

# Policy and Institutional Factors Affecting Food Systems Change: Applying Theory of Change

D7.2 | HealthyFoodAfrica



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# Summary

HealthyFoodAfrica (HFA) aims to increase the resilience of food systems and to link food production to nutrition performance, thereby increasing the range and quality of food products for a healthy diet.

This deliverable gives an overview of the work that was done at overall HFA project level and within 10 HFA Food System Labs (FSLs) on realizing transformational impact in food system change. The report first gives an overview of the conceptual and methodological approach of Theory of Change which has been applied throughout the project to define and co-develop with FSLs and at overall HFA project level strategies for achieving transformational impact. For each of the FSLs the intermediate results of work on Theory of Change, goals, outcome, pathways for change, stakeholder engagement and policy and Institutional factors are described. After this, lessons from the Theory of Change work with FSLs on policy and institutional factors affecting food system change (barriers and enabling factors) are described.

This deliverable was led by Aeres, in close collaboration with Hivos, but has involved all HFA partners and representatives of all Food System Labs. Its development has seen a long trajectory and was complicated by the outbreak of the Covid pandemic which made live interactions and meeting, not only between HFA partners but also with local stakeholders, often impossible. It is therefore considered an intermediate report on the process of supporting FSLs and WPs in achieving transformational impact which is still ongoing and will be followed up by next activities in WP7, WP1 and the HFA project as a whole.

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<sup>1</sup> R = Report, P = Prototype, D = Demonstrator, O = Other

<sup>2</sup> PU = Public, CO = Confidential, only for members of the consortium (including the Commission Services)

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## 1. Introduction

HealthyFoodAfrica (HFA) aims to increase the resilience of food systems and to link food production to nutrition performance, thereby increasing the range and quality of food products for a healthy diet. Improving access to safe, nutritious food across Africa in a socioeconomically and environmentally sustainable and resilient manner is a major systemic challenge. In order to overcome the diverse challenges facing African agri-food systems, exacerbated by climate change and rapid population growth, it is essential to simultaneously raise consumer awareness about healthy nutrition, whilst enhancing the capacity of producers and food chain actors to deliver diverse, nutritious, high quality, affordable foodstuffs. The approach used in HealthyFoodAfrica is founded on the following pillars:

1. **10 localised, context-specific Food System Labs (FSLs)** for experimentation and innovation in regions with diverse production systems and challenges (Ghana, Benin, Ethiopia, Uganda, Kenya & Zambia), each with its own context, focus and goal;
2. **5 thematic work packages (WPs 2-6)** addressing food system challenges (nutrition & consumption; sustainable production; postharvest; food safety; value chain governance; novel products & processes), and interdisciplinary, multi-actor, adaptive value chain facilitation, engaging farmers (incl. smallholders, aquafarmers, SMEs, women & youth), food processors/packagers, retailers (incl. street vendors), consumers, NGOs, scientists, decision-/policymakers. Each WP contributes either thematically or in terms of processes, capacity building, sharing knowledge generated in the FSLs and maximising impacts;
3. **3 crosscutting, supporting WPs (WPs 1, 7 and 8)**, on methodology, capacity building communication, dedicated dissemination, exploitation and impact, including the use of a Theory of Change framework for transformational impact for wider and lasting impacts.

As one of the 3 supporting, crosscutting Work Packages, WP 7 aims at transformational impact, scalability and exploitation (WP7). The related activities and analyses of WP7 aim at maximising the sustainable impact of the HFA project by encouraging – at the level of the FSLs – self-propelling processes that will in turn lead to wider uptake of approaches, technologies, business models and policies.

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The work includes providing support to FSL teams in the process of creating and clarifying its pathways for change (described in this deliverable) and in effectively engaging with policymakers, including the organisation of policy platforms (next WP 7 tasks and deliverables related).

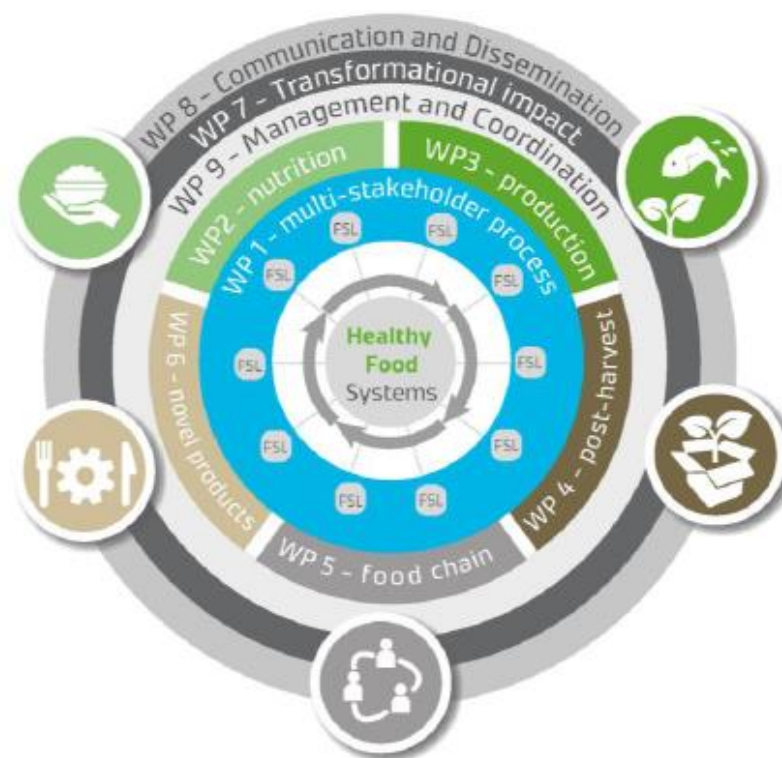
In further close collaboration with WP 1 and WP8, WP7 identifies and promotes the most promising innovations, emerging from the FSLs and WPs, and explores options to link micro level (initiatives and governance) to macro level (policy development).

Important measures for fostering transformational impact include:

1. **Building capacities through meaningful stakeholder engagement.** This includes the FSL and related platforms, i.e., embedding the work in adequate local multi-actor and governance processes, and adding new elements to these processes. Attention is paid to finding new ways to involve informal sector, consumer associations, food SMEs and entrepreneurs, etc. (all WPs);
2. **Promoting actual innovation** in food chain governance, technologies, and business models, including various types of innovations, including its dissemination and exploitation. (7.2, 7.3 and 7.5 and various consortia meetings, including focused discussions In the 2022 meeting in Accra);
3. **Identification of limiting and enabling factors** towards impact and as part of food system transformation (7.2, 7.3 and 7.5);
4. **Encouraging and enabling gender sensitivity** in FSL and WP at all levels (7.4);
5. Assess the options for the **further development of initiatives and scaling-up**, including alignment to wider policy framework and using participatory foresight methods (7.3 and 7.5).

HealthyFoodAfrica is comprised of 3 crosscutting and 5 thematic WPs (see **Figure 1**). The 8 WPs accompany and support the actions taking place in the project's 10 FSL, each with its own context, focus and goal. Each WP contributes either thematically or in terms of processes, capacity building, sharing knowledge generated in the FSLs and maximising impacts.

**Figure 1. Crosscutting and thematic WPs within HealthyFoodAfrica**



The development of this deliverable, has seen a long trajectory, and in fact the process of supporting FSLs and WPs in assuring transformational impact is still ongoing. Hence this deliverable should be seen as part of the total set of tasks and deliverables under WP 1 and WP 7. Due to the outbreak of the Covid pandemic at the onset of HFA, which made live interactions and visits by WP1, 7 and 8 teams to FSLs impossible, but also due to the iterative process of the HFA methodology development and support, the focus of this deliverable has changed through the years, from on institutional analysis (only) to developing ToC and pathways with FSLs and supporting thinking on Innovation and Impact.

Reference is made to the Roadmap (D1.1) and the Dissemination and Exploitation Plan (D7.1), and to the reports of the various Consortium Meetings, by WP1, 7 and 8 team. These meetings, together with several meetings of WP1 and WP7 actors, were instrumental in the development of this deliverable. While, vice versa, the ToC as described in this paper,



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supported the development of the FSLs. It will in its turn, guide further work, including deliverable 7.3, among others.

The ToC approach has been introduced at the (virtual) consortium meeting of December 2020, where also each FSL presented its main focus. At the beginning of the project, it was observed that most of the FSLs had good ideas on outcomes, but the link to a theory of change (ToC), and pathways to achieve these outcomes was not always there. At the start of the project, there was generally a good overview of key stakeholders in most FSLs, but no proper assessment had been done (with the key stakeholders of the lab and with other projects and platforms) to know exactly what each stakeholder can contribute to the outcomes or do differently to influence outcomes. Based on these limitations, WP7 designed a methodological approach for FSL to further develop and elaborate their Theory of Change.

The team working on this deliverable (led by Aeres University and Hivos), developed an information sheet questionnaire that was sent out to the FSL leads early 2021 (see Annexes to this report). Based on the results of these information sheet questionnaires, (virtual) FSL focus group discussions were organised to further clarify and elaborate the main outcomes, actors, innovations and pathways for change. The preliminary results were presented and discussed at the (virtual) HFA consortium meeting of June 2021. A follow-up questionnaire was sent to the FSLs and a discussion on pathways was held with the individual FSLs in follow-up meetings (virtual and live in 2021 and 2022). The results were discussed in the (virtual) HFA consortium meeting of December 2021 and in more detail with the FSL and WP leads during the first hybrid meeting in Zambia in June 2022.

In a meeting in Almere with the WP1 and WP7 team research findings on the one hand, as well as follow up activities on foresight and policy outreach, as well as further guiding Innovation development was prepared. This was discussed with representatives of all FSLs in the Consortium meeting In Accra December 2022.

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## **2. Applying Theory of Change in the HFA Food System Labs**

HealthyFoodAfrica (HFA) aims to increase the resilience of food systems and to link food production to nutrition performance, thereby increasing the range and quality of food products for a healthy diet. The approach used in HealthyFoodAfrica is founded on work in 10 localised, context-specific Food System Labs (FSLs) for experimentation and innovation - each with specific production systems and challenges and operating with and within its own context, focus and goal. In order to ensure that the work in FSLs actually contributes to transformational impact for wider and lasting impacts, the project applies a Theory of Change framework.

As the HealthyFoodAfrica Description of Work mentions, Theory of Change can be defined as: *"a specific methodology for project planning, participation, and evaluation, in order to promote social change. It involves defining long-term goals and then mapping backward and identifying necessary preconditions"*.

Also, it is mentioned that the Theory of Change framework is adopted because it is a useful approach to enable and facilitate that FSL activities contribute to transformative change and result in innovations, new business models, collaborations and policy arrangements. *'In order to realise economically viable, socially beneficial and environmentally sustainable, inclusive and resilient food systems, the issue of change and transition must be addressed. The related approaches that we will apply in Healthy Food Africa are grounded in the Theory of Change and Transition Management methodologies.' '...We will identify the potential for innovation, new sustainable business models and new forms of cooperation. ... This encompasses the use of a multi-actor approach ...'*

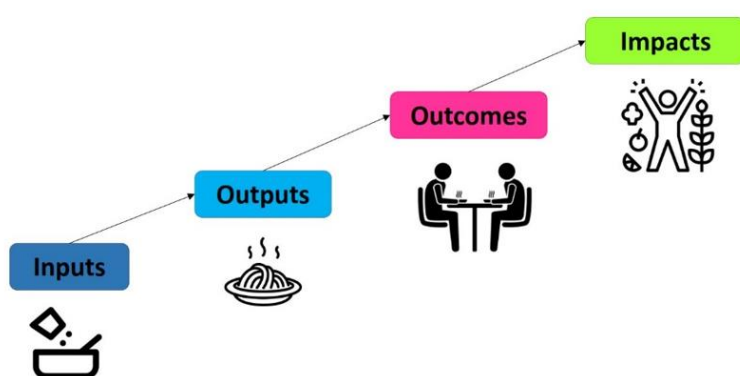
In this chapter we will first outline the conceptual and methodological approach of Theory of Change. Then the main lines of the Theory of Change for Healthy Food Africa at overall project level are addressed, which provides the framework in which work on Theory of Change with the Food System Labs are embedded. After that the methodological approach applied for working with Theory of Change in the FSLs is described.

## 2.1 Conceptual and methodological approach

Theory of Change is a well-established framework applied for project planning, participation, and evaluation in order to promote societal change (see a.o. Es, van, Guijt & Vogel, 2015; Alvarez et al, 2014; Blundo Canto et al, 2020; Funnel & Rogers, Mayne 2015 and 2017; Omore et al, 2019). It involves defining long-term goals and then mapping backward and identifying necessary preconditions for realizing such longer term goals. Theory of Change is essentially a comprehensive description and illustration of how and why a desired change is expected to happen in a particular context. It is focused in particular on mapping out or "filling in" what has been described as the "missing middle" between what a program or change initiative does (its activities or interventions) and how these lead to desired goals being achieved.

**Figure 2** below gives an overview of the key elements that generally or generally distinguished in a Theory of Change or Impact pathway. An Impact pathway can hereby be defined as "the description of the logic underlying an intervention. It highlights causal links between resources mobilized by the intervention (inputs), the intervention's products (outputs), the changes in the actors associated with the adoption of these outputs (desirable changes or outcomes) and the impacts to which these outcomes contribute. Thus, it outlines a theory of why and how the intervention will contribute to the outcomes and impacts, for whom, and in what context (theory of change)." (Blundo Canto et al, 2020).

**Figure 2 Key elements of Theory of Change or Impact pathway**



*Source: Impres5 project*

**Table 1. Characterization and definition of key elements of Theory of Change**

<b>Key element of ToC</b>	<b>Short description</b>	<b>Definition</b>
<i>Input/resources</i>	Human, material, financial resources used by an intervention (development, research etc.)	All the resources and means (e.g. human and material resources, research budget, information, tacit and/or prior knowledge, technologies, products or processes existing prior to the intervention) that enable to undertake an intervention and thereby generate research outputs.
<i>Output/products</i>	What the intervention will directly produce	All products generated by an intervention, including scientific or non-scientific knowledge (including publication, report, database, etc.), methods, processes, professional or academic training, expertise, technology, networks, etc.
<i>Outcome/desirable change</i>	changes in behaviour, relationships, actions and activities of private and public stakeholders that are the result of knowledge exchange and the use of outputs.	All changes in practices, behaviors and/or interactions targeted by an intervention and resulting from the appropriation (i.e. use, adaptation, transformation) of an intervention's output by actors. A distinction is made between final outcomes, targeting changes in practices, behaviors and interactions, and intermediate outcomes, targeting changes in knowledge, capacities and motivations necessary to generate the final outcomes.
<i>(Societal) Impacts</i>	cultural, economic, industrial, environmental or social change that is (partly) the result of research-generated knowledge and skills.	The long-term effects-positive and negative, intentional and unintentional, direct and indirect-to which changes in practices, behaviors, interactions (outcomes) generated by an intervention contribute. Impacts are what remains after an intervention is completed. Impacts may be of different types: economic, social, environmental, political, health-related, territorial, etc.
<i>Indicators</i>		A quantitative or qualitative summary information that characterizes a resource or process and its patterns.

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**Table 1** above characterizes the different key elements of the Theory of Change or Impact pathway approach, and gives a concise description and more detailed definition for these (based on Blundo Canto et al, 2020). It should be noted that the interpretation of input, output, outcome and impact concepts may differ across disciplines, authors and institutions. Outcomes may be split into 'intermediate outcomes' and 'longterm outcomes', and bundled sometimes with the impacts. Moreover, it is not always easy to distinguish between outcomes and impacts because an impact observed by one actor can become an outcome that will generate an impact for another actor interacting with the first one. This definition is not normative but must be interpreted and adapted to the specific context. It is important for an intervention team of work on the choice of common definitions, to create a shared vision and language, and subsequently tailor and translate them into the definitions used by other actors if necessary.

While there are different Interpretations and nuances in application, there are also a number of general characteristics that make Theory of Change approaches very suitable for the HealthyFoodAfrica project, and more generally for projects Involving with system transition challenges in multistakeholder contexts such as Food System Labs:

- ToC approaches acknowledge that systemic change does not respond to instrumental / mechanistic mechanisms but rather responds on **enrolment of relevant social actors**. It thereby goes clearly beyond planning approaches such as logical framework,
- ToC approaches acknowledge that it is important to look at (different) **visions, changes and choices** needed to realize societal changes
- Focus on how to **enable and capacity change in behaviour of relevant stakeholders**
- Focus on **networks and policy / governance arrangements to enable change**
- This leads to **better planning**, in that activities are linked to a detailed understanding of how change actually happens.
- It also leads to **better evaluation**, as it is possible to measure progress towards the achievement of longer-term goals that goes beyond the identification of program outputs.

In view of these characteristics working with Theory of Change approaches in order to co-create impact pathways provides a powerful tool for Food System Labs to further strengthen and focus their activities.

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Also (Van Es, Guijt & Vogel, 2015) look at different models and applications of Theory of Change approaches in different settings, for example between contexts that have a strong focus on project management while in other cases multistakeholder processes play a key role in realizing outcomes and developing impact pathways. In relation to multi-actor collaboration and collective impact monitoring they indicate that "for a multi-actor initiative, jointly undertaking a ToC process is critical in order to come to shared understanding, decision-making and ownership of the initiative design and operations. An important product of such a ToC is a collective MEL (monitoring, evaluation and learning) process and framework for impact monitoring, a condition for joint learning and demonstrating success. In practice, aligning the systems and MEL practices of the different partners in the project for collective impact monitoring often proves challenging. The ToC process can help to define clear and agreed roles and responsibilities of each actor involved." (Van Es, Guijt & Vogel, 2015, p.19)

A ToC process aimed at developing impact pathways can also help to analyse the suitability and feasibility of replicating or scaling up and/or out an initiative in a different context. The results will provide insights into the need to adapt the ToC, why and in what way, and will identify assumptions that need to be tested in the new context. (Van Es, Guijt & Vogel, 2015, p.19)

The enrolment of all relevant actors in developing the Theory of Change and realizing outcomes is very important for actually realizing impact. Actors are hereby defined as: an individual, a group of individuals, an institution or an organization. Blundo Canto et al, (2020) distinguished between three categories of actors: actors who have a major role in the intervention process, actors who intentionally or unintentionally influence the intervention without being actors directly involved in the intervention process, and actors who are positively or negatively impacted by the intervention. Impacted actors can be major actors (involved in the intervention) or not (impacted without having been involved).

