines, enablers and possible strategies to build collaborative, multi-sectoral and multi-actor sustainable, equitable and people-centred solutions to the food-energy-water-waste challenges.

Participants called for and resolved to ensure that the following actions, viz to:

- a. Renew the vision for and purpose of building a systems wide approach in the food-waste-water-energy sectors to foster and implement actions and responses that will meet the challenges and opportunities within the current reality.
- b. Integrate all relevant voices (communities, leaders, innovators, private sector, civil society) among others to foster the collective leadership needed for the cross sectoral strategy and its implementation.
- c. Articulate the “why”, “what” and “how” of integration and equip all stakeholders with the knowledge, experience, tools, resources and values needed to build integrated collaborative and sustainable systems-wide actions.

1. Background

Delegates at the EQUINET Regional Meeting on Urban Health in East and Southern Africa (ESA) noted that there is rising urbanization, including around extractives, with increasing commercial and climate impacts. They thus called for the region to move from single issue interventions to comprehensive, integrated, area-based approaches; and to shift from project – to process-thinking, designing for sustainability from the onset. There was recognition that promising practices are taking place locally, but not scaled up. Therefore, there is a need to engage and listen to not only affected communities but also other stakeholders to further generate evidence, build synergy and identify multiple actors to address drivers of inequities in food-waste-water-energy nexus.

To advance this agenda forward, the urban health collaborative in EQUINET developed a conceptual framework in 2023 that illustrated critical principles, systems and goals to achieve functional, sustainable and people-oriented systems for food and waste management. The principles included; i. being inclusive and equitable; ii. generating new knowledge and evidence; iii. built with institutionalized capacities and good governance; iv. able to design and share promising practices; v. able to engage and link with drivers, policies and rules, with an enabling environment that will facilitate systems to interconnect and link and to foster sustainability. The framework also emphasizes the need to ensure that particular principles, features, and goals must be aligned to achieve better possibilities in the links between food, energy, water and waste, such as in a circular economy, and adapt in an equitable manner to climate challenges.

In Uganda, a pilot initiative was designed by I4D, an EQUINET steering committee member, to identify opportunities to scale-up promising practices in food-water-energy-waste management in an integrated, interlinked and collaborative manner. It was implemented in Kampala and Masaka cities. I4D implemented a mapping process to identify key stakeholders, assess their needs and prepare learning resources to help address some of the identified knowledge gaps and needs. The pilot workshops then aimed to catalyse further interest among leaders to create a functional, people-oriented, integrated and interlinked urban nexus of food-water-water and waste systems. With support from EQUINET through TARSC and OSPC, I4D organized a stakeholders' workshop in Kampala and Masaka cities to strengthen mechanisms, processes and capacities of cities to build collaborations, partnerships and engagements to scale-up promising practices to achieve equitable urban health and development in the sectors of food, water energy and waste management.

This report gives an account of the capacity building workshop conducted from 27th to 28th February 2024 to share information and discuss with key stakeholders from Masaka City and Masaka District. The programme and participant list shown in *Appendix A*.

1.1. Learning objectives:

The workshop was organized with the following learning objectives, to:

- a. Enable participants to understand the food-energy-water and waste (FEWW) nexus approach, its key concepts, principles and features and how these relate to green spaces, circular economy and sustainable development
- b. Enable participants to explore avenues to ideate, design and implement multi-sectoral, multi-actor collaborative responses to address food, waste, energy and water system challenges
- c. Facilitate the acquisition of practical tools, resources and techniques to implement a holistic city-based system approach through planning, policy-making and implementation in the urban context to fix the urban challenges of food, waste, water and energy systems.
- d. Explore ways how evidence and knowledge can be shared within sectors and across sectors to facilitate expansion and adoption of best practices in the food-energy-water and waste systems within the gambits of climate justice, circular economy and sustainable development.

2. Workshop Sessions

The workshop was attended by 18 participants from the different sectors of water, energy, waste and food in Kampala Capital City Authority. The sessions were facilitated by Dr Danny Gotto, ED (Innovations for Development), Dr Faithful Atusinguza (Global Green Institute) and Mr Kalumba Isaac (Water for People)

2.1. Opening to the EQUINET workshop

The first session learning objectives were to:

- Increase participants' understanding of EQUINET's work on advancing Health EQUITY in the ESA region.
- Facilitate participants' understanding of the key goal(s) and objectives of the I4D-EQUINET partnership in the two cities.

The session started with introductory remarks by the facilitator Dr Danny Gotto who presented the EQUINET work in Eastern and Southern Africa under the Urban Health Equity thematic area. Danny gave an outline of the pilot effort and the previous engagements in Kampala City and how they're linked to the Masaka pilot. Participants were also taken through the key resources on the EQUINET website (<http://equinetafrica.org>) and how the participants can utilise them in the work given the wealth of information available for all issues as they related to urban health, building participatory initiatives, best practices in food and waste as well as scalable programs and policies.