### **ImpresS approach for building *ex ante* impact pathways**

For the HealthyFoodAfrica project we have chosen the work with the approach to develop *ex ante* impact pathways which was developed by the CIRAD-led IMPRESS project (for details and methodological guidelines see Blundo Canto et al, 2020). This approach appears to be very well suited for the HFA work in FSLs.

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The impact pathway is pivotal to the ImpresS *ex ante* approach. It describes the logic of an intervention by elucidating the causal relationships between the inputs mobilized, the outputs produced by the intervention, the desirable changes (outcomes) that the intervention aims to generate as a result of the appropriation of these outputs by different actors, and the societal and environmental impacts to which these outcomes contribute.

The ImpresS *ex ante* approach is actor-centered, i.e. it focuses on changes in practices, behaviors and interactions for specific actors that the intervention aims to generate through the appropriation (use, adaptation, transformation) of its outputs. Prior analysis of the potential obstacles and opportunities to appropriation, and the skills, motivations and knowledge required for this appropriation helps build sound systemic intervention strategies with more plausible impacts. Moreover, the construction of an impact pathway can be a keystone to facilitate a deliberation and negotiation process, thereby helping elucidate the implicit positions and hypotheses borne by each individual and/or institution in the team formulating the intervention.

Ideally, this construction and elucidation is undertaken during the intervention design or inception phase (prior to its implementation) with the actors that could potentially be involved (e.g. researchers, private and public development actors, civil society). Ultimately, the participatory building process is the key result of the approach, where different views are exchanged, and where the focus of the reflection is on the role of different actors and on the outcomes the intervention aims to generate, while explaining the logic that would lead to these outcomes, for whom and why.

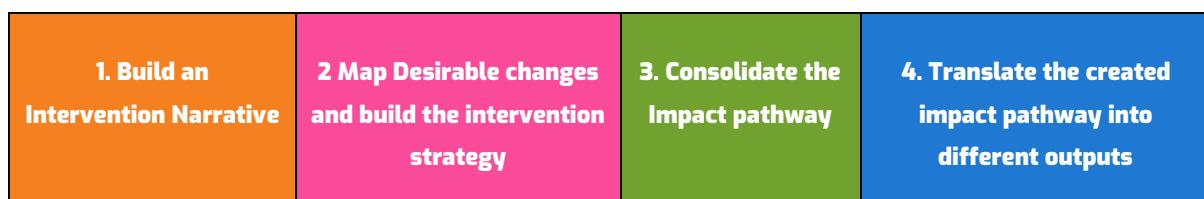
The ImpresS *ex ante* approach is based on **three core principles**:

- Elucidation of desirable changes in practices, behaviors and interactions (outcomes) resulting from the actors' appropriation (use, transformation, adaptation) of the intervention outputs, and of the ways the intervention intends to generate these outcomes along an impact pathway;
- Reflection on the impacts beyond the scope of an isolated intervention, to consider the "ecosystem" to which the intervention belongs as well as the trajectory (past and future) that will contribute to these impacts in the long term;
- Elucidation of the intervention narrative, describing an *ex ante* hypothetical but plausible impact pathway underpinning the intervention logic. These plausible impact

pathways will gradually be adjusted and transformed during the intervention implementation phase into actual pathways, documented through a monitoring and evaluation system oriented towards the follow up of intervention outcomes.

the Impres5 *ex ante* approach proposes a **structured iterative four-stages reflection process** (see Figure 3):

**Figure 3: Four stages of co-constructing Impact pathways**



*Source: Impres5 ex ante approach*

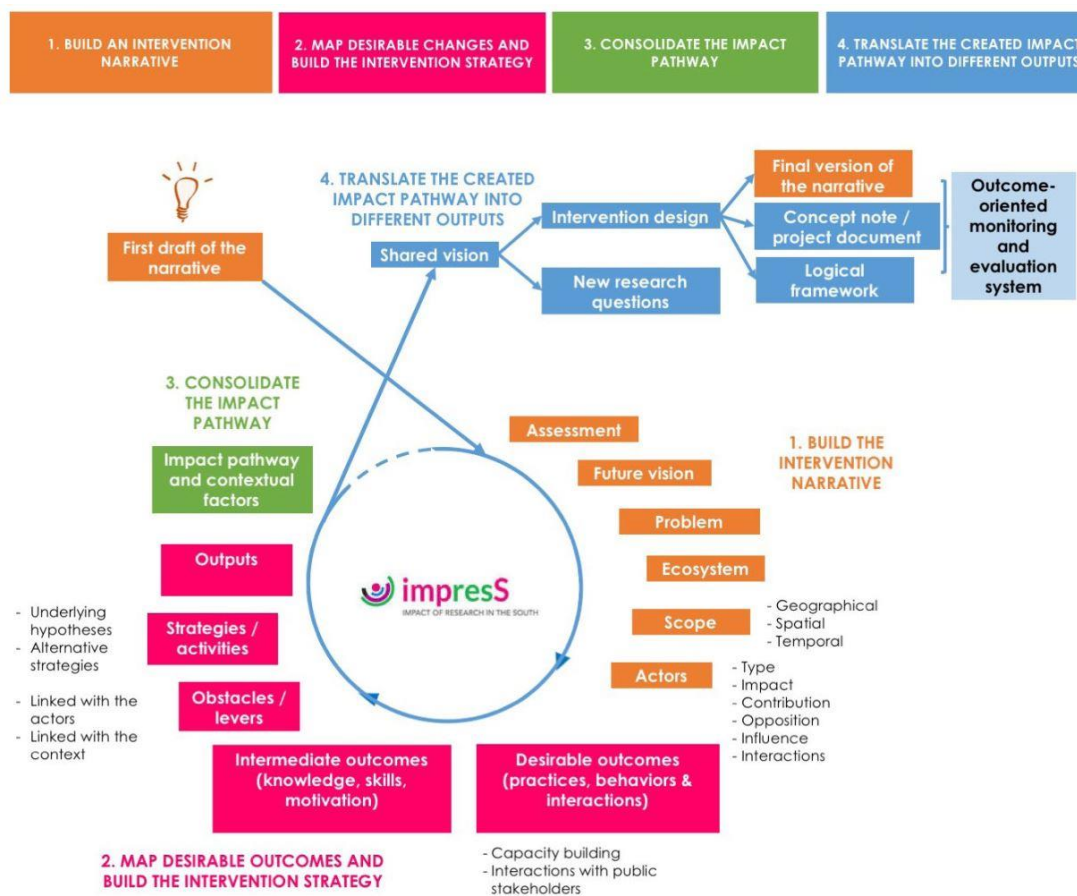
- 1) Building a shared collective vision of the **intervention narrative**.
- 2) **Mapping the desirable outcomes and building the intervention strategy**. This stage identifies the outcomes that the intervention aims to achieve and the hypotheses underpinning the generation of these outcomes. This includes a special focus on capacity building and on interactions with public stakeholders)
- 3) **Consolidating the intervention impact pathway** or logic.
- 4) **Translating the impact pathway** into the adequate tools and languages to fulfill the objective of the exercise. This can be a finalized narrative, an intervention architecture, an outcome-oriented monitoring and evaluation system for adaptive management, and/or new research questions.

The approach uses the impact pathway concept to characterize the intervention logic and articulate the causal links and their visual representations. Following Douthwaite et al. (2007), the Impres5 approach assimilates the impact pathway concept to the 'theory of change' concept, where the impact pathway is a visualization of the corresponding theory of change. This theory specifies the hypotheses underlying the causal links in the impact pathway and the role of contextual factors.



**Figure 4** below schematically visualizes different activities that may be realized in the process of constructing impact pathways following the proposed *ImpresS ex ante* approach. However, it also indicates that this process is iterative (not linear) and the diagram should help to develop and attune the approach to specific projects, teams and context.

**Figure 4. Possible activities for different stages of *ImpresS ex ante* approach**



Source: *ImpresS ex ante* approach

The *ImpresS ex ante* approach was used as basis for the methodology to work with Theory of Change in HealthyFood Africa in order to co-construct impact pathways within the 10 Food System Labs. In section 2.3. this methodology will be presented. However, before this we look into the Theory of Change of Health Food Africa at overall project level.

## 2.2. Theory of Change of Healthy Food Africa

The overall vision and Theory of Change for realizing transformational impact at the overall level of the HFA project is referred to in several points of the Description of Work. It mentions that *"the overall vision of Healthy Food Africa is to make food systems in 10 African cities in six countries across three African macro-regions more sustainable, equitable and resilient by reconnecting food production and food consumption in effective ways."*

As main problem diagnoses it is stated that *"African agri-food systems are facing numerous challenges related to climate change, rapid population growth and urbanization. Both food production and consumption patterns must change in order to provide access to nutritious food while counteracting social inequality, environmental degradation, food loss and inadequate waste management."*

Concerning the long term goals of the food system transformation that HealthyFoodAfrica it in African-European collaboration aims to contribute to the Description of Work mentions *"to improve nutrition in Africa by strengthening the diversity, sustainability, resilience and connectivity of food systems. Our aim is to increase the range and quality of food products for a healthy diet as well as improve access to nutritious food."*

**Figure 5. Thematic pathways of food system change at overall Healthy Food Africa level**



To work towards these long-term goals the HFA project uses a holistic food system approach which combines actions and innovations in different elements of the food system in an integrated way. The work in HFA on different elements of the food systems is structured in different thematic Work Packages that have a focus on five key aspects of food systems (see **figure 5** above). At overall HFA level these can be considered as main pathways of change.

Below the desired changes (outcomes) for the 5 thematic pathways of change central to the HFA project are further detailed.



### **Healthy nutrition: Improving nutrition and health through transformation of consumption patterns towards sustainable healthy diets**

Nutrition and mainstream healthy dietary patterns are improved through increased awareness and rapid but sustainable transformation of consumption habits. Focus is on nutrition-sensitive approaches accompanied by nutrition education and awareness training. The key impact targeted is fostering healthy nutrition through more effective linkages between the production of healthy food, and consumption. Focusing on these connections and their dependencies with social, economic and environmental issues will play an important part in achieving positive long-term effects.



### **Sustainable food production: Strengthening sustainability, resilience and diversity of food production systems to produce healthy and nutritious food**

Production of healthy and nutritious food products is promoted through resource-efficient, climate-resilient production systems including crop, aquaculture and integrated systems. Particular attention is paid to fostering local food production and empowering women and youth. The objective is to contribute to more sustainable, diverse, resilient and climate-smart food production systems and strategies with a focus on food legumes, vegetables, fish and small livestock. Farmers will be introduced to innovative post-harvest handling practices and new innovations will be co-developed in collaboration with smallholder urban and peri-urban farmers.



### **Food packaging and safety: Developing innovative post-harvest technologies to improve food safety and reduce food waste**

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The efficiency of agri-food chains is increased and food safety is improved through the development of innovative post-harvest innovations, new technologies and the minimization of food waste and losses. A related objective is the creation of increased value through improved processing and packaging. This will be achieved through the co-development and co-promotion of appropriate post-harvest and processing technologies, strengthening of food safety measures, improved processing capacity, and advancing product and packaging innovations.



### **Food chain governance: Innovative governance arrangements for sustain-able, resilient and nutritious agri-food chains**

More equitable and sustainable agri-food chains are created through innovative governance arrangements that strengthen the links between and empower local food chain actors in providing consumers with sustainable, healthy, nutritious and affordable food products. Focus is on small and medium-sized farms and those food processors and retailers that matter in connecting these farms to consumers. The aim is to establish governance arrangements and business models that reduce the food losses and links smallholder farmers to targeted agri-food chain actors to improve the efficiency of chains..



### **Innovative food products: Development of novel food products, tools and processes to support innovative agri-business models**

Innovative approaches to create sustainable and nutritious food options are created. Through collaboration with food start-ups, local stakeholders and entrepreneurs innovative food products, processes and agri-business models are identified with special focus on plant-based innovations and local agro-biodiversity. The focus is on sustainable production of healthy and nutritious food products through resource-efficient, climate-resilient production systems. The most promising opportunities will be assessed in relation to target consumers, market potential and economic viability.

Additionally, the transformative food system change that HealthyFoodAfrica aims to build food system change on a number of key transformative mechanisms. These are described in table 2 below.

**Table 2. Key transformation mechanisms for food system change In HealthyFoodAfrica**

✓ Diversity	Valorizing local <i>agrobiodiversity</i> , dietary <i>diversity</i> , local <i>food diversity</i> , <i>diversity</i> of food production systems, <i>diversity</i> of (urban) contexts, sociocultural & economic <i>diversity</i>
✓ Sustainability	<i>Sustainable</i> technologies and practices, <i>sustainable</i> production, <i>sustainable</i> food system transformation, <i>sustainable</i> food and nutrition security, <i>sustainable</i> agri-food chains, <i>sustainable</i> impact, <i>sustainable</i> post-harvest technologies, <i>sustainable</i> diets
✓ Resilience	<i>Resilience</i> to fluctuations in markets and climate, <i>decrease reliance</i> on specific agricultural resources, food system <i>resilience</i> , social-ecological <i>resilience</i> , farmers' <i>resilience</i> and quality of life, <i>resilience</i> of food production systems, <i>resilience</i> and nutritional status
✓ Connectivity	<i>Connect</i> actors across the supply chain, <i>connecting</i> consumers and producers, urban and rural dwellers, and local initiatives across Africa, new <i>alliances</i> , rural-urban <i>linkages</i> , market <i>connections</i> , institutional <i>arrangements</i> , <i>interconnectedness</i> of biophysical and social systems

A key challenge for the WP7 work on transformational impact and for HealthyFoodAfrica more generally is how the outcomes and Theory of Change that is defined at overall project level is operationalized and aligned with the work that is occurring on the ground in the 10 Food System Labs. It is in the Food System Labs where in the end food system transformation is actually realized, through realizing innovation and by enrolling relevant categories of stakeholders. It is also here we linkages and synergies between different thematic axes of food system change (as defined in the outcomes for the different thematic Work packages need to be realized.)

**Figure 6** below indicates the thematic focus of different Food System Labs on different parts of the food system to enable transformative change at systemic level. In each and

all of the FSL are working on Sustainable Food Production (WP3) and Healthy Nutrition (WP2) and indifferent ways aim to Improve nutrition by *reconnecting food production and food consumption*. The activities for "Intermediate" stage of the food system are not present in all FSLs, and the specific mechanisms through which synergies and connections between food production and consumption are being sought will be different per Food System Lab. In some FSL's these mainly focus on Post harvest stages of the food chain and food safety (WP4 - Nairobi, Fort Portal, Chongwe), whin other FSLs the thematic focus is (also) on Novel products and processes (WP6 - Kisumu, Accra, Tamale) and Value chain governance (WP5 - Lusaka, Chongwe, Cotonou, Rwamwanja, Bahir Far and Kisumu).

**Figure 6. Thematic focus of Healthy Food Africa Food System Labs (FSLs)**

	FSL-Nairobi	FSL-Kisumu	FSL-Rwamwanja	FSL-Fort Portal	FSL-Bahir Dar	FSL-Tamale	FSL-Accra	FSL-Cotonou	FSL-Lusaka	FSL-Chongwe
WP3 Food production	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
WP4 Post harvest and food safety	Yellow	Grey	Grey	Yellow	Grey	Grey	Yellow	Grey	Grey	Yellow
WP5 Value chain governance	Grey	Cyan	Cyan	Grey	Cyan	Grey	Grey	Cyan	Cyan	Cyan
WP6 Novel products & processes	Grey	Orange	Grey	Grey	Grey	Orange	Orange	Grey	Grey	Grey
WP2 Nutrition & consumption	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple

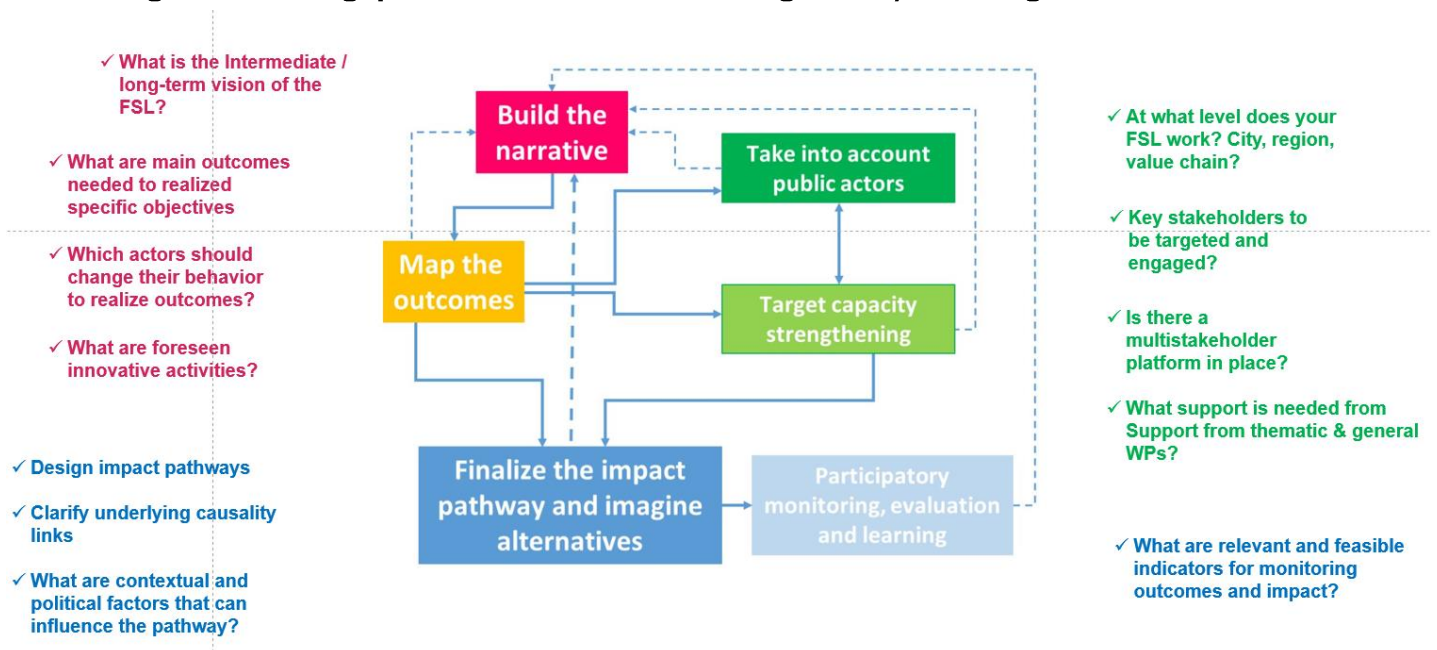
### 2.3 Methodological Approach to Co-construct Theory of Change in Food System Labs

The application of the Theory of Change framework from the start of the project was foreseen as an important tool to develop and realize pathways for transformational impact within the 10 Food System Labs of Healthy Africa. However, the work with FSL on co-constructing Theory of Change in the specific context of the labs as loci for food system transformation and experimentation with seriously difficulted by the outbreak of the Covid pandemic at the outset of the project which made physical meetings with the different FSL practically Impossible. This situation persisted untill one and half year after the start of the HFA project and has continued to difficult the WP7 work on transformational Impact.

Eventually, the Theory of Change approach was introduced to Food System Labs at the (online) consortium meeting of December 2020. Here also each FSL presented its main focus, though not yet in a clear Theory of Change framework. It was observed that most of the FSLs had good ideas on desirable change/outcomes, but the link to a Theory of Change (ToC), and pathways to achieve these outcomes was not yet always there. Generally, there was already a good overview of key stakeholders in most FSLs, but no proper assessment had been done (with the key stakeholders of the lab and with other projects and platforms) to know exactly what each stakeholder could contribute to the outcomes or do differently to influence outcomes.

Based on these limitations, WP7 designed a methodological approach for FSL to further develop and elaborate their Theory of Change. For this the *ImpresS ex ante* approach for co-constructing Impact pathways (Theory of Change) outline before in section and the guidelines provided for this were used as a basis and inspiration. On the basis of the guidelines a number of guiding questions for Theory of Change work were developed, taking into account also the four main steps for *ex ante* impact pathway development.

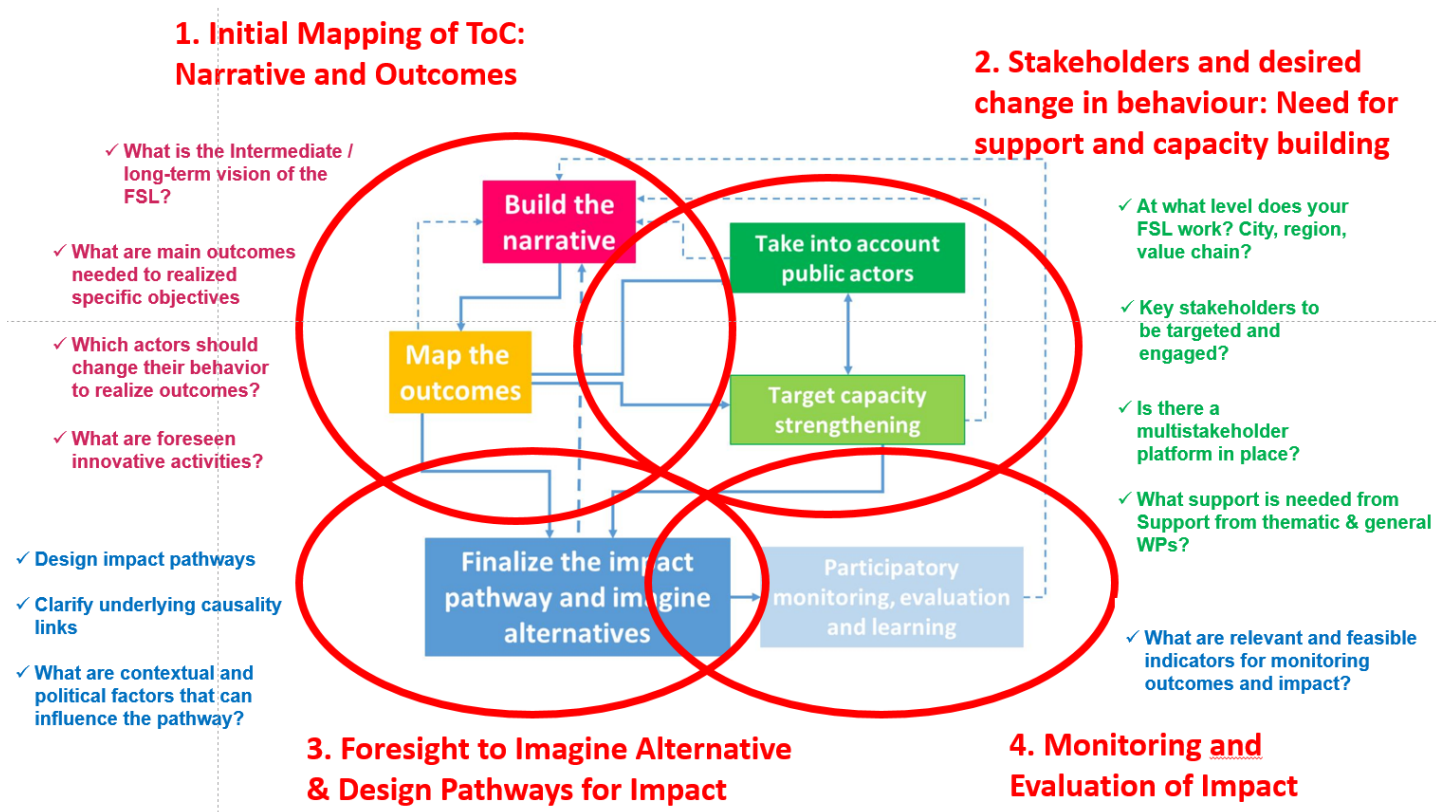
**Figure 7. Guiding questions for Co-constructing Theory of Change with FSLs**



Source: Healthy Food Africa WP7 team, inspired by *ImpresS ex ante* approach

On the basis of these guiding questions the WP7 team (led by Aeres University and Hivos) developed an information sheet questionnaire that was sent out to the FSL leads early 2021 (see Annexes to this report). Based on the results of these information sheet questionnaires, online focus group discussions with all FSLs were organised in April-May 2021 to further clarify and elaborate the main outcomes, actors, innovations and pathways for change. The preliminary results were presented and discussed in working groups at the online HFA consortium meeting of June 2021.

**Figure 8. Steps for WP7 work on Theory of Change and Transformational Impact**



Source: Healthy Food Africa WP7 team, inspired by ImpresS ex ante approach

With these activities large part of the first steps of work on Theory of Change In the FSLs were realized, corresponding to step 1. (Initial mapping of ToC: Narrative and Outcomes) and step 2. (Stakeholders and desired change In behaviour: Need for support and Capacity building) indicated In **figure 8**. After this the work of WP7, strongly alligned with other



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supporting, crosscutting WP6 1 and 8, has focussed on next steps for realizing and consolidating transformational Impact. These include the following aspects and challenges:

- Further systematize work of FSLs on Theory of Change, especially further clarify Pathways of Change and necessary steps / activities for advancing these (step 3 in Figure 8.).
- Further systematize Institutional aspects of food system change and transformational impact, what are policy and institutional barriers and facilitators for transformative change (steps 2 and 3)
- Use of foresight and other prospective/backcasting methods to support further elaboration of Pathways of change, innovations and transformational impact (step 3)
- Define relevant and feasible Indicators for monitoring outcomes and wider societal impacts at the level of each FSL (step 4)

In line with these challenges in Autumn 2021 a follow-up questionnaire was sent to all FSLs, with a focus on relevant policy and Institutional barriers and facilitators for change and to identify emerging (social, technical, institutional) innovations emerging in the FSLs. The results of these were discussed with individual FSLs in (online and some live) follow-up meetings Autumn 2021 and Early 2022. The results of this were discussed at the (online ) HFA consortium meeting of December 2021 and in more detail with the FSL and WP leads at the first hybrid consortium meeting in Zambia in June 2022.

In a meeting in Almere with the WP1 and WP7 team research findings on the one hand, as well as follow up activities on foresight and policy outreach, as well as further guidance on development of innovations prepared. This was discussed with representatives of all FSLs in the Consortium meeting In Accra December 2022.

### 3. Results of Theory of Change work with Food System Labs

In this chapter the results of the activities that were done on Theory of Change in the 10 Healthy Food Africa Food System Labs are presented in a summarized way. Per Food System Lab an overview is given of results of the Theory of Change work according to the following categories:

1. General impression of FSL progress and clarity on ToC
2. Main outcomes/pathways of change
3. Understanding of what FSL entails, how to organize it, and involve all relevant stakeholders
4. Alignment of the work of WP's to outcomes / clarity of support expected from WPs for FSL
5. Availability of budget for all FSL activities
6. Main Innovation(s)
7. Key issues and challenges

A more detailed information sheets on the Theory of Change for each Food System Lab can be found In the annexes to this Deliverable report.

**Figure 9. Location of the 10 HFA Food System Labs**



1. Kenya: Kisumu
2. Kenya: Nairobi
3. Uganda: Rwamwanja Refugee Settlement
4. Uganda: Fort Portal
5. Ethiopia: Bahir Dar
6. Benin: Cotonou
7. Ghana: Tamale
8. Ghana: Accra
9. Zambia: Chongwe District
10. Zambia: Lusaka

## Kenya: Kisumu FSL

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### 1. General impression of FSL progress and clarity on ToC (outcomes, and pathways)

The FSL is mostly active in the informal urban settlements with links to the peri-urban. Two value chains are important here; fish and leafy vegetables. Their main objective is to enhance African leafy vegetables (ALVs) and fish value chains for diverse, safe, nutritious and affordable food for urban poor. In this regard, they aim at improving diets of urban poor consumers in urban Kisumu through increased production and consumption of ALVs and fish - that is making ALVs and fish available, accessible and affordable to the urban poor. Their outcomes are very well aligned to specific pathways and that gives a great deal of clarity on their ToC.

### 2. Main outcomes/pathways of change

The key outcomes and pathways are as follows:

Outcomes	Pathways
1. Increased nutritional knowledge and awareness (i.e. on diet diversity, nutritious and healthy food products including ALVs and Fish).	<ul style="list-style-type: none"> <li>• Nutrition education, awareness creation, and training of Community Health Volunteers (CHVs), food vendors, and urban poor consumers on dietary diversity, nutritious and affordable recipes/food calendars, food safety, and importance of consuming nutrient-dense diets</li> <li>• Demonstration on appropriate cooking and food handling methods</li> </ul>
2. Increased resilient, sustainability and production of healthy and nutritious food products including ALVs, fish	<ul style="list-style-type: none"> <li>• Piloting &amp; establishing innovative and sustainable urban gardening techniques for ALVs production (i.e., sac, hanging, vertical, pot gardens etc.).</li> <li>• Training consumers and producers on urban farming approaches.</li> <li>• Training the urban farmers on safe, sustainable, conservative, and year-round production.</li> <li>• Ensuring provision of farm inputs seeds etc. through linkages to ALV farmers in Vihiga.</li> <li>• Pilot/setting up an aquaponics system with potential private investors</li> <li>• Studying and designing a business models for fish farming and marketing including rural financing possibilities for further scaling up of aquaponics system.</li> </ul>

<p>3. Increased consumption of diverse, safe/healthy, nutritious and affordable food products including fish and ALVs.</p>	<ul style="list-style-type: none"> <li>• Capacity building on sustainable, resilient and nutritious production systems for on fish and ALV.</li> <li>• Sustainable urban ALV farming /gardening</li> <li>• Nutrition education, awareness creation, and trainings</li> <li>• Promoting of innovations in fish production (i.e., aquaponics).</li> <li>• Development and piloting of novel products, processes, tools, and agribusiness model for ALV &amp; Fish value chains</li> <li>• Strengthening market linkages and value chain efficiencies</li> </ul>
<p>4. To realize stronger market linkages and strengthened and efficient fish and ALV value chains.</p>	<ul style="list-style-type: none"> <li>• Building capacity of processors on novel products, processes, tools and business model for fish and ALVs value chains (Youths/women)</li> <li>• Training farmers in Vihiga on farmer business, entrepreneurship, market linkages, chain efficiencies, food safety and quality</li> <li>• Piloting innovative value chain governance arrangements to link urban vegetable producers with other farmers (i.e., peri-urban Kisumu, Vihiga).</li> </ul>
<p>5. Increased incomes of various actors along Fish and ALV value chains.</p>	<ul style="list-style-type: none"> <li>• Capacity building on fish and ALV sustainable, resilient and nutritious production systems</li> <li>• Sustainable urban ALV farming /gardening for consumption and sale of surplus</li> <li>• Promoting and piloting of innovations in fish production (i.e., aquaponics system).</li> <li>• Development and piloting of novel products, processes, tools, and agribusiness model for ALV &amp; Fish value chains</li> <li>• Strengthening market linkages and value chain efficiencies through pilot action on innovative value chain governance arrangement.</li> </ul>

### 3. Understanding of what FSL entails, how to organize it, and involve all relevant stakeholders

The FSL is clear about what they want all stakeholders to be doing by the end of the project. These include:

- Actors to consume diverse, healthy and nutrient dense diets.
- Actors to be engaging in sustainable and resilient production and value addition of ALVs and fish for improved nutrition and income.
- Actors to be engaging in stronger, coordinated, efficient, connected and sustainable Fish/ALVs marketing chains.

A diverse group of stakeholders have been identified and are being engaged. Also, they are currently at the stage of stakeholder consultation to explain to stakeholders (consumers and producers for example are key groups which still need to be mobilised) their vision for the project, its aim as well as changes we want to bring on and what part the stakeholders will play in these changes. This multi stakeholder consultation is the first stage of what needs to be done and they intend to follow this up with data collection. Some stakeholders (mostly enabling or service providers) are already actively engaged in working towards the realization of outcomes.

#### **4. Alignment of the work of WP's to outcomes / clarity of support expected from WPs for FSL**

The FSL works work with Alliance of Biodiversity International which is an active partner in WP2. Besides that, they have also clearly specified the support they need from each WP related to their objectives. See the following:

- Technical support on way of realizing equitable multi-stakeholder approach to transformations in local food systems, through a structured participatory, transdisciplinary, co-creating and co-learning process. (WP1)
- Capacity building to facilitate multi-stakeholder processes in an efficient and inclusive fashion. (WP1)
- Help with a strategy for maximizing transformational impact through effective dissemination and exploitation. (WP8)
- Help in identifying institutional and policy factors that affect the exploitation and up-scaling of promising approaches, technologies, business models and policies, and influence impact in our FSL. (WP7)

#### **5. Availability of budget for all FSL activities**

All the steps to take, meetings, testing, research, etc. are clearly outlined and are funded by HFA.

#### **6. Main Innovations**

- Innovation in fish production (i.e., aquaponics system)
- Innovative and sustainable urban gardening/production techniques for ALVs production (i.e., sac, hanging, vertical, pot gardens etc.).
- Innovative value chain governance arrangements for ALV and fish chains (i.e., inclusive agri-food chain governance models, market strategies, ICT tools, contract farming, producer organizations and partnerships).

- Innovative products, process, and agri-business models for Fish and ALVs value chains.

## **7. Key issues and challenges**

- The Kisumu FSL works in informal urban settlements in and around Kisumu, particularly on two value chains fish and leafy vegetables. Their main objective is *“to enhance African leafy vegetables (ALVs) and the Fish value chains for diverse, safe, nutritious and affordable food for urban poor”*.
- Hence main innovations are adapted aquaponics systems; urban gardening and specific production techniques (ALV, i.e., sac, hanging, vertical, pot gardens etc.); and improved value chain governance arrangements (including market strategies, ICT tools, contract farming, producer organizations and partnerships).
- The FSL is working well with WP 2, but needs better alignment with other WPs, particularly WP3 (response needed of WP3 to particular issues of FSL). More support on Fisheries/Aquaculture is also needed. Particular request for support on Policy analysis. WP7/Aeres and Hivos to respond.
- In Kisumu there is an active Food Policy Platform, supported by FAO and various NGOs. Kisumu County (and surrounding Counties) have progressive Urban Agriculture Strategies, which in further Policy Outreach can be aligned to.

## Kenya: Nairobi FSL

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### 1. General Impression of FSL progress and clarity on ToC (outcomes, and pathways)

The FSL focuses on two informal settlements in Nairobi: Korogocho and Viwandani. The Food System Lab forms part of the larger Nairobi Food System Vision which is aimed at "ending hunger and all forms of malnutrition in Nairobi by 2030". This falls under Nairobi County. In Nairobi Agric. Dept. has over 200 staff and is led by the Urban Agriculture Promotion and Regulation Act (2015). Hence Nairobi City County is leading in urban agriculture in both policy and practice, but still... the majority of households (over 80%) are food insecure and are dependent on street vendors where hygiene is a safety concern. Moreover, 40% of food in informal markets is wasted because of poor infrastructure.

The main Aim of the FSL is: *To assess the feasibility and effectiveness of urban farming and the feasibility of interventions aimed at curbing unhygienic food handling among food handlers.*

The focus is on: Production (Innovative UPA); Processing (Food Safety); Sale (Street Vendors, Food Safety).

In the discussion it became clear that there is already some form of UPA in the two settlements, and that part of this is sold. However, most vegetables, fruit, and dairy/livestock sold at wet markets is not produced locally, or even in Nairobi. No clear food flow analysis has been done, and what the niche is for UPA, what products, etc.

Also a proper stakeholder analysis still needs to be done.

### 2. Main Outcomes/pathways of change

Outcomes	Pathways
1. Improved Household Food Security. 2. Enhanced UPA, vegetables and small livestock 3. Improve dietary diversity and hygienic handling of	<ul style="list-style-type: none"> <li>• Explore the acceptability, adoptability, reach, enablers and barriers of urban farming and interventions to curb unhygienic food handling and food wastage among food vendors</li> <li>To assess the effectiveness of urban farming in reducing household food insecurity</li> <li>• Promote UPA and Consumption of healthy food: Awareness raising, capacity building, providing seeds and seedlings</li> </ul>

<p>food among vendors and households</p> <p>4. Empowered women and youth through urban agriculture</p>	<ul style="list-style-type: none"> <li>• Build Capacity of Slum households, focus on women and youth, in producing own food, hygienic handling, business skills, food preservation and storage</li> <li>• Provide basic infrastructure for food vendors (food safety)</li> <li>• (Added), work with County Agr.Dept Extensionists in support households in the above.</li> <li>• (Added), linking to County for providing access to land, inputs, and finance</li> </ul>
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### 3. Understanding of what FSL entails, how to organize it, and involve all relevant stakeholders

There is a good understanding of focus and what the FSL will achieve.

There will be a Hub in both locations, but under one FSL.

In each Hub various actors will participate including households in general, producers, vendors, and community leaders, as well as representatives of government agencies.