Welcome remarks were made by the Masaka District Local Council Five Chairperson Mr Batemyeto Lukyamuzzi. He emphasised the need for the young city of Masaka to use the opportunity at its early stage to plan better by putting in place policies and efforts that have the potential to create an equitable environment for all. He noted that unlike Kampala City, Masaka is emerging from rurality, where the majority of the communities are experiencing urbanism for the first time in their lives. This has created a lot of expectations, demands and opportunities, although the mind-set of majority of people is still rural in nature. He commended the investment in the city by the government which has tremendously transformed the infrastructure -roads, street lights and sewer lines- in the city. He tasked the mayors to ensure that these are maintained if not expanded to more areas. He thanked I4D for the bringing the food-energy-water-waste issues to the fore and pledged his total support if consulted.

2.2. Introduction to the urban food-energy-water-waste security nexus

The second session's learning objectives were;

- To Introduce the FEWW and the associated securities to the participants;
- Provide an overview of major global/national/local trends in the water, energy, food and waste sectors
- Introduce the EQUINET framework for understanding the FEWW Nexus approach in ESA
- Learn the critical need/benefit for an inter-sectoral approach to the F-E-W-W nexus approach, particularly on the opportunities and synergies and role of in pursuance of Urban Health Equity

The first session started with an exploratory discussion to explore the context of Masaka City, its founding, mission, vision and objectives. Participants shared their brief experiences of living and working in Masaka City and their aspirations for the City. Participants shared the historical context of Masaka town as it emerged prior to independence as an agricultural urban center for the County of Buddu under the Buganda Kingdom. They emphasised the role played by farming particularly coffee farming after the second world war. This gave enormous wealth to ordinary people for the first time. A transition from agriculture into trade was seen in the 1950s and 1960s. The urban municipality then was interrupted by the 1979 war after the attack by the Tanzania Defence Forces to dislodge the then President Idi Amin. The war destroyed nearly all infrastructure and caused force emigration

of people. Many industries that had sprung up based on agriculture collapsed, with many not returning until today. Participants also noted the recent approval of City status for Masaka by the central government. This was seen to be a great opportunity to cultivate a new beginning and needed to be taken seriously by all actors. The call for a collaborative, innovative, people-centred, inclusive, equitable and sustainable city required urgent attention by all stakeholders.

Participants were organised into groups to discuss the key challenges of the food-water-waste-energy nexus in the city.

Table 1a: Showing challenges in the food, energy, water and waste sectors in Masaka City

Food	Energy	Water	Waste
<ul style="list-style-type: none"> - High level of food waste especially rotting in markets - Low levels of urban farming associated with reduced land for agriculture - Poor quality of food and handling practices causing contamination - Adulteration of processed foods especially juices - Limited knowledge on quality standards and dietary diversity - Absence of a city based food policy framework 	<ul style="list-style-type: none"> - High cost of clean energy which cultivates dependency on unclean energy sources - Over reliance on biomass - Insufficient technology to optimise and or retrieve energy from potential materials like waste, food etc. - Low standardisation of energy products - Absence of city-wide guiding policy on energy and its linkages with other sectors. 	<ul style="list-style-type: none"> - Inequities in access to clean potable water - Clean water (piped) so expensive for the majority of city dwellers at 50 US cents per unit. - Contamination of water sources with affluent waste from farms, industries. - Monopoly by the national supplier of clean water (National Water and Sewage Corporation) - Under investment in the city's water infrastructure - Flooding 	<ul style="list-style-type: none"> - Dependency on deposal as the only form of waste management - Low participation and capacity of the private sector - Limited valuation of waste materials - Every low community sensitisation on waste handling which is attributed to a lot litter in the city. - Lack of a comprehensive city-wide framework that supports the integration with other sectors

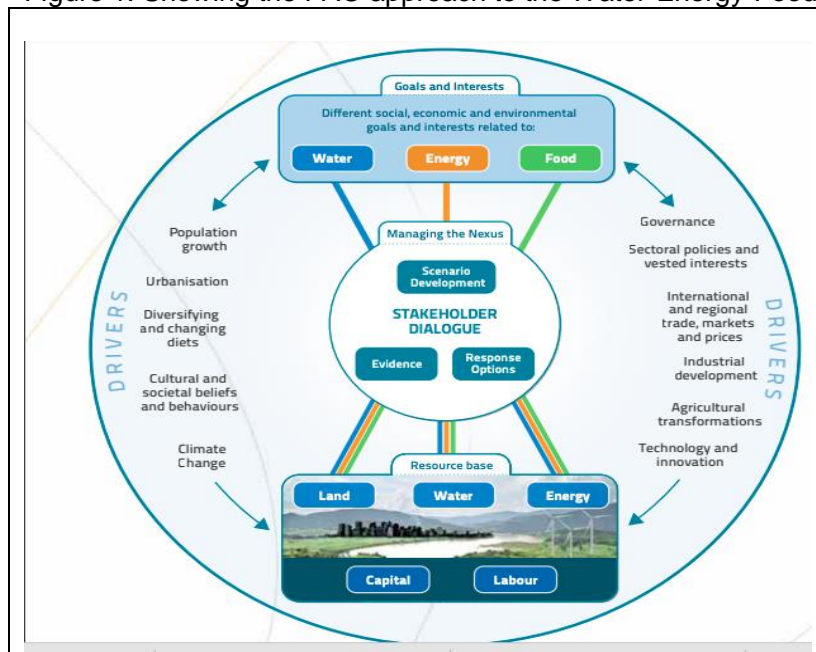


Some of the challenges in the energy-waste-water-food sectors, I4D 2024

Participants shared their experiences with similar initiatives from other areas of the city. The facilitator then introduced, defined and explained key concepts in the FEWW nexus, including: food security, energy security, water security, nature solution, circular & linear economic models, green space, and green economy. Participants were introduced to the “nexus” idea for the food-energy-water-waste narrative that emphasises the multi-sector, multi-stakeholders approach as a contributor to solutions in the four sector. They dialogued on the benefits of developing an integrated, multisectoral collaborative interventions in the four sectors of water, energy, food and water and the approach differed from other approaches.

Various examples were used to develop an EQUINET conceptual framework on the subject matter of and the linkages between water, energy, food and waste. Slides illustrating the linkage of food-energy-waste-water sectors with green spaces, climate and circular economy models were shared. Slides highlighting the FEWW situation in Uganda examining the present, future, unmet demand and increasing demands were discussed.

Figure 1: Showing the FAO approach to the Water-Energy-Food Nexus



Source: Source: FAO, 2014: 9

Participants discussed the importance of creating an integrated approach within the four sectors and the trade-offs as well as negative and positive externalities that may be realised. Individuals were split into four groups relating to the different sectors to discuss existing opportunities/enablers, barriers and trade-offs to realise the nexus approach, shown in *Table 2*.



Discussion on urban systems characteristics and principles, J Gonza I4D, 2024



Table 2: Participant views of Masaka City sectoral opportunities, and barriers to achieve integration

Sector	Barriers	Opportunities
Food	<ul style="list-style-type: none"> - Siloed thinking among the leadership in the agricultural and food sector. - Absence of urban land use plans and strategy. - Weak enforcement of urban plan. - Local community not informed about urban/city culture. - Pressures of poverty and its impacts on the population. - Majority of land in the city is own by private individuals who have rights to do whatever they want. - Climate change situation has caused more pressure on the food industry in the city. - The commodification of food has caused inflationary challenges on the food especially the imported food. 	<ul style="list-style-type: none"> - The growing population is creating demand for food and building interest in investment in food production. - The city has a rural division (locality) which can if explored provide land for production within the city. - The presence of civil society, international and local NGOs who may pick interest to invest given the impact the food/agricultural sector to the wider society. - Existing government poverty reduction models, e.g. Parish Development Model provides financial support to poor residents at parish level.
Energy	<ul style="list-style-type: none"> - Insufficient knowledge on how to generate clean energy. - City doesn't have a comprehensive city energy policy or plan to work with and relies on national policy. - The city lacks a defined department that addresses energy issues, with the closest line department natural resources and environment - The high demand for energy that has increased biomass demand and contributed to forest/green cover loss for city dwellers. - Expensive imported energy alternatives like LPG. - Limited knowledge of energy links with other sectors. 	<ul style="list-style-type: none"> - The growing interest by both government and public in affordable clean energy alternatives. - The linkage of energy and climate has increased interest by both private sector and donors in exploring practical solutions. - The greening space opportunity within the young city is an opportunity to reduce impact of climate change but also improve living environment in the city.
Water	<ul style="list-style-type: none"> - The city cannot afford the conventional water supply technology and relies on the national water parastatal which is heavily under resourced. - Absence of a stand-alone water policy. The policy framework from the natural resource management scantily highlights water issues. - Limited technical capacity and city structures to address water issues as water issues are dealt with separately depending on the affected groups. - Emerging companies that have launched extensive agriculture are consuming more water resource. - Pollution of Lake Victoria, the biggest source of water, has compromised quality. 	<ul style="list-style-type: none"> - Wetlands in the city if protected can act as nature based solutions to clean effluents and surface floods. - Clean water can be obtained from waste water. - Emerging interest to associate water security with climate change concerns is being to attract investment and committed. - Water resource is especially the springs, well and aquifers is owned by people rather than corporations and not taxed yet.
Waste	<ul style="list-style-type: none"> - Low waste resource recovery given technology, and capacity limits, especially in private sector. - A focus on a private sector led approach to waste management, but a small and weak private sector. - Limited information on scalable practices/ solutions for circular economic models of waste management. - Public not informed about the value of waste or how waste can be a raw material source for other sectors. - Absence of a policy framework that guides the waste sector has compromised integration. - Limited knowledge of how the waste sector can integrate with other sectors within the city level. 	<ul style="list-style-type: none"> - Financial resource for the city through taxing waste-generating companies, especially on plastics, using the polluter pay principles. - A high proportion of organic/food waste can be recycled, reused, reduced or used for other products like energy briquettes. - Waste recycling processes if prioritised can be a great avenue to offer business start-up opportunities for the unemployed youths.