The importance of involving and building capacity of govt. extension agents was discussed.

In addition seeking to participate (as Hub representatives, through MinAgr. And other stakeholders, in the Nairobi County Platform was acknowledged.

Most stakeholders have been identified and are engaged. In addition to the above actors these are:

- Network of food vendors in the slums Slum dwellers association:
- Government agencies (e.g Ministry of Agriculture, Nairobi Water Company, Nairobi City Enforcement Team e.t.c)
- Mazingira Institute
- Urban Farmers Network
- The media - Community Media Organizations (such as Koch FM, Ruben FM); Mainstream media (NTV, KTN farmers, Citizen TV, etc); Freelance journalists (James Smart, etc)
- NGOs (FAO, Hamana)
- Civil society (Schools, churches, Katiba Institute, Consumer Grassroots Alliance)

### 4. Alignment of the work of WP's to outcomes / clarity of support expected from WPs for FSL

This FSL works with WP2, 3, and 4.



There have been interactions with WPs, and there is an understanding on how to start and what is expected.

This work has not been aligned yet. Nor is clear that there is sufficient support/budget (by WPs) for the activities mentioned. The overview sheet of WP 4 does not show support, except data handling (not sure if this is needed).

## **5. Availability of budget for all FSL activities**

See above. Not clear whether there is budget for all these activities. On the other hand:

- APHRC is implementing a right to food project in the FSL. This project aligns with the food vision Nairobi.
- Wellcome Trust funded Right to Food Public Engagement: This project will create a platform for engagement with the community on the FSL activities.
- Mazingira works with Urban Farmers and Supports the Nairobi County
- FAO works with Nadhali and Nairobi County

In parallel to these stakeholder alliances, the Nairobi Food System Lab will be working with community organized groups: establish urban farms in available spaces including schools and idle public land in selected urban poor areas in Nairobi.

## **6. Main Innovations**

- The main innovation is the Learning Hub, which is not really an innovation. Difference with Food Lab is also not clear.
- Also the mentioned innovative forms of UPA (vertical farming, no space low space) are existing forms of UPA.
- Interesting opportunity is the alignment with the County Agricultural Work plans and the Nadhali FAO, supported MS Platform: WP 7 support is welcome here.

## **7. Key issues and challenges**

- The FSL focuses on two informal settlements in Nairobi: Korogocho and Viwandani. Aligned to the Metro Nairobi Food System Vision, which is "ending hunger and all forms of malnutrition in Nairobi by 2030", the main aim is *"to assess the feasibility and effectiveness of urban farming and the feasibility of interventions aimed at curbing unhygienic food handling among food handlers"*.

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- The main innovation is the FSL as a *Learning Hub*. In addition innovative forms of UPA (vertical farming, no space low space) will be developed. .
  - Despite a lot of support (FAO, CGIAR - with RUAF -, and various others) to the NCC (Nairobi County), and the Agriculture Department with over 200 staff, providing support to UPA by law (led by the Urban Agriculture Promotion and Regulation Act (2015), still the majority of households (over 80%) are food insecure and are dependent on street vendors where hygiene is a safety concern. Moreover, 40% of food in informal markets is wasted because of poor infrastructure. The Nairobi FSL will be working with community organized groups: establish urban farms in available spaces including schools and idle public land in selected urban poor areas in Nairobi.
  - APHCR (FSL lead) is well connected both in Nairobi as well as in Kisumu, and alignment to other EU projects (AfriFOODLinks) and FAO and CGIAR projects (link with RUAF/Hivos and Aeres) is suggested.
  - Also advised to work on legislation on informal settlements (on land, on food safety), and emphasize the sustainability of services (Agriculture Extension).

## Uganda: Rwamwanja FSL

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### 1. General impression of FSL progress and clarity on ToC (outcomes, and pathways)

The general impression of Rwamwanja FSLs was positive. The ToC approach is well understood and also that this can provide a hands-on tool for further developing FSL strategies. The main target group is clearly defined as small holder maize farmers in the refugee settlement. Outcomes and activities are well-defined, although here activities focused on improved nutrition should still be further developed and specified (these were added later). A start is made with engagement of different stakeholders, although here there are still challenges. Methodological tools for stakeholder engagement and monitoring of activities still need further attention.

### 2. Main outcomes/pathways of change

Rwamwanja FSL aims to assist smallholder maize farmers in improving their productivity, in adopting a code of good agricultural practices in maize farming, and to assist them in organising themselves for effectively tapping in the market for their maize.

Specific objectives and activities for this are:

- To promote sustainable production of maize with smallholder women maize producers in Rwamwanja refugee settlement.
- To establish a local Community-based Extension Structure supported by Village Enterprise Agents (VEAs).
- To organize the smallholder women maize producers into producer and marketing associations.
- To create 'direct' linkages between smallholder maize farmers and the market thereby reducing the influence of middlemen in the marketing of their maize.
- Specific activities to improve nutrition of small farmer household still are under development and need to be added.

This leads to the following key outcomes:

- Increased maize productivity through: Establishing a local Community-based Extension structure using VEAs. Training of women smallholders in good agriculture practices on maize. Increasing the fertility of soil through grain-legume intercropping with rhizobia inoculated common beans

- Increased quality of maize grain, through: training the smallholders in post-harvest handling. Establishing a maize milling and packaging centre (value addition).
- Farmer organization, through: formation of Producer Associations. Formation of maize marketing clusters. Registration of these associations into legal entities. This will enhance the marketing (bulking, collective marketing) and negotiation capabilities in the market.
- Increased access to the market for maize, through: directly linking the organized smallholders to a registered buyer. strengthening the buying system through contracts / buying agreements.om
- Also here nutrition and consumption related outcomes are still to be added.

## **2. Understanding of what FSL entails, how to organize it, and involve all relevant stakeholders**

It is not yet very clear what will be exactly the FSL. It is clear what are the relevant stakeholders and also a process is started to put in place relevant stakeholders. Relations with government institutions are well developed, and there is also progress with engagement of producers organizations, which a.o. involves informal organizations of women producers. What is still less clear is how middlemen in the value chain are to be engaged. Also the organizational / governance structure of an FSL is still less clear. One line of working is to establish a more formalized producers cooperative.

## **3. Alignment of the work of WP's to outcomes / clarity of support expected from WPs for FSL**

The following relations with thematic WPs were addressed:

WP3: supporting sustainable production of maize, though this part is not yet very well specified

WP5: enhancing the profitability of maize by improving maize quality, linking the producers to a beneficial market and improving the performance of all actors along the value chain; There is a clear link with supply chain governance as key success factor.

WP2: Links with this WP are still under discussion and to be further developed, initially consumption was not explicitly addressed. Now this will be included as an additional line of work and also the nutrition effects will be monitored.

From other WPs following support is required:

WP7. Building a strong multi stakeholder platform and further engagement. FSL-RW will need support to strengthen the participation of knowledge institutions (research / academia etc.), the private sector, and national level public actors.

WP1: Training in how to facilitate multi-stakeholder processes.

## **5. Availability of budget for all FSL activities**

## **6. Main Innovations**

- Local Community-based Extension system
- The use of ICT (mobile phones uploaded with agricultural content) in agriculture extension
- Direct linkage of producers to a maize buyer through a buying contract

## **7. Key issues**

- Rwamwanja FSL is part of a refugee settlement. The FSL aims to assist smallholder maize farmers in improving their productivity, in adopting a code of good agricultural practices in maize farming, and to assist them in organizing themselves for effectively tapping in the market for their maize.
- Uganda allows refugees to use land and produce food, which is quite unique (through the Ministry of the President, with various NGOs and WFP).
- The FSL seeks to develop a Local Community-based Extension system (WP 5 support, also seeking to develop Self-Help groups, not a real innovation but worthwhile exploring). Other innovations are the use of mobile phones (uploaded with agricultural content: link to Cotonou and Chongwe/Lusaka FSLs); and enhancing the Maize value chain, by creating direct linkages between producers and maize consumers.
- The focus of improvement of nutrition/consumption could also look at other commodities. There is a difficult relation to the middlemen, which needs to be improved. And the wider (policy) actors of the FSL / multi-stakeholder platform need to be improved (possibly supported by Foresight).

## Uganda: Fort Portal FSL

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### 1. General impression of FSL progress and clarity on ToC (outcomes, and pathways)

The general impression of Fort Portal FSL was good. They are not starting the FSL but are building up from a previous project. Thus, they already have stakeholders that are committed to the FSL and have a clear understanding of their ToC. The FSL is working around advocacy for reduction of stunting and malnutrition and as such mostly targeting policy makers and stakeholders that can contribute to making a difference around the subject matter. They have well-defined outcomes and activities and have already commenced some preliminary research work.

### 2. Main outcomes/pathways of change

FP FSL aims to effectively reconnect food production and food consumption in Fort Portal and surrounding areas. This is motivated by the fact that though the region is considered as a food basket in the country, it is battling with about 40.6% of child stunting. Therefore, the FSL is working towards the production side with the consumption so as to reduce the stunting and malnutrition challenges. They identified 3 pathways through which to achieve their objective. That is production, consumption and post harvest technology and food safety.

*Production pathway:*

Activity 1: Establish an indigenous seed bank to provide indigenous seeds to farmers. KRC intends to establish a multiplication farm for indigenous crops to provide indigenous seeds to farmers

Activity 2: Assessment of the production systems in terms of costs and sustainability for farmers. This will be done through facilitation of meetings to review the implementation and enforcement of the existing local policies and plans on food production systems and build consensus on amendments with policy makers and other stakeholders.

*Consumption pathway:*

Activity 1: Conduct radio programs / drama series on healthy and nutritious diets

*Activity 2:* Surveys on household food diaries to document what households are consuming and craft advocacy messages that address such patterns.

Post Harvest technology and Food Safety pathway

*Activity 1:* Conduct joint inspections with health department for street food vendors in Hygiene and nutritious food preparation. The FSL will also conduct food safety tests for sampled foods in the different systems.

*Activity 2:* Conduct advocacy sessions on food loss and food safety for farmer groups, vendors, chefs and consumers.

### **3. Understanding of what FSL entails, how to organize it, and involve all relevant stakeholders**

Their use of the team FSL is the multi stakeholder group that is advocating for the various changes and outcomes they want to achieve. All relevant stakeholders are already on board. However, the relation between their activities and their outcomes is not very clear in that their activities are more advocacy based rather than directly addressing the food system challenges that they have identified.

### **4. Alignment of the work of WP's to outcomes / clarity of support expected from WPs for FSL**

They indicate that they have been in contact with the different work packages and show what each work package will support with:

Work Package 2: Improving nutrition and health

Work Package 3: Sustainable production of healthy and nutritious food.

Work package 4: Increased efficiency of agri-food chains and improved food safety

### **5. Availability of budget for all FSL activities**

Yes, there is budget for planned activities but additionally, they expect stakeholders to also commit to supporting other activities to be done by the FSL.

### **6. Main Innovations**

- Establishment of an indigenous seed bank to provide indigenous seeds to farmers.

- Biodegradable packaging materials made of locally available materials for the foods sold on streets other than the synthetic plastic bags that are currently and commonly used. Apparently there is a lot of banana that goes to waste and the banana peels can be used to do this.
- Work of FSL with Farmer Field Schools

## **7. Key issues and challenges**

- Fort Portal FSL builds on earlier work (SD4All, Hivos) and the FSL is connected to various other stakeholder platforms (informal groups: the Coalition of the Willing, and a more formal platform, led by the District Nutrition Officer, with all relevant District sectoral officers and NGOs active in the District and Municipality). The FSL seeks to reduce stunting and malnutrition and as such targeting policy makers and stakeholders that can contribute. The FSL aims to *"effectively reconnect food production and food consumption in Fort Portal and surrounding areas"*. The FSL works on production and consumption
- Different activities on production, consumption and post-harvest technologies, enhancing food safety. Innovations are the establishment of an indigenous seed bank; Biodegradable packaging materials made of locally available materials for the foods sold on streets; and a village (urban) Farmer Field School.
- The different platforms have clear objectives, but the role of the FSL and its sustainability is not clear. Attribution to the project outcomes could be clarified. This sustainability and linking to district, municipal and national Nutrition policy, as well as to other sector policies is a challenge for the next years, and could be addressed in the foresight activities.



## Ethiopia: Bahir Dar FSL

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### 1. General impression of FSL progress and clarity on ToC (outcomes, and pathways)

The strength of this FSL is that their outcomes are very well defined and the pathways adequately address each outcome. The FSL is still primarily in the conception phase as their pilot schemes will effectively kick off from this coming rainy season (From July). The advantage of this FSL being in the conception phase is that they can effectively integrate the objectives of HFA without compromising their own internal objectives.

The goal is to first conduct a pilot project around Bahir Dar. After that, they will explore the possibilities of improving outcomes and scaling out to the wider area. The production objective will use an irrigation scheme which is located 40km from Bahir Dar. This will also involve small holder farmers around Bahir Dar. To start some of the activities in the coming rainy season (planting season). The pilot stage will last from the coming rainy season till next year's rainy season (1 year). By upscaling they mainly refer to production and not the other aspects of the food chain which they are involved with (marketing and consumption).

### 2. Main outcomes/pathways of change

Outcomes	Pathways
Enhanced consumption of alternative protein sources	<ul style="list-style-type: none"> <li>Baseline data will be collected regarding nutrition (dietary pattern, energy/nutrient adequacy and dietary diversity) and associated factors of mothers and children less than 24 months in the study area</li> <li>Factors which affect food choices and determinants of changes in the food environment will be assessed</li> <li>Based on baseline data/ findings, appropriate nutrition education materials will be developed</li> <li>Nutrition education will be given for mothers of children under 24months (to mainstream healthy dietary patterns)</li> <li>Impacts of nutrition education on mothers'/children's nutrition/ dietary patterns will be assessed through end-line survey</li> </ul>
Increased availability and supply of nutritious foods sustainably	<p>Pilot projects on nutritious foods (pulse, vegetables, fruits, fish) will be conducted to achieve the outcomes increased availability and supply of nutritious foods sustainably:</p> <ul style="list-style-type: none"> <li>Existing problems of the farming system of pulses will be understood</li> <li>including disappearance of <i>faba</i> bean productions</li> </ul>

	<ul style="list-style-type: none"> <li>• Two varieties of <i>faba</i> bean and soybean and two liming rates, and two rhizobium species (available) will be combined and tested at two locations affected by soil acidity</li> <li>• Evaluating lupine as intercrop and or residual crop to enhance land productivity and sustainability and understanding the mechanisms behind the acid tolerance nature of lupine in the production area</li> <li>• Performance evaluation of tomato varieties under rain shelter technology for its sustainable supply</li> <li>• Agronomic and performance evaluation of storage onion varieties for sustainable market supply</li> <li>• Promotion of avocado orchard establishment by smallholder farmers</li> <li>• Testing and utilization of improved tilapia seed</li> <li>• Formulation of quality fish feed through locally available feed ingredients</li> <li>• Testing and optimizing system of Aquaponic technology</li> </ul>
<p>Improved market access for nutritious foods (vegetables, fishes and pulses)</p>	<ul style="list-style-type: none"> <li>• The current value chain of food will be assessed and an appropriate value chain that eases the availability of nutritious food will be designed and implemented.</li> </ul>

### **3. Understanding of what FSL entails, how to organize it, and involve all relevant stakeholders**

An extensive list of stakeholders has been identified (Farmers, cooperatives, development agents, traders, consumers, Agriculture offices, input suppliers, fishermen association, fishery research center, Health Bureau, Health Posts, Care Ethiopia, UNICEF, Women, Youth and Children Affairs Offices). They have a stakeholder engagement plan in place. They have already established contacts with stakeholders (they already know some of the stakeholders since they are affiliated to a major university in the area). They will call stakeholder meetings in which they will present they aim and objectives to the stakeholders. Each stakeholder will identify which objectives will be of interest to them or which objectives appeal to their competencies/ or where they can help. They will follow that up by assigning roles to specific stakeholders. They will then have regular meetings to evaluate the progress of the project with the stakeholders.

### **4. Alignment of the work of WP's to outcomes / clarity of support expected from WPs for FSL**

The outcomes overlap with the objectives of several WPs. However, since their focus is on the production aspect of nutrition, they have been in the most frequent contact with WP3. They are also currently collaborating with WP5 to map out a value chain plan. They have mapped the current value chain of some selected crops. WP5 is expected to help them in developing a methodology and data collection plan which they will use for assessing the value chains of the selected crops. Based on these value chain mappings, they will be able to identify specific stakeholders needed for the specific value chains of the various crops.

### **5. Availability of budget for all FSL activities**

Yes, there is budget available for all activities (FSL suggested and research by WPs). All the activities and steps which need to be taken are funded by HFA.

### **6. Main Innovations**

Joint innovation/co-creation of pulse production, vegetables and fish technologies to address supply side bottlenecks such as soil acidity and crop nutrition. These address three areas of concern which are as follows:

- Output (especially cash crop production) is decreasing because of soil acidity. They seek to introduce technology that will reduce acidity and increase PH value of the soils to enable cash crop production.
- The production of certain crops in the rainy season is currently being hampered by the presence of pests. So, they hope to introduce technology that will boost the production of crops in the rainy season. Crops such as tomatoes which are often the most affected by these rainy season pests.
- Concerning fisheries, there are water storage facilities which are often used in the dry season. However, during the rainy season, these facilities are not being used by the farmers because there is rain. They want to use these storage facilities for the production of fish during the periods when farmers are not using them (in rainy season).

### **7. Key issues and challenges**

- This is a new FSL, with the objective *to enhance the production of certain crops and fish*, on a more sustainable and commercial way. The outcomes are very well defined and the pathways adequately addressed.
- Innovation is sought in pulse, vegetable and fish production, using new technologies, and addressing value chain issues, and soil acidity and pests.
- The FSL is predominantly along value chains and technology/researcher driven, and each pathway / WP link, has been assigned to a respective researcher affiliated to

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the FSL. The involvement and outreach to wider group of stakeholders needs to be clarified (role Foresight). There is interest in collaboration from the Mayor of Addis Abeba (member of Milan Pact, link through Hivos/RUAF).

## Benin: Cotonou FSL

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### 1. General impression of FSL progress and clarity on ToC (outcomes, and pathways)

The general impression of Cotonou FSLs was good. Their targeting group is well defined: school children. They also have well-defined outcomes and activities and have already engaged with different stakeholders. Methodological tools to monitor their activities are not ready yet, but they are working on it.