Identified trade-offs in the sectors

- Using a private sector led response is creating vulnerabilities and inequities since the private sector is driven by profit motives. On the other hand reliance on public sector alone may drain public resources and exacerbate corruption and lobbying in the city.
- Some solutions like creating green spaces may infringe land rights, eg in privately owned land.
- Investment in clean solutions in all sectors requires high investment amidst competing city priorities for areas like road infrastructure and other social services like health and education.
- The time required to invest in advancing the FEWW nexus is enormous, yet those suffering from insecurities and spill-over effects may not be able to wait.
- The personnel capacity needed to fix nexus challenges is not adequately available. To have solutions the city may be required to invest in building this capacity which may postpone investment in solutions.
- Population pressures and the current volatile political environment in the city hinder investment in holistic multisector approaches like the urban nexus.

2.3. Reimagining solutions to the urban FEWW challenges

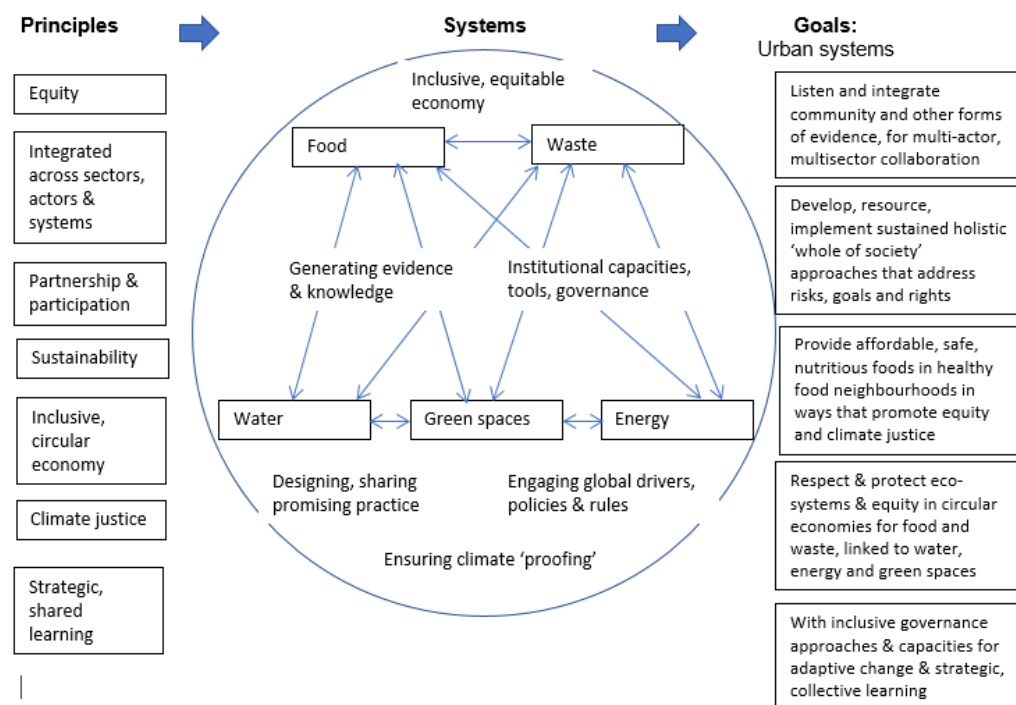
After exploring the barriers, existing opportunities and challenges affecting the sectors collectively and individuals, participants were introduced to the session to reimagine appropriate remedies to the challenges, barriers and also explore ways to maximise the existing opportunities within the city. To provide a context and a bird-eyed view of the ESA regional approach as well as nurture an opportunity to merge solutions across the countries and regions, participants were introduced to EQUINET's conceptual framing and interpretation of the interlinkages of the energy-waste-water-food sectors, as shown in *Figure 2*. Clarity was provided on the critical principles, features and goals put forward by EQUINET as guiding frame work to reimagine sustainable, equitable and inclusive people centred solutions while addressing critical challenges in the four sectors.

The following learning objectives were used to guide the session;

- Define key concepts, principles and goals of the FEWW nexus approach as it relates to the conceptual framework
- Understand the FEWW sectors' linkages to other concepts (SDGs, Climate Change, Integrated Resources Management, Circular Economy)
- Identify critical gaps in knowledge, and policy within the urban authorities to realise equitable urban FEWW systems.
- Share practical examples/case studies highlighting best practices and approaches in the FEWW nexus.

A descriptive highlight of the conceptual framework was presented with emphasis on its key principles, goals and interconnectedness of the four sectors. Participants were tasked to reflect on how to integrate the principles and goals in their thinking as they execute their mandates as well as explore potential solutions to the identified challenges and barriers for their city. They were also encouraged to reflect on the feasibility of key features and approaches in their context. For example, working out how their planned solutions will be; inclusive, equitable, circular economy, evidence-knowledge based, informed by good governance, and participatory to include local communities especially marginalised and underrepresented groups.

Figure 2: Graphical representation of the EQUINET food-energy-water-waste conceptual framework



Source: EQUINET conceptual framework 2023, Online at <https://equinetafrica.org/sites/default/files/uploads/documents/EQUINET%20conceptual%20framework%20for%20UH%20food%20and%20waste%20systems.pdf>

While discussing solutions, participants agreed that they wished to categorise solutions based on two categories:

- a. Solutions implementable with internal capacities; and
- b. Solutions requiring external support.

The proposed solutions identified by participants are noted in *Table 3* below.

Table 3: Proposed action/solutions to address challenges within the respective sectors

Sectors	Solutions within current capacity	Solutions with external support
Energy	<ul style="list-style-type: none"> - Develop a city energy guiding framework. - Identify and document existing alternative clean energy interventions/solutions. - Popularise documented scalable solutions especially in urban schools, households to achieve a clean energy transition - Enact an ordinance on solid waste sorting at source especially in households, commercial places like markets and schools 	<ul style="list-style-type: none"> - Create demonstration biogas plants in schools. - Build skills of key polluters and private sector, youth groups in waste value addition. - Work with partners to promote clean cooking technologies in schools, hospitals, prison through cost sharing initiatives. - Gazette land for waste to energy demonstration centers to provide exhibitions for alternative energy sources. - Support city efforts and investments in technology and knowledge acquisition to allow clean energy adoption.

Sectors	Solutions within current capacity	Solutions with external support
Waste	<ul style="list-style-type: none"> - Sensitise communities on waste to energy conversion include briquettes production, waste sorting, biogas. - Create incentives (including waving of dues and fees), awards and recognitions for good waste management practices. - Develop a strategy for private sector engagement, prioritising unemployed youth, start-up firms, NGOs. - Prioritise local waste solutions and firms for government support on the “myoga (skills development) programme of artisans. - Engage wider stakeholders including cultural, civil society, agencies, local leaders to dialogue on waste management issues. - Provide more waste collection skips across city parks and heavy waste generating spaces like markets. 	<ul style="list-style-type: none"> - Acquire land to demonstrate/locate innovative waste management solutions for wider viewership. - Resource mobilise to secure a City disposal plant. - Procure one addition truck for waste collection.
Water	<ul style="list-style-type: none"> - Prioritise maintenance of existing water sources. - Protect natural springs, well and known aquifers, especially from encroachment. - Support advocacy processes for increased central government investments in water resource improvement in the city. - Develop a city water resource management framework integrated with other sectors. 	<ul style="list-style-type: none"> - Extend piped water to reach underserved areas. - Build capacity on water conservation practices by communities. - Improve water recovery and use of water waste, roofs and surface run off. - Support efforts to improve water storage for all schools, prisons, and government institutions.
Food	<ul style="list-style-type: none"> - Develop an urban farming policy to facilitate urban farming practices. - Allocate farming plots for smallholder farmers targeting the most vulnerable. - Establish city demonstration plots. - Plant fruit trees on existing road and empty spacing in the greening space initiative. - Monitor food quality, especially targeting food traders, manufactures, processors and distributors. - Regulate poor quality food consumption in all urban schools. (especially soft drinks and junk foods) - Work with department of education to sensitise schools, learners and urban dwellers on good food consumption, handling and distribution. 	<ul style="list-style-type: none"> - Engage city land owners on efficient land use. - Provide incentives to facilitate urban food production, value addition and distribution. - Facilitate knowledge sharing on improve practices, solutions on good food practices. - Identify partners and stakeholders to support value addition on local food commodities.

Participants brainstormed and identified a range of strategies to implement these options, as outlined below.

Strategies to enhance integration and intersectoral collaboration for key actions to enhance intercity-wide collaboration and intersectoral response within the four sectors. within the City

- Map and identify key partners within the respective sectors that are critical for integration and assess their interests, agency and authority to drive the nexus agenda.
- Develop an integrated multisectoral and collaboration framework for the four sectors including climate change unit as a guiding instrument to direct sectors towards collaboration and intersectoral action.
- Create a knowledge sharing platform/space where key actors and relevant stakeholders from the different sectors can share their resources, plans, and seek for support from one another.
- Create communication list serve (WhatsApp, email group) to facilitate informal conversations and networking opportunities for interested individuals as a way of building comradeship and rapport.
- Organise an orientation targeting lower level leadership including town clerks, sub-county chiefs, and other lower level actors.
- Orient stakeholders including city planners, communities, and partners on the nexus integrated framework for the city.
- Assess intra and inter sectoral strengths, weaknesses, gifts and the already existing actions being taken together amongst partners so as to form the early building blocks.
- Explore the collective needs, aspirations and vision for the respective stakeholders, partners within the four sectors as way to identify areas of intersection and trade-offs.
- Benchmark other cities, in particular Kampala City, to identify best practices and learn practical ways to integrate.
- Engage through advocacy the relevant actors including government, civil society, private sector to explore ways to support the integration of sectors, as well as mobilise resources to support integration efforts.