### 2. Main outcomes/pathways of change

Cotonou FSL aims to improve the diets of children and adolescents through urban farming in the Cotonou peri-urban area. They will achieve this aim through two main pathways. Each pathway consists of specific activities.

#### ***Production pathways:***

Activity 1: Implementing school gardens. The food produced will be prepared and served to children in school canteens. Gardens are the responsibility of the teachers, who will be trained to take care of the gardens.

Activity 2: Working with urban farmers associations to produce healthier food

#### ***Knowledge pathways:***

Activity 1: Training for both: food producers in school gardens (teachers) and in urban farmers (part of farmers association).

Activity 2: Cooking classes for women who prepare the food in school canteens.

Activity 3: Recipe book to inform children and their parents about healthy and sustainable food. This activity will be part of the academic Curricula, so there will be a strict collaboration between the schools' directors, the ministry of education, teachers, Inspectors, and pedagogic advisers and researchers.

### 3. Understanding of what FSL entails, how to organize it, and involve all relevant stakeholders

Yes, their outcomes and related activities are transparent. Connections with the ministry of education, inspectors, and pedagogic adviser are already established. Engagement with the school directors is still in the preliminary phase.

#### **4. Alignment of the work of WP's to outcomes / clarity of support expected from WPs for FSL**

During the meeting, this has not been explicitly addressed (lack of time). However, we know that WP2 is engaging with them in relation to the following methodological tools:

- Household survey (for parents) – to assess sociodemographic and socio-economic characteristics
- School survey for school children – assessing child health, dietary intake (24 hr recall), anthropometrics
- School canteen survey – recipes, hygiene
- Urban gardening

Possible WP3 support for urban gardening is important..

#### **5. Availability of budget for all FSL activities**

#### **6. Main Innovations**

- Integration of nutrition into the school curriculum
- Implementation of gardens in primary schools
- Development of organic/biological agriculture in urban areas
- Management of food stock through smartphone and technical support for cooks through smartphone

#### **7. Key issues and challenges**

- The Cotonou FSL aims to *improve the diets of children and adolescents through school and urban gardening*, through production (school and community gardens) and capacity building (curriculum, and policy outreach). Also the FSL aims to strengthen linkages of (peri-) urban agricultural production with school food production in order to increase availability of healthy food.
- Innovations are in the improvement of the school curriculum, school gardens, a mobile phone app, and developing markets for organic/biological agriculture in (peri-) urban areas. More generally, the FSL is original due to its focus on the school food environment as locus for innovation.

- Policy outreach and involvement of wider set of stakeholders is being improved. Especially, relations are being strengthened with urban farmers associations

## Ghana: Tamale FSL

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### 1. General impression of FSL progress and clarity on ToC (outcomes, and pathways)

The Tamale FSL seems to have a clear plan on how to implement their activities. They already have access to the 10 schools located in different communities. In the schools, gardens are ready to be cultivated. Therefore, their activities will start soon. Tamale FLS targets two groups: School children and HH. The interaction with the different stakeholders is already in place.

### 2. Main outcomes/pathways of change

The overall aim of Tamale FSL is to increase awareness-raising for improved child nutrition and innovative food products.

#### ***Production pathways:***

*Activity 1:* Implementing school gardens to produce vegetables and mango. The vegetable and mangos will be used by the school feeding program to feed the children.

*Activity 2:* Producing soybeans by women in the community through the S&L association. The communities have lands that will be assigned to the women to produce soy. They will do that by engaging with the community leaders.

Activity 3: Mango production in the "nature" of urban community.

#### ***Knowledge pathways:***

*Activity 1:* Training 20 (10 Female and 10 male) Youth Ambassadors to improve urban youth's awareness of the importance of nutrition, food security, gender equality, and climate change adaptation. Ambassadors will reach out to youth in youth clubs and the schools in the metropolitan area of Tamale.

*Activity 2:* Training for women who produce soybeans to use them to prepare healthy and nutritious recipes.

### 2. Understanding of what FSL entails, how to organize it, and involve all relevant stakeholders



Yes. Activities and connections with stakeholders are partly established. For example, the schools are connected to the School Feeding Program, for which they have already met the criteria. The gardens in those schools are already entirely in place, and they will start planting soon. Additionally, they have already established connections with the local government, which was necessary to have access to the schools.

They still have to engage with the nutrition department of the Ghana health service. They hope to engage them in the capacity building of the school caterers. They would help to formulate a good nutritional plan. Moreover, Tamale FSL aims to engage also with local private caterers like restaurants. They will also help with the school's caterers. So they also include the private sector. However, they will do that at a later step stage.

### **3. Alignment of the work of WP's to outcomes / clarity of support expected from WPs for FSL**

They are in contact already with WP2 concerning the baseline survey. WP7 could help with the training. The involvement of WP3 still needs to be discussed.

### **5. Availability of budget for all FSL activities**

WP2: They designed the tools, but the budget still need to be discussed. WP2 advised to write the budget and then see what can be done.

### **6. Main Innovations**

Promoting the use of soya in the processing of different recipes and consumption. However, the details need to be discussed. Who will train the women? Which stakeholders are going to be involved (e.g Ghana health service)? Which WPs will support this activity? And why is it an innovation? Is soya usually not consumed? Is it because it goes beyond dietary intake and focuses on practice knowledge transfer?

### **7. Key issues and challenges**

- Also the Tamale FSL, works with Schools. It aims to *increase awareness-raising for improved child nutrition and innovative food products*. It will promote vegetable and soya production, as well as adding value (enhanced consumption). However, the details need to be discussed. The main innovations though, are not that clear yet, nor is the capacity building strategy, and how to engage with policy stakeholders. In addition the support of different WPs should be strengthened.
- Innovations are sought in techniques as drying fruits and vegetables, in soya value chain, as well as in school gardening and capacity building of schools and wider community.

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The interaction with Cotonou FSL could to share knowledge on curriculum, policy outreach, but also on processing and storage.

- How to ensure long-term continuity? For example, including school garden activities into the school curriculum.
- This work could be aligned to the wider discussion on Food systems transformations (for instance as done by FAO/ICLEI led Food Dialogues and as part of the Milan Urban Food Policy Pact Framework and Monitoring Framework). Also the involvement of these cities in the Milan Urban Food Policy Pact (MUFPF) is relevant, and so does the support provided by other projects as FAO Green Cities.

## Ghana: Accra FSL

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### 1. General impression of FSL progress and clarity on ToC (outcomes, and pathways)

The Accra FSL seems to have a well developed ToC and specific objectives, key outcomes and key activities are clearly and extensively described. It is still less clear which activities will be exactly implemented in different FSL locations (3 neighbourhoods of Accra), because the exact set of activities will be defined in dialogue and co-creation with the relevant stakeholders in these locations. The process of stakeholder identification and engagement still needs further development and has been pending due to need for ethics clearance. This will be critical in the further uptake and effectivity of activities in the different neighbourhoods.

### 2. Main outcomes/pathways of change

The overall aim of Accra FSL is to enhance production and use of fish as part of a healthy diet and agri-food chain development and businesses.

**Specific objectives** are:

1. To improve nutrition and mainstream healthy dietary patterns through increased awareness and rapid but sustainable transformation of consumption habits
2. Improve and innovate culture systems and technologies, and resource utilization for homestead or backyard aquaculture (fish farming/gardening) for nutrition and business
3. To test performance and resilience of fish species (e.g. tilapia and catfish) for sustainable homestead aquaculture system
4. Evaluate the safety of tilapia and catfish
5. Improve fish smoking technology
6. Develop novel, sustainable and nutritious safe fish-based and vegan-based food products and test associated tools and processes and business pathways
7. Build capacities for broad-based co-generation and co-management of processes and products, gender equality and women's/youth empowerment for policy reforms and transformative and sustainable food systems

**Key outcomes** are:

1. Illustrated Homestead farming technologies made available to farmers and for business

2. Improved production management system practiced by fish farmers
3. Regulatory processes and support systems functioning towards sustainable fish production
4. Farmers adopt good aquaculture practices (GAP), and increased production
5. Dietary fish intake patterns will be documented.
6. Safety of fresh fish (tilapia and catfish) from selected sites documented and improved post-harvest innovation to extend shelf life made available.
7. Safe and improved processing technologies (smoking, drying, canning) made available to processors
8. Value addition to fish (processing) in some forms (including ready-to-eat form) made available to some uptakers and consumers
9. Improved forms of packaging introduced to processors
10. Introduction of viable business model to processors and uptakers
11. Scientists, community, policy makers, local governance and value chain actors/businesses dialogues on reforms for improved, equitable and sustainable food systems
12. Create employment and generate incomes among youth, men and women

Exact activities will be specified on the basis of surveys amongst small scale, and homestead/backyard fish culturing (gardening) producers, community animation sessions, surveys on dietary patterns on fish intake and preferences and multistakeholder meetings in different FSL locations in 3 neighbourhoods (Metropolitan, Municipal and District Assemblies - MMDAs). These activities still need to be taken up pending ethical clearance.

In terms of **Pathways of Change** the following pathways can be distinguished:

***Production pathways:***

Increased fish production -> increased availability of fish -> increased fish consumption

Increased availability of fish products through product development -> increased access to diverse fish products by consumers -> increased fish consumption

***Knowledge pathways:***

Increased knowledge among consumers on fish consumption -> healthy dietary choices -> increased consumption of fish and fish products

Enhanced skills on fish processing among fishermen, processors, fish mongers, youth etc.  
-> improved fish/fish products safety and reduced losses -> improved access to safe fish/fish products by consumers -> enhanced food and nutrition security

***Income pathway:***

Enhanced market linkages for fish producers -> increased incomes for fish producing households -> increased purchase of nutritious foods -> improved household food and nutrition security

**3. Understanding of what FSL entails, how to organize it, and involve all relevant stakeholders**

The Accra FSL operates at decentralised level in municipalities and 1 district in the Metropolitan region of Accra. The FSL (or perhaps better 4 FSLs?) aims to provide a platform to co-generate, co-design, co-learn and co-adopt food system innovations and technologies that will transform lives of urban and peri-urban community dwellers in these neighbourhoods. The steps for establishing these co-creation processes in the different neighbourhoods have been outlined, but still need to start, partly because of the need to obtain ethical clearance for surveys. A start with stakeholder engagement has been made, but this is still far from complete. Especially relations with more institutional partners such as Ministries (Fisheries and Aquaculture Development; Trade and Industry; Science Technology and Innovation; Food and Agriculture), the Fisheries Commission, Food and Drugs Authority, Ghana Standards Authority, Local Government Authorities and Agencies (such as Metropolitan, Municipal and District Assemblies) were established. However, stakeholder organisations in the different neighbourhoods still need to be further developed and a full stakeholder mapping here still needs to be done.

**4. Alignment of the work of WP's to outcomes / clarity of support expected from WPs for FSL**

Accra FSL works directly with the WPs 2, 3, 4 and 6. WP activities are guaranteed in the FSL work through collaboration of two CSIR institutes (CSIR-Water Research Institute and CSIR-Food Research Institute) with their respective specialties in fish production technology development, safe food processing and nutrition management, value chain businesses, co-generation and management skills, gender equality and empowerment of women. The Accra team coordinates the Fish Community of Practice within WP3 and is also lead for WP6.

Indirectly Accra FSL works with WPs 1, 7, 8, and 9. From WPs 1-7 especially support in mapping out strategies to achieve FSL goals / outcome is needed. From WPs 8-9 regular and effective communication on project updates will support stakeholders in making the needed changes.

## **5. Availability of budget for all FSL activities**

All meetings (including of team and external stakeholders) , testing, and research are funded by HFA.

## **6. Main Innovations**

- Aquaponics (which is not currently being practiced)
- Utilizing ground water for urban/peri-urban aquaculture
- Improved smoking technology
- Developed ready-to-eat fish-based and vegan based foods
- Improved packaging of smoked and other value added fish products
- Improved cold boxes for fresh fish handling
- Effecting changes in consumption of healthy fish-based diets through multi-actor multi-stakeholder platforms.

## **7. Key issues and challenges**

- The overall aim of Accra FSL is to *enhance production and use of fish as part of a healthy diet and agri-food chain development and businesses*. There is a clear link/support with WP 6 on product development, which seems to be based on earlier work (and CSIR mandate). The Accra FSL has a well-developed ToC and clear objectives and outcomes.
- There is a clear focus on Aquaculture and enhancing this value chain (access to -ground-water; improved smoking technology; packaging, labelling and marketing (supporting various small entrepreneurs); cold storage; and consumer awareness.
- The composition of the policy/multi stakeholder platform is not very clear. Also the systemic change sought (and how to build capacity of local actors other than CSIR, is not well defined).
- This work could be aligned to the wider discussion on Food systems transformations (for instance as done by FAO/ICLEI led Food Dialogues and as part of the Milan Urban Food Policy Pact Framework and Monitoring Framework). Also the involvement of these cities in the Milan Urban Food Policy Pact (MUFPP) is relevant, and so does the support provided by other projects as FAO Green Cities, or CGIAR Resilient Cities.

## Zambia: Chongwe FSL

Contact person: Mangiza Chirwa Chongo: [mchirwa@hivos.org](mailto:mchirwa@hivos.org)

### 1. General impression of FSL progress and clarity on ToC (outcomes, and pathways)

Chongwe Food System Lab (FSL-Ch) is located in Lusaka province, in southeast Zambia, in a semi-rural community near (50km) Zambia's capital city Lusaka. As such the FSL of Chongwe is geographically related to the FLS of Lusaka. Both Zambian FSLs relate through the Value Chain and through (new forms of) Governance: produce will be sold at the Lusaka market, while Chongwe is part of the Lusaka Food Policy Council.

The focus of the Chongwe FSL is on vegetable production, especially by women, such as tomato, cabbage, pumpkin leaves (chibwabwa) and cabbage and other crops. It aims to improve production and shift to organic for which linkages to vendors and consumers (Lusaka) are needed.

The FSL works with producers, marketers, but also service suppliers. The FSL already existed before HFA started. But the main activity foreseen under HFA are capacity building workshops of the FSL, while ability to organise fieldwork with producers, or development of innovations, highly depends from collaboration with WP, or support by other programmes.

The inauguration of the FPC Lusaka, and high interest by local and national authorities forms an opportunity which needs to be supported by HFA. Foresight workshops need to be aligned.

WP 7 support can be at innovation (the app), the FSL (ToC, etc.) but also linkages and visibility with FPC and wider city network in Africa.

### 2. Main Outcomes/pathways of change

Outcomes	Pathways
<ul style="list-style-type: none"> <li>Enhanced production practices (land to market)</li> <li>Increased incomes as a result of reduced food loss (waste) and ..</li> </ul>	<ul style="list-style-type: none"> <li>Awareness; FSL meetings; Capacity building of farmers and service suppliers (incl. on organic farming); Field visits and field work;</li> <li>Kitchen gardening, School gardening</li> <li>FSL meetings; Capacity building of farmers and service suppliers (entrepreneurship, preservation; storage; nutrition education, cooking demonstration); innovations as the App and technologies at key locations.</li> </ul>

<ul style="list-style-type: none"> <li>• ... reduced income loss to middlemen and improved access to the market.</li> <li>• A conducive policy environment, local and as part of Metro Lusaka.</li> </ul>	<ul style="list-style-type: none"> <li>• FSL meetings; Capacity building of farmers and marketers (entrepreneurship, negotiation skills); awareness, information on consumers; and innovations as the App.</li> <li>• Further development of Lusaka Food strategy, as part of FPC; Advocacy through targeted meetings and IEC to policy makers.</li> <li>• Meetings of FSL and FPC; capacity building of key actors; policy analysis and development;</li> </ul>
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### **3. Understanding of what FSL entails, how to organize it, and involve all relevant stakeholders**

The FSL is ongoing for a while. Hence there is good understanding of key issues and actors. Already linkages have been made and policy influencing platforms are in place. Hence there is need for action. There lies a challenge as most activities are aimed (and funded) at continuation of meetings, and less funds available for field work, market development, etc.

The main value chain actors in this vegetable value chain include input suppliers, producers (large and small scale), and processors and consumers. Other stakeholders involved in the process include transport services, water services, processing and extension service provision.

Good understanding of main channels of information flow between the stakeholders.

There are high levels of post-harvest losses in Chongwe due to poor linkages along the vegetables value chain. The opportunities in the vegetable value chain in Chongwe lie in the very big market that exists in Lusaka.

The governance structures for vegetable production are between farmer cooperatives, trader associations, the city council and the Ministry of Commerce Trade and Industry. Here also more work needs to be done in terms of awareness, capacity building, etc. to assure support of these cooperative and associations. Local authorities also make decisions around levies for the markets including taxing products heading into the market.

At farm level, men usually make decisions while at market level women mostly make decisions.

### **4. Alignment of the work of WP's to outcomes / clarity of support expected from WPs for FSL**



In addition to research, there is need for action research (field work WP3) as well as facilitation and conflict management. WP 5 (Food Chain Governance) should take a leading role in supporting VC understanding and facilitation of meetings, including both Chongwe and Lusaka FSL members. WP 4 and 5 need to collaborate on enhancing capacity and the App, while at the same time maintaining or even improving relations between producers, marketers (Middlemen), and vendors and consumers in Lusaka. WP 3 needs to seek to support transformation to organic production (not just legumes), including field trials, and exchange visits (with WP5: farmers to Lusaka, consumers and vendors to Chongwe).

## **5. Availability of budget for all FSL activities**

As mentioned there is no provision as of yet for other activities than FSL meetings and capacity building. There are contacts with service providers and key partners in the FSLs and FPC, and with potential other programmes and donors. But additional support is required from WPs.

## **6. Main Innovations**

In addition to existing (but not yet in place) innovations like organic production, storage facilities, and institutional arrangements, the FSL foresees in the creation of mobile app that can link traders and farmers directly.

## **7. Key Issues and Challenges**

- The two FSLs in Zambia are clearly linked, and builds on earlier work (SD4All, Hivos). Hence there is good understanding of key issues and actors. Already linkages have been made and policy influencing platforms are in place. The focus of the Chongwe FSL is on vegetable production, especially by women. It aims to *improve production, a shift to organic production, a.o. by linking to vendors and consumers in Lusaka*.
- There is provision for FSL meetings and capacity building, but little funding for other activities. There are contacts with service providers and key partners in the FSLs and FPC, and with potential other programmes and donors. But additional support is required from WPs.
- In addition to existing (but not yet in place) innovations like organic production, storage facilities, and institutional arrangements, the FSL foresees in the creation of mobile app that can link traders and farmers directly.