Joint collective actions (what we will do together)

- 1. For the city to adopt a participatory approach to policy making and partnership across the sectors;**
 - o Organise periodic consultations with wider groups of stakeholders to reinforce a shared purpose.
 - o Foster collective leadership with local, sub-national, district and national sectoral ecosystems.
- 2. For funders to create a creative funding model to enable all stakeholders to work together towards a common goal;**
 - o Invest in local leaders who are familiar with the context, problems and local solutions across the sectors.
 - o Balance short term project goals with unrestricted long term capacity building efforts that sustain initiatives across political cycles to give innovations, implementers time to accomplish plans.
- 3. For private sector, civil society and government to explore collaborations to address community needs across the sectors;**
 - o Collaborate to generate evidence, expand access information on the identified breadth of gaps, and challenges in communities.
 - o Join together to move from sectoral ways of thinking to a multisectoral thinking that enables systems to change.
 - o Establish avenues to foster joint learning and shared actions towards the identified challenges.

2.4. Reimagining actions for equitable urban systems

On the 2nd day participants continued to further build plans by brainstorming specific action to align to the EQUINET conceptual features, ideas into local actions required to build collective, collaborative and equitable systems that are rooted in communities' aspirations, indigenous knowledge and agencies. Participants shared the following feedback during the plenary, outlined in *Table 4*.

Table 4: Participant's action plans for building equitable urban systems

<p><i>Build urban systems that listen, respond to and integrate community evidence, institutional and other evidence through a multisectoral, multi-actor engagement and collaboration</i></p> <p>Action points;</p> <ul style="list-style-type: none"> - Establish a city-level joint planning and implementation forum. - Source for innovations, ideas and solution that reflect practices of integration, equity and inclusion. - Use EQUINET knowledge resource platform to facility internal city sectoral joint learning. - Orient implementing teams of ongoing projects and programmes in the respective sectors to integrate the FEWW nexus in their plans and activities to enable collaboration, multi-sectoral engagement and integrated implementation. - Engage relevant stakeholders including political and technical policy-making leadership to improve policy frameworks and laws to support intersectoral collaboration, partnership and joint learning across sectors. - Engage the private sector, civil society and influential community actors to support efforts to expand and sustain collaborative governance and implementation across FEWW sectors.
<p><i>Ensure all urban systems develop and apply a holistic systems approach that engages “whole society” to address risks and drivers as well as build capacity for sustainable and equitable responses.</i></p> <p>Actions points;</p> <ul style="list-style-type: none"> - Assess existing policies and laws impacting on FEWW systems at city and national levels to identify gaps, opportunities, risks enablers to launch and scale the urban nexus. - Propose recommendations for policy change with sectoral actors and relevant stakeholders as a means to influence change. - Mobilize stakeholders for resources, investments, and technical and moral support to facilitate implementation of cross cross-sectoral actions and to improve collaborations, joint implementation and learning across the four sectors. - Institutionalize processes and mechanisms to finance local initiatives that complement the urban nexus agenda across existing government and development programmes. - Assess current programmes across the four sectors to identify opportunities and avenues for collaborative engagements, joint actions, synergy and any trade-offs.
<p><i>Urban systems that holistically address food, water, energy and waste access challenges, inequities, and insecurities among key populations by prioritizing equity and climate justice, promote a balanced and inclusive environment for all residents</i></p> <p>Planned actions:</p> <ul style="list-style-type: none"> - Conduct mapping to identify entities responding to various FEWW nexus especially for those that address inequities, underserved localities and that provide impactful solutions/initiatives. - Oorganize stakeholder dialogues with key actors, including the private sector, line ministries, and civil society to harmonise priorities, and coordinate investments in FEWW. - Facilitate scale-up of tested and proven models, and solutions that enhance integration, address inequity access and minimise deprivation among particular segments of society. - Organise forums to facilitate networking, collaboration, partnerships and joint learning among

Table 4: Participant’s action plans for building equitable urban systems

<p>local, national, regional and international actors working to address FEWW challenges.</p> <ul style="list-style-type: none"> - Promote local urban solutions including small community-level actions that support locally led food production, energy production, water harvest and waste management. - Cultivate support to develop circular economic business initiatives within FEWW, including engaging and sensitizing the private sector and local communities to lead on some initiatives. - Establish partnerships with civil society, academia, researchers and private sector to facilitate knowledge generation and joint learning across the sectors and with government institutions
<p><i>Urban systems that respect, and protect ecosystems, inclusive and equity-oriented to support the neediest and vulnerable</i></p> <p>Planned actions:</p> <ul style="list-style-type: none"> - Assess existing standards and guidelines protecting ecosystems and ensure inclusion and equity. Include standards on environmental impact assessment, waste management. - Where necessary propose/recommend revisions/changes to existing standards and guidelines and address inequities, protect the ecosystem and guarantee equity for all. - Monitor sector actors to enhance adherence with and sustained implementation of standards. - Incentivise good practices, and adherence to standards using practical policy and financial instruments like tax waivers and recognition. - Create a repository of evidence and knowledge on what is working/changing in FEWW.
<p><i>Urban systems that involve governance approaches, capacities and measures for the implementation of adaptive changes and strategic learning</i></p> <p>Planned actions:</p> <ul style="list-style-type: none"> - Advocate to streamline FEWW nexus interventions for an operating desk at the capital authority whose mandate is to lead/coordinate the urban nexus dialogue processes. - Organise capacity-building with specific leaders across the sectors to enhance their knowledge, skills and interest in pursuing the urban nexus agenda. - Identify and support proven locally-led solutions that involve integration, collaboration, and partnership at local, sub-district and district levels. - Facilitate the development and launch of networks, community of practice and collaborative learning initiatives at local, sub-national and city levels to share knowledge and build skills. - Establish mechanisms, channels and platforms for communities and other actors to provide feedback on progress and actions.

2.5. Exploring the governance of FEWW in Masaka

The facilitator guided conversation on the existing framework, policies that guide the sectoral activities. Observations were that the city is yet to produce its own frameworks and policies. Currently it uses the local government policy regime which has been observed to be out of touch with the context and existing reality. Members noted the need for the city to expedite the processes to put up policies to support integration. The facilitator shared the governance framework of Kampala City highlighting some of the relevant policies, Laws and ordinance which Masaka City may need to reflect on.

Governance systems

Participants had conflicting knowledge of the complex governance systems and structures of FEWW sectors. However, there was an understanding that the supporting legal framework includes a set of cross-cutting laws, regulations and ordinances. The most relevant include the following;

- *The Constitution of the Republic of Uganda*, which advocates for a clean and healthy environment. The constitution empowers the central government, local governments and the

communities/municipalities to ensure that every citizen in Uganda has access to a clean and healthy environment as well as a nutritious diet to achieve a healthy living.

- Local Government Act 1997, Cap 243 (Amended 2010).
- *The National Water and Sewerage Corporation Act, 1995 (Revised 2000) Cap 317. Section 4(2) of the NWSC Act, that mandates NWSC to develop water and sewerage systems in urban centres and big national institutions throughout the country.*
- *The Public Health Act (Cap 381) 1935 (Revised 2000)* that is the principal sector law regulating all aspects of public health. Aspects of public health regulated under the Act include water and sanitation, food, pollution, waste/sewage and drainage.
- *The National Environment Act, Cap 153 (Revised 2019)* that is the principal legislation governing the environment in Uganda. Its objective is to provide for sustainable management of the environment, including the protection of natural resources such as water.
- *The Water (Sewerage) Regulations (S.1.152-3)* that provides for standards and requirements for trade waste discharge from land to sewer systems- Regulation 22(3), (4).

The SDGs were noted to be relevant to the FEWW sectors, including:

- SDG target 8.4: Global resource efficiency in consumption and production
- SDG target 11.3: Integrated and participatory planning
- SDG target 11.b: Integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change.
- SDG Target 6.4: Water-use efficiency across all sectors
- SDG Target 12.5: Reduce waste generation through prevention, reduction, recycling and reuse

Other national policies include:

- Uganda Food and Nutritional Policy 2003
- Uganda Food and Nutrition Strategy and Implementation Plan 2004
- The Energy Policy for Uganda 2023
- Renewable Energy Policy 2007
- National Waste Management Regulation 2020.

The City is yet to constitute fully the required departments for water, waste and agriculture. Currently it relies on the old structures of the staffing structure of the district and municipal authority, as well as the central government ministerial support in the line ministries which includes; the Ministry of Water and Environment and its Directory of Water Development (DWD), the Directorate of Water Resource Management (DWRM) and the Directorate of Environmental Affairs (DEA). These directories also provide the supervisory and technical support functions. This, as in other new cities, complicates inter-sectoral collaboration as each is managed independently with different mandates.

In the food sector, the City depends on the district team that is coordinated by the District Agricultural Officer who works closely with line ministries of Agriculture Animals Industry and Fisheries, the Ministry of Trade and Industry, Ministry of Lands Housing and Urban Development.

Currently there is an on-going process to fill up the vacant position in the city, put up the necessary legal regime including framing city rules and regulations independent of those of the district.

3. Case studies of promising practices in the FEWW nexus

The facilitators introduced promising practices documented and published as case studies on the EQUINET website. <https://www.equinet africa.org/content/equinet-publications.html>. Facilitators emphasized the aim of EQUINET to support stakeholders with knowledge and information on promising practices for sustained urban and peri-urban wellbeing in East and Southern Africa and the call to share and review evidence on practice features that could be scaled up across countries. Participants were informed of the criteria for inclusion of promising practices. These were primarily those that met the principles and addressed the 5 pillars articulated in the conceptual framework.

4. Resolutions for moving forward

Participants recognised key needs necessary to take advantage of the nascent city status to lay a firm foundation that will cultivate a collaborative, equitable, intersectoral and sustainable working environment to address the key challenges in the respective sectors as well as deal with the bottlenecks to achieving an integrated response in the food-energy-water-waste sectors. The participants identified priorities and resolved to take up the following actions to cultivate the collaborative environment and framework of collective action.