## **Zambia: Lusaka FSL**

**Contact person: Mangiza Chirwa Chongo: [mchirwa@hivos.org](mailto:mchirwa@hivos.org)**

### **1. General impression of FSL progress and clarity on ToC (outcomes, and pathways)**

The aim of the Lusaka Food System Lab is to enhance the role (acknowledgement, capacity) of the informal food sectors (IFS), to contribute to improved diets and nutrition. The informal food sector in and around Lusaka, does not seem well connected/linked to the formal food sector.

The FSL will seek to answer the question: How can the informal food sector be included in the food system discussions and developments? It is assumed that linking the formal and informal food sectors would enhance access to nutritious food for city dwellers, who are faced with challenges of food and nutrition security.

The FSL will focus on the value chains of vegetables and fresh foods. The activities will revolve around women, men and youth working in the informal food systems of these products. Part of this is linked to the FSL in Chongwe: enhanced availability of healthy (organic) produce). Both Zambian FSLs relate through the Value Chain and (new) Governance, as produce will be sold at the Lusaka market, while Chongwe is part of the Lusaka Food Policy Council.

The FSL already existed before HFA started. But the main activity foreseen under HFA are meetings of the FSL, the ability to organise further activities highly depends from collaboration with WP, or support by other programmes. This is a challenge.

The inauguration of the FPC Lusaka, and high interest by local and national authorities forms an opportunity which needs to be supported by HFA. Foresight workshops need to be aligned.

WP 7 support can be at innovation (the app), the FSL (ToC, etc.) but also linkages and visibility with FPC and wider city network in Africa.

### **2. Main Outcomes/pathways of change**

1. To foster co-learning and co-creation processes for urban food planning and programming. This process will ensure participation from IFS and will be done through support to the Lusaka Food Policy council.
2. To reduce food losses by supporting preservation through simple technologies. Focus on tomato and ground nuts.

3. To create a direct link between vegetable (tomato) farmers from Chongwe and Lusaka traders to reduce losses that are incurred via middle men.

Outcomes	Pathways
<ul style="list-style-type: none"> <li>• Strategies to address current IFS food related challenges, are developed and accepted by Lusaka authorities, and incorporated in Lusaka Food Strategy</li> <li>• Minimized losses of selected crops (tomatoes and ground nuts).</li> <li>• Access to Safer food for the consumers has increased</li> <li>• Increased income for the IFS handling these products.</li> </ul>	<ul style="list-style-type: none"> <li>• Development of Lusaka Food strategy with participation from all stakeholders. Trainings on food safety, entrepreneurship and finance etc and research on private sector participation in storage provision. Advocacy through targeted meetings and IEC to policy makers.</li> <li>• FSL meetings,</li> <li>• Policy Analysis</li> <li>• Capacity Building in tomato preservation, jam making, peanut butter making etc.</li> <li>• Advocacy and support to Zambia bureau of standards and Lusaka city council on safety standards.</li> <li>• Added) Awareness campaigns to consumers, use of media, and FSL meetings with Consumers, FSL and other service providers.</li> <li>• Interactions between Chongwe FSL farmers and Lusaka FSL traders.</li> <li>• Creation of mobile app that can link traders and farmers directly.</li> </ul>

### 3. Understanding of what FSL entails, how to organize it, and involve all relevant stakeholders

The FSL is ongoing for a while. Hence there is good understanding of key issues and actors. Already linkages have been made and policy influencing platforms are in place. Hence there is need for action. There lies a challenge as most activities are aimed (and funded) at continuation of meetings, and less funds available for capacity building.

The FSL will work with market traders/vendors and in particular those working in organized "nutrition groups" and use simple technologies for fresh foods and vegetables to preserve and increase shelf life. The constraints mentioned by the FSL include lack of capacity -, lack of formal recognition and participation of food traders and vendors in policymaking, lack of representation, inadequate market information, poorly functioning value chains e.g. paying too many fees to too many people. There are inadequate storage facilities, inadequate market information (on prices, disconnection from farmers/producers that is exacerbated

by middlemen). Traders/vendors also pay numerous fees to middlemen, the council, or representative associations.

In order to address these constraints, the opportunities lie in promoting simple food preservation technologies to enable long shelf life (hence, prolonged availability) for food products, and increasing the availability of market information. There is opportunity for creation of market linkages for vegetables and fresh foods.

The institutions that affect governance of the vegetable and fresh foods market and linkages between the formal and informal sectors are mainly government institutions. Accordingly, the role of the informal food sector is being increasingly known, but stakeholders working with it perceive it as complex, possibly because of the associated transaction costs.

Selected stakeholders are: IFS Traders; LCC Public Health Department; Zambia Bureau of Standards; Financial Sector Deepening; Silva Catering Ltd; Zambia Development Agency; and linkages with Chongwe Farmers.

#### **4. Alignment of the work of WP's to outcomes / clarity of support expected from WPs for FSL**

Particularly WP 2 will support understanding and reaching out (also) to consumers, which needs strengthening. In addition there is need for facilitation and conflict management. WP 5 (Food Chain Governance) should take a leading role in supporting VC understanding and facilitation of meetings, including both Lusaka and Chongwe FSL members. WP 4 and 5 need to collaborate on enhancing capacity and the App, while at the same time maintaining or even improving relations between producers (Chongwe), marketers (Middlemen), and vendors and consumers in Lusaka. Unclear how collaboration with WP 6 takes place.

#### **5. Availability of budget for all FSL activities**

As mentioned there is no provision as of yet for other activities than FSL meetings and capacity building. There are contacts with service providers and key partners in the FSLs and FPC, and with potential other programmes and donors. But additional support is required from WPs.

#### **6. Main Innovations**

In addition to existing (but not yet in place) innovations like post-harvest technologies, storage facilities, and institutional arrangements, the FSL foresees in the creation of mobile app that can link traders and farmers directly.

## 7. Key Issues and Challenges

- As mentioned, the two FSLs in Zambia are clearly linked, and builds on earlier work (SD4All, Hivos). One of the earlier results was the establishment of the (greater) Lusaka Food Policy Council. The Lusaka FSL, explicitly addresses the issue of informality, and has the aim to *enhance the role (acknowledgement, capacity) of the informal food sectors (IFS), to contribute to improved diets and nutrition.*
- Also here there is no provision as of yet for other activities than FSL meetings and capacity building. Additional support is required from WPs. WP4 has been working hand in hand with the FSL in developing the Zero Evaporative Cooler that will support better transportation and storage of vegetables. The prototype has been designed and manufactured and traders and farmers were requested to give feedback on any further improvements that might be needed to make the product more useful. In addition to this, the FSL foresees in the creation of mobile app that can link traders and farmers directly.
- The FSL seeks to align (position FSLs and innovations) as part of the Food Policy Council of Lusaka which although formally in place, it has been dormant. It needs to be clarified (Foresight), how the HFA does work on informality, food vendors, food safety and enhanced production, and positioned as part of the FPC Lusaka long term vision and action plan. The Lusaka FSL will have quarterly meetings with all stakeholders to give progress report and challenges. For the sustainability of the FSL and its interventions, the project needs to appeal to key stakeholders with policy influence to budget for food system interventions and safeguard the gains that will be made by the project. Lack of budget for food system interventions has been identified as a major cause of the dormancy of the FPC and in carrying forward any form of nutrition interventions. Therefore, support is needed in finding access to finance. Further, buy-in from direct beneficiaries in needs support.

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## 4. Policy and institutional barriers and enabling factors for transformational impact

Important measures for fostering transformational impact are:

1. Building capacities through meaningful **stakeholder engagement**. This implies fostering self-propelling processes i.e., embedding the work in adequate local multi-actor and governance processes, and adding new elements to these processes. Attention is paid to finding new ways to involve consumer associations, food SMEs and entrepreneurs, etc
2. Identification of limiting and enabling factors in a Transition Management perspective. This includes key lessons learned and key messages (**main barriers and opportunities**)
3. **Gender**: Encouraging and enabling gender sensitivity in all work
4. Promoting **actual innovation** in food chain governance, technologies, and business models.
5. **Participatory foresight methods** to assess the options for the further development of initiatives and scaling-up. This will ensure longer-term impact, longer term research and policy agendas and programmes.

### 4.1. Stakeholder engagement

At the beginning of the project, it was observed that most of the FSLs had good ideas on outcomes, but the link to a well-defined and explicit Theory of Change (ToC) was not always yet developed. There was often not yet a sufficiently clear idea of what needed to be done to achieve the outcomes. At the start of the project, there was generally a good overview of key stakeholders in most FSLs, but no proper assessment had been done (with the key stakeholders of the lab and with other projects and platforms) to know exactly what each stakeholder could contribute to the outcomes or do differently to influence outcomes. These challenges and needs were taken into account in the methodology of WP7 activities on Theory of Change with the FSLs (see section 2.3)

Based on the experiences with the work on Theory of Change in the FSLs, the following lesson in relation to stakeholder engagement can be identified.

***The need to specifically target stakeholders with the power to initiate change***

The case of Bahir Dar FSL clearly illustrates how helpful the ToC introduction has been helpful to the FSL's stakeholder engagement process. In June 2021, Bahir Dar had not yet started stakeholder consultation and had not identified potential stakeholders yet. However, following theory of change training on multistakeholder engagement under the guidance of WP7, by June 2022 in the Lusaka consortium meeting, Bahir Dar had built a functioning stakeholder platform (See **Figure 10**). This is composed of members of the general public, local policy makers and the local media. The following quote by the representative of Bahir Dar FSL Gashaw Tilahun provides more insight into how the stakeholder selection process took place – especially the need to target specific stakeholder with the power of agency to initiate change.

*We first invited the agricultural officials and policy makers at district level. Concerning other stakeholders, we specifically targeted fish farmers who had ponds. That way, we managed to reach out specifically to stakeholders who will find our work useful to their everyday activities. (Gashaw Tilahun, FSL Bahir Dar)*

**Figure 10. Stakeholder consultation in Bahir Dar FSL**



Source: Gashaw Tilahun (Bahir Dar FSL)

### ***The advantage of exploiting pre-existing networks in stakeholder engagement***

A common problem with living labs and multi actor platforms, is that they are often seen as short term projects rather than having a long-term vision. It is often a challenge to convince stakeholders about the long-term impact of living labs, very often related to funding. For instance, Pilla (2019) found that over the years following the implementation of a living lab experiment, citizens became less engaged. Lessons from similar platforms (DeZeeuw and Dubbeling, 2015, and RUAF, 2019) show that a combination of long term vision and short term action is required. More information can be found in the UA Magazine issue on Food Policy Councils, where a number of considerations are given (RUAF, 2019). These issues deal with sustainability of the lab or platform, mostly combined with political influence or dominance, finance, but also with impact and scale. A key element in this is alignment with existing policy-framework, legal arrangements (Kenya Food Labs, for instance aligned to the County working groups), and opportunities of informal platforms. Important in this is to look out for opportunities to collaborate with existing local initiatives and organisations. The skills and experiences of these embedded actors could be useful for the longevity of the intervention. 'Understanding the challenges that partner organizations face in dealing with complex social issues, and designing citizen science projects that complement their efforts to the greatest extent possible, can advance the collective goal of addressing overarching complex social problems' (Hano et al., 2020: 10).

Most FSLs can be aligned to pre-existing stakeholder platforms, and if not an existing multi-actor platform, key institutions that need to be involved can be identified. For example:

- In **Nairobi and Kisumu** the existing Food Policy Platforms and Strategies, and the County Agricultural yearly work planning agreements. In **Kisumu**, this is linked to ongoing/earlier work of the African Centre for Cities, FAO, and a new EU programme that focuses on Kisumu as one of the 5 hub cities. In Nairobi the food lab also benefited from work by Mazingira, and actors that were involved in a a Rockefeller award project. This eased participation and these stakeholders became the backbone of the new multi-sector advisory group set up for the HFA.
- In **Lusaka/Chongwe** the Food Policy Council of Lusaka exists, although dormant at the moment. So the HFA work on informality, food vendors, food safety and enhanced production need to be aligned to the FPC Lusaka long term vision and action plan. The FPC had been invited to the launch of HFA. The project now needs to engage them specifically on what role we hope they will play. The **Lusaka FSL** will also be having quarterly meetings with all stakeholders to give progress report and challenges.
- In **Accra, Tamale, and Kisumu**, the Food Labs are working on Fish products (Accra), Fish/Aquaculture and small gardens (Kisumu), and school gardens (Tamale), which



needs to be aligned to the wider discussion on Food systems transformations (for instance as done by FAO/ICLEI led Food Dialogues and as part of the Milan Urban Food Policy Pact Framework and Monitoring Framework). Also the involvement of these cities in the Milan Urban Food Policy Pact (MUFPP) is relevant, and so does the support provided by other projects as FAO Green Cities, or CGIAR Resilient Cities.

- In terms of this alignment to key stakeholders or ongoing other actions, there are key actors already in place to have this discussions, or Foresight discussions with. And based on these we can further define policy analysis (of Fish/Aquaculture Policy Framework in Kisumu, the support to informal settlements/slum in Nairobi, the ambition of the Mayor of Addis or Lusaka, the Policy Framework of World Food Programme and the Cabinet Ministry of Uganda that regulates procurement of maize and availability of land to refugees, very valid for scale of **Rwamwanja Food Lab**.

### ***Importance of co-creation at an early stage – Better uptake of innovations and support***

Engaging stakeholders at a later stage in stakeholder engagement process means the stakeholders could lack awareness of previous knowledge generated in the early stages of the project. In some cases, participants only get involved in the knowledge co-production process at the later stage of living labs. This means they could lack sufficient knowledge on the underlying knowledge generation process which is essential for implementing a sustainable living lab initiative. This could decrease their motivation to engage in the living lab experiment. Engagement works best when it is proactive, not merely reactive. Building community engagement into the decision-making process at all stages provides legitimacy for the decisions made, as well as ensuring that relevant information makes it to the table. When stakeholders are a part of the process, they feel ownership over it and their community. This sense of ownership then spurs more engagement (DesRoches et al., 2017). The following examples from some four FSLs (Fort Portal, Tamale, Rwamwanja and Nairobi) illustrate how early engagement with stakeholders in the co-creation process fostered the feeling of ownership over the project goals and enhanced stakeholder cooperation.

**Fort Portal FSL:** According to Fort Portal FSL, collaboration with all relevant stakeholders has been great. There has been increased government involvement and ownership of their work. At Fort Portal FSL, policy stakeholders such as the local government have been involved in the development and review of ordinances, approval of implementation of activities in the areas of implementation, dissemination of the program outputs, Joint activity implementation, authorization of work plans. As a result of effective stakeholder engagement, Local Government has picked interest in the establishment of a food safety committee. Local Government is now pushing for a food safety ordinance. The City of Fort

Portal council is also now lobbying and advocating for a fort portal nutrition Action Plan and City Nutrition Coordination Committee.

*When this project was launched, we invited the government stakeholders. Then we made sure that at least one of them belongs to each of the WPs we are working with. They became like unofficial leaders of these project work packages. This made them feel they are part of the work and actually increased their commitments to the realisation of our objectives. (Bernard Bwambale, Fort Portal FSL)*

Another staff at Fort Portal FSL adds that:

*Partnerships have enabled us to reach more beneficiaries. Engaging different stakeholders has enabled us to implement the FSL workshop resolutions. 'Involvement of local government in our work has proved effected and has ensured ownership of our interventions by the city and District'. (Sharif Mohamed, Fort Portal FSL)*

Integration of nutrition and food safety in the government committees leads into increased budgeting for nutrition. The District Nutrition Coordination Committee is functional. There is increased community sensitization on nutrition. Agroecology among farmers is being accepted. Decision-makers' involvement in the FSL work is very good. All the Fort Portal FSL stakeholders are being fully engaged and are motivated to associate with the FSL; The FSL stakeholders have been organized in WPs and they have been involved in all activities of the FSL especially through FSL workshops, trainings, meetings, joint activity implementation and Joint research. Given the high burden of malnutrition especially among children under five irrespective of high production of food in the region has made the FSL interventions welcomed and prioritized by leadership, CSOs, private sector and other stakeholders; Similarly, the rise in food borne illnesses in the region and a bun on food exports from Uganda by other neighbouring countries has also made the FSL interventions on food safety acceptable to the different actors. Conversely, the need for community awareness on food production, food safety and nutrition has resulted into utmost support from the actors.

Additionally, being proactive about stakeholder engagement allows authorities to respond to challenges before they become issues. Furthermore, proactive practices may reduce the intensity of conflict when it arises because existing relationships between city leaders and residents provide a platform for constructive debate and cooperative solutions (DesRoches et al., 2017).

A lack of early stakeholder engagement with policy-makers in particular leads to the reverse of all aforementioned benefits of early co-creation in the living labs, as illustrated by the following quotes from **FSLs Chongwe and Lusaka**.

*The main barrier to stakeholder collaboration has been inadequate co-creation which needed to have been done at the beginning of the project. Other stakeholders working within this area are already committed to their own interventions and without early engagement we can't seem to find any common grounds to work with them. (FSL Chongwe, Zambia)*

*The main barrier to stakeholder collaboration has been inadequate co-creation which needed to have been done first (FSL Lusaka).*

The following examples provide further evidence on how early engagement of stakeholders at an early stage of project inception eases participation of even traditionally difficult to reach groups of stakeholders such as policy-makers.

**Tamale FSL:** The goals and objectives of the Tamale FSL have been the priority of their stakeholders and collaborators. Most especially, the stakeholders have been supportive because of the co-planning structures put place allow stakeholders to make inputs to the project at the beginning. This has provided an opportunity for some stakeholders to learn new concepts or gain knowledge on ways of doing things which they did not know prior to the stakeholder engagement.

**Rwamwanja FSL:** Local policy-makers participated in the project launch activities which were intended to explain the project concept, expound on roles and responsibilities of stakeholders, and enhance ownership of the project activities and results. Local policy-makers participate in joint monitoring of activities and review of project plans. Some local policy-makers have participated in the MSP processes. For example:

- As a result of the willingness to participate in the day-to-day implementation activities of the FSL, district local government even spearheaded the establishment of the multistakeholder platforms.
- Also, local community leaders engage in farmer groups meetings to offer guidance and leadership skills to the farmer executives to keep groups normal functioning and conflicts resolutions.
- Implementing / Operational Partners involved in the FSL activities. For example, in the joint monitoring visits that involve livelihood partners, private sector, coordinating partners, town council and the district, these partners suggest recommendations for improvements.

At Rwamwanja FSL, multistakeholder platforms have also served as a means of eliminating the negative influence of middlemen who serve as a buffer between the producers and the markets. The FSL is working with over 1000 maize producers who are mostly women. These women don't have access to the best prices in the markets because of middlemen. The middlemen often come to the women and buy at very low prices to go and sell in the market at very high prices. To counter this problem and boost access to information on the best market prices, the FSL set up a multistakeholder platform in which all the value chain actors can come together, identify challenges and opportunities, and seek opportunities for supporting each other. This multistakeholder platform is composed of the middlemen in question, the buyers, the sellers/farmers, extension workers. Each group of actors was urged to identify their roles and responsibilities within the supply chain. By bringing them together to identify their roles, other actors could easily see where their interests overlapped with others and they could easily discuss cooperation with each other in a face-to-face sitting as made possible by the multistakeholder platform.

**Nairobi FSL:** The FSL is setting up innovative urban farming methods, including variety of vertical gardens, sack gardening and hydroponics. Although they are at the initial stages of rolling out the urban innovative interventions in the community and are currently planning for food safety interventions, there is great commitment from the community groups which are spearheading the implementation in the communities. They are working closely right from an early stage with a grassroots organization called City Shamba, which has expertise in urban farming. The group is helping with distribution of farm inputs and mentoring of the community groups which they are working with. This has ensured that the farms are set up in suitable environments and that the groups are using safe inputs for food production.

Most importantly, Nairobi FSL has a memorandum of understanding with county policy makers. The FSL engaged the County Government of Nairobi and other influential policy-makers really early in the project – at the stage of proposal writing and project idea inception. So, when it came to establishing stakeholder platforms, they turned to actors they were already familiar with. According to Antonina of the Nairobi FSL:

*In fact, we are currently working on a Memorandum of Understanding to enhance our partnership with the county government. The memorandum of understanding is a document we share with stakeholders in which we stipulate our roles. It is like a working agreement we sign with the policy makers. This agreement on their roles kind of obliges them to support our activities because they have made a written and signed commitment. (Antonina Mutoro, Nairobi FSL)*

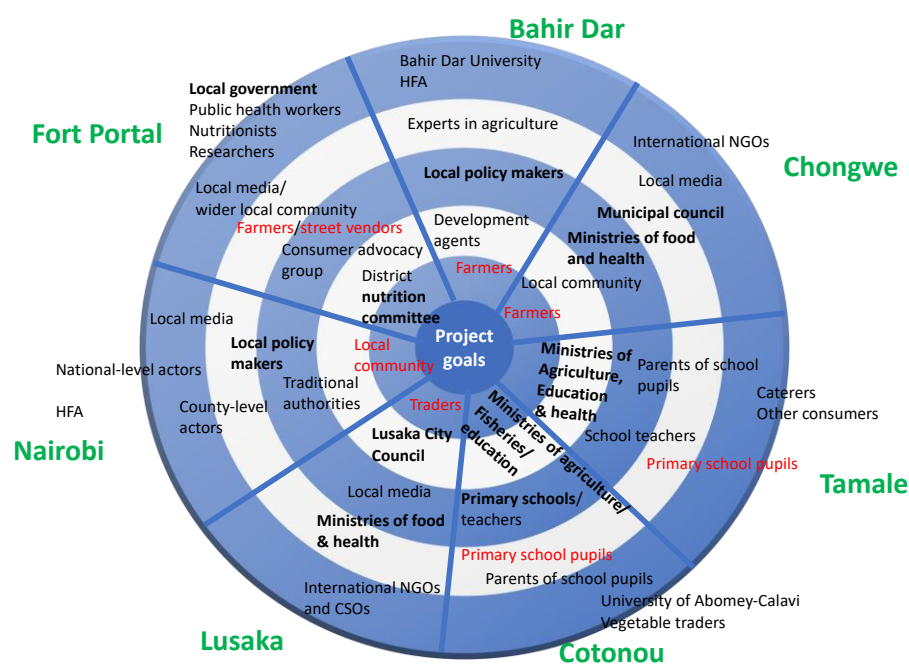
Furthermore, Nairobi FSL created a multi-sectoral advisory group as part of their early-stage stakeholder engagement process. Stakeholders from the Ministries of Agriculture

and Health are members of this multi-sectoral advisory group. They participate in quarterly meetings where they receive project updates and provide feedback. They also sit in the relevant Technical Working Groups hosted by the two ministries. They have engaged the policy makers at both county and national government levels at a very early stage of the HFA project. Today some of these influential policy makers are still part of their multi-stakeholder advisory group.

**Beneficiaries occupy an important role as key stakeholders in the realisation of project goals**

One observation with stakeholder engagement within the FSL is that direct beneficiaries are perceived to be the most important stakeholders in the realisation of project goals in most FSLs. FSLs were asked to rank the importance of their stakeholders with regards to meeting their project objectives. The results of this ranking process for seven FSL is shown in **Figure 11**. **Figure 11** shows that with the exception of Fort Portal where the District Nutrition Committee is seen as the most important stakeholder, direct beneficiaries such as farmers, traders and the local community are often perceived as the most important stakeholders. Another exception top this is Cotonou and Tamale where government policy-makers are seen by the FSLs as the most important stakeholders. The reason for this is that unlike other cases which present direct beneficiaries such as farmers and traders as principal agents of change, the beneficiaries in Cotonou and Tamale are primary school pupils. Primary school pupils lack sufficient agency and that is the reason why as beneficiaries, they are ranked furthest from the core centre with project goals.

**Figure 11. Importance of stakeholder in realisation of FSL objectives**



## **4.2 Policy and institutional barriers and enabling factors**

The interactions among individuals, institutions, and organizations contribute to coherent trajectories of system change over time (Consoli & Mina, 2009). However, an array of institutional and policy arrangements underpins the change process, which includes both the development of initiatives and facilitating the implementation or upscaling of initiatives. Greenhalgh et al (2017) highlight that policy issues often underpin the inability to move from an unsuccessful project to an successful one or vice versa. They explicitly outline the need to identify and attend to potential drivers (or constraints) at a policy level to avoid project failures. Such potential constraints are described as policy and institutional barriers and they could limit food system transformation even when actor-specific or individual level barriers have been sufficiently addressed.

The term barrier refers to constraining factors that affect the implementation of policies or the realisation of objectives and goals. It is also worth noting that institutional barriers are different from actor-specific barriers. Biesbroek and colleagues (2009) in investigating transformation in the domain of climate change make a distinction between actor specific barriers and institutional barriers. They state that, 'actor specific barriers are those factors that prevent the actor from deploying their strategies and achieving their goals in the policy game' (Biesbroek et al., 2009: 3). Institutions can be barriers when they constrain actors in achieving or pursuing their goals. In other words, it becomes institutional barriers when the limitations are beyond the control of specific or individual actors. For example, on the one hand, if a person does not want to eat healthier in their daily practices because that person does not perceive unhealthy eating as a health hazard, that can be referred to as an actor specific barrier. On the other hand, if existing regulation prevents an actor from practicing healthier eating in their daily practices, this becomes an institutional barrier. There is the need for collective action to overcome institutional barriers, whereas, actor-specific barriers can be changed by the individuals without the need for any systemic action.

### ***Formal and informal institutions***

Although institutional rules and norms can serve either as barriers or as enablers for action within food system labs (FSLs), Ostrom (1990), DiMaggio and Powell (1991) make a distinction between formal institutions and informal institutions. Formal institutions are rules that 'forbid, permit or require some action or outcome' (Ostrom 1990:51). Informal institutions are cultural norms and shared understandings about appropriate behavior, awareness and risk perception (DiMaggio & Powell, 1991; Yaqoot et al., 2016). March & Olsen add that all public agencies are institutions. However, they vary in the extent to which they

have been institutionalized, that is, the extent to which they are governed by rules and/ or professional norms that enable or hinder individual behaviour (March & Olsen, 1996)

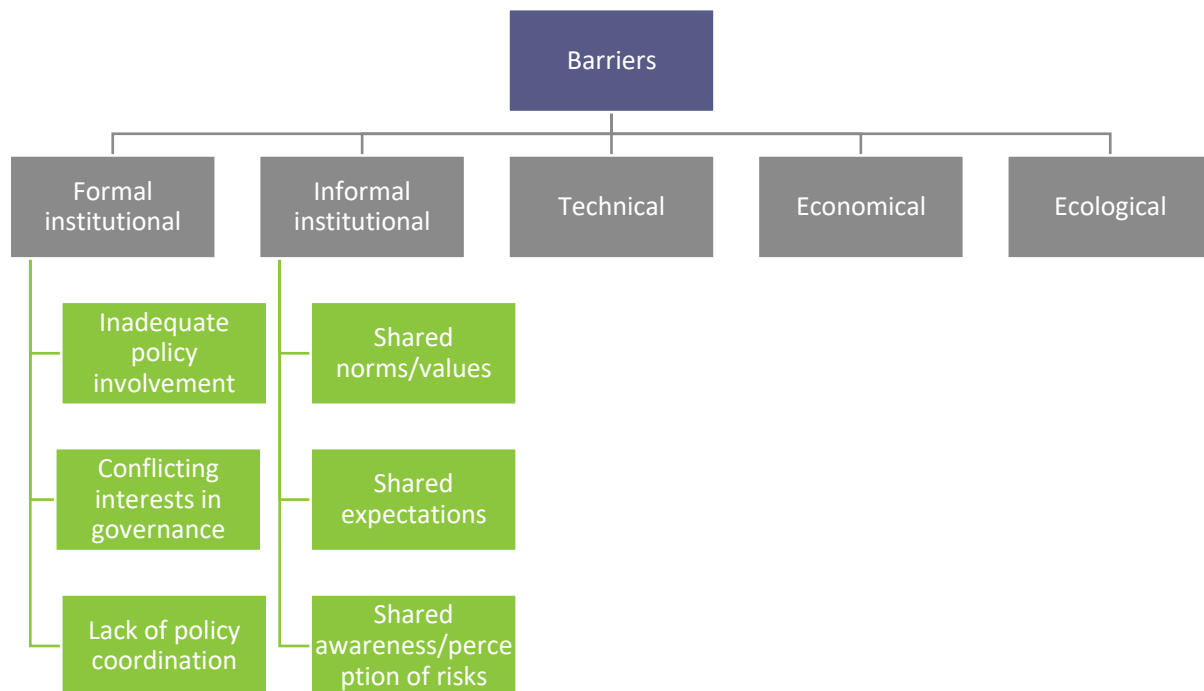
Informal institutions are deeply held values and beliefs that influence how people perceive, interpret, and think about risks and their management, what information and knowledge they value, what concerns have standing and so on—in short, a foundational influence on the decisions and choices made during the adaptation process (Moser & Ekstrom, 2010). Stakeholders perceive new problems, tasks, and solutions through the lens of their pre-existing values, preferences, beliefs, norms, and experiences. Furthermore, it has been suggested that perceptions of barriers can limit action just as strongly as actual barriers, even when the capacity and resources to adapt exist (Adger et al., 2007). Internal inertia to changing traditional ways of thinking about healthy and sustainable food and practices could be embedded within the informal barriers to transformation such as perceptions. These could be perceived but not actual lack of information, resources and perceived (and we repeat not actual) public/policy-makers opposition

In this report, we consider formal policy and institutional barriers as those obstacles that originate from, are controlled by, or are caused by factors directly related to political institutions. These include the fundamental political legislation and governance structures that could serve as the basis for production, transport, storage, distribution and consumption of food. According to Langloise-Bertrand and colleagues (2015), such formal institutions incorporate a variety of macro-level institutions such as political regime type and governance structures (such as unitary, autocracy, federalism), meso-level institutions such as public and political organizations and the rules by which they abide (a ministry of agriculture for example), as well as micro-level institutions such as behavioural and social expectations towards politicians and members of governmental organizations by citizens (perceptions of political leadership or political figures in other words).

### **Barrier analytical framework**

Langloise-Bertrand and colleagues (2015) classify what this report will rephrase as formal institutional barriers into three different forms: political obstruction, conflicting guidelines in governance structure, and lack of policy coordination. While acknowledging that policy/institutional barriers rarely appear in an isolated form, and there is the possible interaction and overlap between different barriers listed on **Figure 12**. Each of these forms will be presented in different variations using observations from the FSLs as illustrated on **Figure 12**. For relevance to this deliverable, the findings section will focus on the formal and informal institutional barriers (and not directly on technical, economic and ecological barriers).

**Figure 12. Framework for analysing barriers for transformational impact**



***Political barriers through a lack of interest from policy-makers***

This represents situations where actions – or lack thereof – by policy-makers impede efforts to put on the agenda, elaborate, or successfully implement food system transformation policy, irrespective of the absence of any sort of reluctance from other stakeholders (Langloise-Bertrand et al., 2015). It includes indifference of policy-makers and politicians in the discussion and elaboration of efforts to initiate healthy and sustainable food system transformation. Governments are considered key in creating and removing barriers to adaptation. The role governments play is key in the governance of food system transformations and understanding many of the reported barriers. This refers to forms of government at different levels (the local, regional, or (supra)national). Government policy-makers have the power to constrain, enable, or stimulate transformation. For example, several studies argue that the lack of policy guidance, the limited coordination between levels, and the lack of available governmental resources constrain institutional adaptation at all administrative levels (see Crabbe´ & Robin, 2006; Tryhorn & Lynch, 2010). Government policy-makers are seen as key actors that can intervene and overcome existing barriers by changing legislation or providing additional resources needed for transformation (Measham et al., 2011; Mozumder et al., 2011), build new institutions or enable knowledge exchange between sectors. Other studies suggest that government institutions enable adaptation so that it can occur at other levels or across other scales (Biesbroek et al., 2009).



### ***Inadequate involvement of policy-makers in the FSL activities***

Despite the fact that policy-makers can use living labs to develop new ways to produce and disseminate knowledge by learning alternative approaches from other stakeholders, their engagement in some of the FSL hasn't been adequate. This is particularly the case in situations in which policy makers' engagement did not take place early enough in the project execution. This has led to low stakeholder interest and diminished possibilities for uptake of results – especially with policy-makers. Evidence of this barrier can be found in the experiences of the Lusaka and Chongwe FSLs.

**Lusaka FSL:** In this case, training on food safety was done and the FSL is working with the department of public health at the city council to pass by-law on food grading to ensure safety. Most issues that need to be addressed are policy issues (e.g., vending, infrastructure, middlemen etc). However, influencing policy has been an uphill battle. Just getting the right people to the table is a challenge and the FSL representatives feel they do not hold enough powers to convene these policy-makers or to get them more engaged in their activities.

**Lusaka/Chongwe:** These two FSLs created a vegetable value chain Development-Policy change to support vegetable value chain development. However, this has been difficult to achieve because the policy stakeholders who attended these consultation meetings are not the ultimate decision-makers. According to an FSL representative from these FSLs:

*The policy-makers who attend stakeholder consultation meetings only promise to relay information on from the stakeholder meetings to relevant authorities. We do not have the muscle to compel institutional heads who have the power to make the decisions. They always send representatives who are expected to take back reports to influence policy makers. (FSL representative, Chongwe and Lusaka FSLs)*

Lusaka FSL and Chongwe FSL admitted that the main barrier to stakeholder collaboration has been inadequate co-creation which needed to have been done at the beginning of the project. Though the FSLs presented their desired work plan to stakeholders and they had input in the final work plan, they already had defined project goals according to the proposal prior to stakeholder consultation. Therefore, co-creation became very limited.

Also, although multi-stakeholder involvement is a plus in living labs, however, this could lead to potential problems with conflicting stakeholder interests. This was evident in the case with FSL Chongwe where conflicting interests between the FSL and stakeholders make operationalising stakeholder engagement difficult. According to a Chongwe FSL representative:

*There could be difficulties in finding common grounds amongst a diverse group of actors when we work together with other CSOs, they also expect support from us and unfortunately, we have specified budget lines that are not flexible to accommodate other project initiatives. For example, CUTS requested us to sponsor prizes for Green Action Week: a global campaign to promote sustainable consumption and we could not because it did not fall in any of our budget lines (Mangiza Chongo, FSL Chongwe).*

Another example from **FSL Tamale** shows that this noticeable lack of interest with some stakeholders is not only limited to policy-makers. Despite commendable success in stakeholder engagement with the FSL as highlighted in the previous section on stakeholder engagement, Tamale FSL still highlighted the issue of inadequate participation of some stakeholder in the peak seasons of their activities. The representative of Tamale FSL said the following as well as attempts by the FSL to mitigate the problem:

*Our peak season for activities is only a short period of 4 months. Yet, we face difficulties convincing some stakeholders to be present. They are not prepared to come. Since we are working with a predominantly Muslim population, Friday is often the day of prayers so many of them do not engage in any activities on Friday afternoons. Considering this, we moved all our activities from Fridays to other days in order to lower the threshold for participation to these stakeholders. This went a long way to solve the problem but we still have work to do to enhance stakeholder engagement. (Victor Yakubu, FSL Tamale)*

This lack of interest by certain stakeholders could also be a result of stakeholder overload with tasks and responsibilities. For example, Cotonou FSL expressed the worry that the implementation of HFA goals could add some extra activities to urban gardeners (such as different ways of cultivation) and schoolchildren and teachers (new school garden management techniques) which could affect willingness to participate in the long-run. However, the FSL noted that they are currently in discussions with the concerned stakeholders in order to seek a way forward which addresses everyone's concerns.

**Chongwe FSL** is requesting additional tools from HFA on how to influence the policy environment. Although their work with local policy-makers hasn't been a complete failure as they have been working with local council and Ministry of Agriculture, they feel the need more support on how to engage policy changing processes further. To overcome this limitation, we at WP7 can suggest the work of Elelman and Feldman (2018) who designed a futuristic theoretical model which not only incorporates citizen voices in decision-making but also increases the responsiveness of government by advancing a proposal to endow citizens with oversight authority and the capacity to hold officials accountable in exchange

for engagement. This is related to the Memorandum of Understanding which has been relatively successful with the Nairobi FSL. There is the need to ensure that participants see realistic benefits from participation. This kind of framework could contribute a great deal to motivating stakeholders to stay engaged for a longer period of time in the FSL.