1: “We need a renewal vision about the purpose of building a systems wide approach in the four sectors as a guiding framework to meet the challenges and opportunities of a rapidly changing reality”

Recognising that;

- The city experiences a unique moment at its early establishment and grapples with critical inequities with the four sectors that are linked to climate change, political fluidity, population growth, inequities, historical injustices.
- Our communities face challenges and insecurities of food, water, energy and some are interlinked that a single sector alone can't address them.
- We have an urgent need to scale up known ideas, solutions that have been tested and proven to work as a way of utilising the existing opportunities and capacity.
- It is proven that there are trade-offs, externalities that determine intra sectoral issues emerging outside the respective sectors, hence the need to cultivate a systems thinking approach to the current and future challenges.
- Propose to identify, support and expand local knowledge system that empower individuals and communities to reshape the present and create a more just sustainable, resilient and peaceful future is integral to shaping the vision of the nexus.

2: “We need an integration of all relevant voices (communities, leaders, innovators, private sector, civil society) among others to foster collective leadership for collective strategy and implementation”

- Urge urban systems to broaden their embrace to welcome insights, knowledge and active learning from local, regional and national levels.
- Emphasise that the nexus visions, commitments, resources, actions and results must be aligned with collective efforts of government, private sector, social entrepreneurs, communities, local leaders, intermediaries, and funders so that the most marginalised can benefit from the newly integrated ecosystems.

3: “We need an articulation of “the why”, “what” and “how” of integration to equip all stakeholders with the knowledge, experience, skills and values needed for building an integrated, collaborative, sustainable systems-wide actions to meet the needs of a changing reality”

- Equip all stakeholders with the knowledge and ability to reimagine, learn and take the required actions necessary to build sustainable changes in whole systems approach.
- Learn best practices rooted in local knowledge, innovation and affordable solutions to impact on communities so they are able to create just, sustainable and equitable futures.
- Point out required technologies and innovations which are key enablers and content for transformation and emphasise the responsibility to create equitable and inclusive opportunities for the most marginalised to adopt technologies and innovations.
- Align resources and leadership to transform the sectors to achieve inclusion and equity.
- Mobilise communities especially the most marginalised to fully participate and take ownership of the solutions.

Appendices

A1 Participant list

#	Name	Title
1	Ssebinojjo Dennis	District Agricultural Officer
2	Kewaza Dauda	Assistant District Health Officer
3	Namulya Gorret	Water officer
4	Jjuuko Elias	Water officer
5	Mayanja Edward	Public Health Officer
6	Babirye Lilian	Secretary for Social Services
7	Rose Nakyejjwe	District Natural Resources Officer (DNRO)
8	Mulindwa Michael	Division Mayor- Nyendo Mukungwe
9	Nankumba Modester	Senior Health Inspector
10	Muhumuza Nicholas	Environmental Health Officer
11	Batemyetto Lukyamuzi	Local Council V Chairperson
12	Magoba Alice	Assistant Health Educator
13	Maberi Musa	Public Health Officer- Environmental Health
14	Kanaabi Alex	Secretary- Youth in Action Masaka City
15	Nalugya Sylvia	Health Inspector
16	Namusisi Madrine K	Health Inspector
17	Lukyamuzi Steven	Division Mayor- Kimanya Kabonera
18	Kalungi Paul	Managing Director- Butonde Energy Solutions

A2: Workshop Program

Venue: Maria Flo Hotel.

Day One: Tuesday 27th February 2024.

Time	Activity	Remarks
8:30 AM – 9:00 AM	Arrival and Registration	I4D
9:00 AM – 9:30 AM	Introductory Speeches	I4D
9:30 AM – 10:10 AM	Session 1: Introduction to EQUINET/I4D Urban Health Initiative	Facilitator
10:10 AM – 10:40 AM	Tea Break	Hotel
10:40 AM – 1:00 PM	Session 2: Introduction to Food-Energy-Water-Waste Nexus	Facilitator
1:00 PM – 2:00 PM	Lunch Break	Hotel
2:00 PM – 3:00 PM	Session 2 continued	Facilitator
3:00 PM – 4:30 PM	Session 3: Reimagining Actions for Equitable Urban Systems – Discussion in groups.	Facilitator
4:30 PM – 5:00 PM	Break Teas and Departure	I4D/hotel

Day Two: Wednesday 28th February 2024.

Time	Activity	Remarks
8:30 AM – 9:00 AM	Arrival and Registration	I4D
9:00 AM – 9:30 AM	Recap of Day 1	I4D
9:30 AM – 10:30 AM	Session 3: Continued (Plenary Discussion)	Facilitator
10:30 AM – 11:00 AM	Tea Break	Hotel
11:00 AM – 1:00 PM	Session 4: Examining the governance of Food-Energy-Water-Waste systems in Kampala	Facilitator
1:00 PM – 2:00 PM	Lunch Break	Hotel
2:00 PM – 3:00 PM	Session 5: Examining Barriers and Enablers to Implementation of Food-Energy-Water-Waste nexus	Facilitator
3:00 PM – 4:30 PM	Session 6: Exploring Case Studies of Food-Energy-Water-Waste Systems in urban areas	Facilitator
4:30 PM – 5:00 PM	Discussion Next steps & Closing speeches	Rapporteur/I4D
5:00 PM - Onwards	Evening Teas and Departure	Hotel