### ***Lack of political stability due to elections and change of government***

Another type of form of political barrier that can generally impede food system transformation initiatives concerns lack of political stability and effectiveness (Langloise-Bertrand et al 2015). The past thirty years have witnessed several positive changes with respect to democratization in Africa. In this regard, participatory politics has grown in Africa since the 1990s and the percentage of African countries holding democratic elections increased from 7 to 40 percent (International Peace Institution, 2011). In these new or emerging African democracies, the general trend has been toward greater accountability of political leaders, whose domestic legitimacy is largely linked to the means through which they attain and maintain power. Yet This could also pose certain problems to the continuity of project. Sometimes agreements made with one governing party by an FSL could be nullified by another political part following post-election change of power. This concern was expressed by Chongwe and Lusaka FSLs whose representative said, 'We are having elections in August 2022. We do not know what the outcome will be and with change of government how policies concerning our work might be affected' (representative of Lusaka FSL). Although these representative further states that, in the past public office holders have changed following and this has not had any drastic effect of their work, constant change of policy influencers they work with is a looming concern for the continuity of their work.

In the case of FSL Nairobi, this concern with elections is more centered around election violence. Since independence, Kenya has experienced various forms of political and social unrest. The post-election unrest of 2007/2008 was the worst of them all. Although similar election-related violence in Kenya had occurred in 1992 and 1997, the violence which erupted in 2007/2008 following the standoff between Moi Kibaki and Raila Odinga was unprecedented. It was reported that, approximately 1,300 people lost their lives and hundreds of thousands were displaced with widespread sexual violence against women (International Peace Institution, 2011). Possibly with these memories in mind, the FSL representative for Nairobi FSL said:

*Yes, we have upcoming elections (August 2022) and there is potential for instability during that period that could threaten achieving our goals. Informal settlements are hot spots for election violence. (Antonina, FSL Nairobi).*

Although William Ruto has won the race to be the fifth president of Kenya, according to results announced by the Independent Electoral and Boundaries Commission (IEBC), the decision by rival Raila Odinga to reject and contest the decision of the electoral commission raises the potential for the kind of instability that could derail the activities of Nairobi FSL. Ruto received 7,176,141 (50.49 percent) of the votes, narrowly beating his rival, Raila Odinga, who managed 6,942,930 votes (48.85 percent). This narrow margin of victory could potentially spell more violence than a landslide victory.

### ***Possible school strikes***

School strikes which can inhibit food system transformation particularly in the domain of FSLs working with schools represent a possible barrier for effective governance. This was a problem with FSLs which were most involved with schools in the execution of their activities. One of the key objectives of the **Tamale FSL** is promoting vegetable consumption in school feeding Program through the establishment of vegetable gardens in school feeding program schools. Key stakeholders of the FSL are Ministry of education (support the implementation in selected schools for gardens), Ghana education service (Support in the selection beneficiary schools), school teachers (Supervise school children and participate the implementation of activities in the schools), parents (Allow the participation of children by authorizing head teachers to sign consent forms on their behalf), and school pupils (Participate in the implementation of project activities). Therefore, any strike action in the educational sector can negatively impact the execution of the activities of the FSL. Considering the fact that school strikes are not an anomaly in Ghana, this could pose a genuine threat to the FSL's activities. As recently as May 2022 it was reported that striking school cooks in Ghana want the government to pay them a year's backdated salary and boost their food grant. The caterers' union blames soaring prices on the war in Ukraine (Deutsche Welle, May 2022). The report further stated that the strike action means that millions of pupils are at risk of going without food. At the Kogni primary school in Tamala where the Tamale FSL is based in Northern Ghana, a 14-year-old pupil said, 'sometimes we come to school without food and our parents do not give us money' (14-year-old Dempuyet Mercy in Deutsche Welle, May 2022). This account highlights the importance of the school meals programmes of the Tamale FSL as well as the threats they face from strike actions.

Ghana is not unique with school strikes. One of the main objectives of Cotonou FSL is improving child nutrition through school gardens and urban farming in peri-urban Cotonou. However, according to Sam Bodjrenou of the Cotonou FSL, strikes occur in Benin in almost every school year. Most of these strikes are coordinated by the powerful teachers' unions which are a legacy of the 1972-1989 period when Marxism-Leninism was adapted as the national ideology. Although this kind of strike action did not affect primary schools which

are the area of operation of Cotonou FSL, they reveal how vulnerable to strike actions working with schools in food system transformation can be.

### ***Conflicting guidelines***

Conflicting interests between different government departments, may result in departments' offering different objectives and preferences with regard to visions towards food systems. For instance, a ministry focused on economic growth and another one dealing with the protection of the environment or agriculture and transport could hold entirely different views on issues related to food system change. These conflicting approaches can lead to fragmented actions framed towards different goals. Here, conflicting interests are not only between government departments. There are also conflicting interests between what FSLs want to achieve and what government policy-makers are interested in. The interaction between FSLs and policy-makers must exhibit some degree of synergy. In the absence of synergistic processes, the resulting system/policy complexity creates an inadvertent barrier to innovation and food system change.

Also, there are conflicting interests and visions between FSLs and other existing initiatives run by other organisations or institutions which could pose challenges to transformation. For example, there was evidence of conflicting guidelines between FSL Rwamwandja and another competing partner in the local food domain (Grainpulse Ltd, a rival organisation working with same women farmers). Emerging competing maize harvest technology propagated by the latter actor is undermining the current FSL approach of FSL Rwamwandja. The innovation of the FSL has been grain bulking and flour processing. However, emerging fast changing technologies by Grainpulse is diminishing the relevance of some of the FSL's approaches. For instance, Grainpulse Ltd are promoting the idea that grain bulking can lead to contamination and high aflatoxin levels in maize. Many grain milling facilities in the region are already modified to harvest and process fresh (green) maize (an alternative method from the grain bulking). As a result, many farmers are selling their maize fresh green to Grainpulse's maize processor. Some women who work with FSL Rwamwandja have embraced this competing technology already because it bypasses the postharvest handling 'burden'. This has affected the current initiatives being promoted by the FSL – particularly grain bulking and flour processing.

### ***Lack of policy coherence and coordination***

Although some barriers could be closely interlinked with one or two of the aforementioned forms of institutional structures, they can also operate independently and as such are treated as distinct barriers (Langloise-Bertrand et al., 2015). An example of such is policy

coordination barrier. This refers to a case in which there could be different standards for different jurisdictions or some standards exist in contradiction to standards set somewhere else (from local, regional, national level and international levels). The inability to identify and agree upon goals and criteria can become a significant barrier at this point. For instance, a survey of U.S. government officials showed that more than 55% of respondents indicated the challenge of defining transformation goals as very to extremely challenging (United States Government Accountability Office, 2009). There is the example of FSL **Fort Portal** in which despite the FSL being in constant collaboration with municipal policy makers, the latter still make unilateral decisions which frustrate the work of the FSL. FSL Fort Portal mainly focuses on street food vendors. The FSL conducts joint inspections with health department for street food vendors in Hygiene and nutritious food preparation. However, policy-makers still went behind the back of the FSL and banned food vending in certain key areas of the city – effectively preventing the FSL from having an impact on the vendors who are the key beneficiaries of their activities.

### ***Barriers due to lack of physical and market infrastructure***

**Poor farm to market transportation** could also be seen as an outcome of a lack of effective governance. Farm to market transport is still a significant challenge with some FSLs. In Chongwe FSL for instance, farmers are usually making losses from their vegetable production not only as a result of the high cost of inputs but because of transportation costs to Lusaka, levies they pay to local authorities to transport their produce, and middlemen involved in the delivery chain to Lusaka. Despite the number of large-scale food processing plants present in the city region, most products from smallholder farmers in Chongwe are sold raw with little value addition. This is because there is little on-the-farm transformation, which results in important food losses and waste, especially in terms of fresh vegetables. The transport network in Lusaka city region appears to be limited, particularly in the rainy season when rural roads are difficult to traverse. Moreover, in the Lusaka-Chongwe city region, farmers are lacking good quality storage facilities, on farms, during transportation and at the market. This has a negative impact on the conservation of especially fresh products. The poor quality of transportation (a failure of effective governance) and storage facilities is responsible for considerable losses and waste due to damages.

**Effects of droughts and seasonality** are other issues which can be indirectly linked to a lack of effective governance. There have been issues concerning inadequate water supply due to droughts which are a result of climate change. Although droughts and seasonality could have global causes, dealing with them requires local efforts and governance is central. A disaster is defined as an event that causes damage, ecological disruption, loss of human

life, or deterioration of health and health services that warrant a response from outside the affected community (Lurie & Carr, 2018) through their abilities to overwhelm local capacities (Morganstein & Ursano, 2020; Ocal, 2020). Following this definition, droughts and seasonality can be understood as disasters. However, it is worth noting that these disasters warrant a response from the affected communities or local capacities. Governance (institutional factor/barrier) has a role to fulfil in mitigating such disasters which are ecological barriers (**see framework in Figure 12**). Both the causes and consequences of disasters are related to the social structures and processes of societies or their subunits (Awuh et al., 2022). By continuously blaming 'nature' and putting the responsibility for failures of development on freak natural phenomena, curses, hard luck or 'punishment from God or the gods', people continue to enable those who create disaster risks (hazards) by accepting poor urban planning, increasing socioeconomic inequalities, non-existent or poorly regulated policies, and lack of proactive adaptation and mitigation to avoid detection (Awuh et al., 2022).

Climate change has largely affected the Chongwe area with the Chongwe River drying up at certain times of the year leaving people and animals to rely on the stagnant ponds left on the dry river bed. To overcome this problem, Chongwe FSL has been training farmers in proper drying and preservation of vegetables and simple **packaging (see Figure 13)**. Despite limited success with this, it is still clear that alternative strategies have to be put in place to tackle extreme weather patterns in some areas. Responsibility over these alternative strategies lie with the role of effective governance in climate change mitigation.

**Figure 13. Dried vegetables in Chongwe FSL**



Tamale FSL is another case in which farmers have to deal with extreme drought during the dry seasons. In Tamale, mango planting and maintenance is difficult due to seasonality of the weather with extreme droughts in the long dry seasons. Also, school vegetable gardens which are a key part of the activities of the FSL are difficult to maintain due to climate change-related extremities in weather patterns. The challenges are the lack of water facilities during the dry season for watering the mangoes and vegetables in the school gardens.

Another factor related lack of effective governance is the **lack of political will to enforce regulations or agreements**. In the case of FSL Nairobi, the FSL signed a memorandum of understanding (MoU) with local policy-makers (County Government and Metropolitan Services). The MoU is a document the FSL shares with stakeholders in which they stipulate the roles of each stakeholder. It is a working agreement and by signing this agreement, in principle, policy-makers are obliged to support the activities of the FSL and live up to their responsibilities. However, in practice that is often not the case. The FSL coordinator for FSL Nairobi with reference to lack of political will to enforce or honour the MoU said:

*The power/political dynamics surrounding the County Government and Metropolitan Services have slowed down the process of enforcing the MoU to guide our partnership with this stakeholder. Some county officials have not been open to further engagement with us before the completion of this MoU process. (FSL Nairobi)*

In the case of FSL Lusaka, inability of local city council to enforce legislation on food sanitation in the city has been a problem. There is a public health guide in Zambia which actually regulates sanitation standards in food being sold in the city and the enforcement of this public health act will greatly facilitate the task of the FSL. However, the lack of enforcement of this sanitation act by the local public health authorities has been a major institutional barrier. The FSL does not have law enforcement capabilities to overcome this barrier.

### **Norms and values on what 'good' food and farming entails (an informal institutional barrier)**

It was observed that people (producers and consumers) do not attach much value to certain key concepts around food system transformation such as the concept of 'organic produce'. In Chongwe FSL for example, there is high chemical use of chemicals in vegetable farming as a means to fight the pests (Chongwe). However, these chemicals are usually expensive and also poisonous. Furthermore, the farmers are usually not properly trained on how to handle these chemicals safely. Chongwe vegetable farmers often buy agrochemicals from agro-dealers. The challenge that most dealers have is that they are not agronomists and to



them, selling chemicals is just business. Therefore, they do not take adequate precaution in properly training farmers on how to handle the chemicals. According to agro-chemical research undertaken by Hivos (HFA partner in WP7), agro-dealers in Chongwe had limited knowledge of the chemicals themselves and relied on the information given to them by the marketers. For example, it was found in Chongwe that a sales person employed by the dealer was handling all the chemical containers in the shop with bare hands (According to testimony from FSL Chongwe coordinator).

To overcome this problem, one of the objectives of the Chongwe FSL became the need to enhance capacity of farmers in sustainable production methods - e.g., organic farming. FSL Chongwe have set up programmes to train farmers in sustainable organic agriculture and organic vegetable production. The FSL has given training in access to markets and clearly understand what the challenges are. Trainings covered organic vegetable production and farmers have been urged to adopt new ways of farming that are environmentally friendly and have been able to use farming methods that are not expensive to manage. One of such methods has been organic pest control. This refers to the management and control of pests without the use of poisonous agro-chemicals in Chongwe District. Members of the FSL are concerned with the pest infection of vegetables in Chongwe. Therefore, they turn to agro-chemicals for control and management of these pests hence poisoning their food. The organic pest control developed by the FSL gives these farmers a safer and more environmentally friendly option.

However, organic production is currently at very small scale as there is need to change mindsets and attitudes at the levels of both production, marketing and consumption. Marketing organic products which are more costly to produce at the same price as inorganic produce which is cheaper to produce is proving difficult to organic crop farmers in Chongwe. According to the Chongwe FSL coordinator:

*The problem we are having here is that there is no price differentiation between organic produce and inorganic produce. However, the production process for organic produce is much more expensive than that for inorganic produce. This puts organic crop farmers in a very difficult place financially. (FSL Chongwe coordinator)*

The same problem with valorisation of organic products or produce was observed by the Lusaka FSL. Here, the FSL coordinator said:

*People do not value organic products here. It is challenging for us to change a more widespread practice such as usage of artificial fertilisers in to more organic production. Here, people have been using artificial fertilizers for several years. So, to just say they should start using this organic process is challenging. We are still trying*

*to figure out how to ensure that people here can switch to more organic farming practices. (FSL Lusaka coordinator)*

Additionally, in Bahir Dar, a fish consumption culture is not very strong. This is because of the unavailability of fish feed locally and also high price of fish feed. The combination of all these factors makes fish consumption less of a cultural norm in the area. In this case, in order to make innovations in fish production by the FSL more useful to the consumers they are targeting, there is the need to also address informal institutional constraints concerning norms around valorisation of fish consumption.

### **Limited resources**

**Fort Portal:** The resources available have not been adequate to facilitate or sustain a number of innovations the FSL is carrying out. They have spent the money that was disbursed to them for the activities of 2020, 2021 and now using the resources that were allocated for 2022; a fund request will be submitted to the HFA partner HIVOS in June 2022 in which they will detail how much is needed to sustain their innovations. Also, the current inflation is hindering the attainment of the FSL goals and objectives. This is possibly because budgets were worked out before the current general increase in costs of living – infamously linked to the Ukraine war.

**Accra FSL:** Generally, there are limited funds for activities expected to result in food system transformation. As a result, the FSL might cut off some but important activities.

**Rwamwanja: Lack of adequate and up-to-date technology:** Emerging competing maize harvest technology is undermining the current FSL approach. The innovation of the FSL has been grain bulking and flour processing. However, emerging fast changing technologies diminish the relevance of some HFA approaches. For instance, Grainpulse Ltd (a partner working with same women farmers) has introduced a new technology buying green fresh maize and drying it at the processing. They also promote the idea that grain bulking can lead to contamination and high aflatoxin levels in maize. Many grain milling facilities in the region are already modified to harvest and process fresh (green) maize (an alternative method from the grain bulking). As a result, many farmers are selling their maize fresh green to the processor. Some women who work with the FSL have embraced this competing technology already because it bypasses the postharvest handling 'burden'. Some maize processors are promoting a cob-web technique – harvesting and processing fresh maize. This has affected the current initiatives being promoted by the FSL – particularly grain bulking and flour processing. In response, the FSL is creating awareness to the farmers to appreciate the difference in returns and embrace the bulking process. Also, the FSL could alleviate this challenge by promoting alternative income generation activities –

particularly vegetable growing for sell, savings and borrowing, and other non-farm income sources targeting the men. This could be a solution to dealing with the competing technology because even with bulking centres in place, some women sold their maize to local maize collectors because they needed immediate cash to cater for pressing family needs instead of storing their maize longer at the bulking store. Providing them with an alternative source of income could give them the economic lifeline needed for them to be patient with the FSLs innovation.

**Chongwe:** Organic Vegetable Production in Chongwe has encountered problems related to limited resources. For instance, some new methods learnt have been difficult for the farmers to adopt as ingredients are expensive. For example, making *bokashi* to enhance soil fertility requires the use of molasses and it's not an easy product to get especially given the location of the farmers. To mitigate this, farmers have been taught to use fermented fruits during seasons of plenty to replace molasses. Also, they have been encouraged to work in groups and acquire ingredients together rather than do solo projects. This is also one of the aspects that the vegetable cooperative once formed will work on. To mitigate this challenge HFA has purchased initial ingredients for bokashi making to grow the momentum of the practice as the FSL works to establish a cooperative that will manage this problem.

### ***Covid-19 restrictions***

**Rwamwanja:** Covid-19 restrictions adversely affected the pace of project implementation in some FSLs especially Rwamwanja. This was exacerbated by the 'Verification and Profiling' of refugees and asylum seekers (October – to December 2021), which inadvertently halted most activities within the refugee settlement. These were mitigated by the FSL focusing on activities which were not limited by the restrictions, and strict observance of the COVID-19 Standard Operating Procedures (SOPs). For instance, in addition to adherence to SOPs, trainings that attracted large numbers of participants were bifurcated and spread over longer training periods.

### ***Communication - Language barrier/Literacy***

**Rwamwanja:** In Rwamwanja FSL, low literacy levels of both village enterprise agents (VEAs) and the farmers constrained the trainings and field extension activities. Most of the refugees in Rwamwanja are francophone (or speak other Congolese languages uncommon in Uganda). Training of VEAs was constrained by their low literacy. It has been even more challenging for the VEAs to 'translate the uploaded content' to the farmers because they need to do so in local languages spoken by the farmers. Whenever a local trainer is not available, local interpreters help external trainers although this prolongs the training time.

Uploaded content on mobile phones was also draped with photographs, images, and other visual material to ease communication between VEAs and the farmers. In addition, going forward, VEAs will be trained on how to use the uploaded content using the local language.

### **4.3 Gender**

**Tamale:** The involvement of men has been minimal because the interventions of the FSL target women and child. However, men have been supportive in most of the activities particularly the release of land for the cultivation of soya.

**Fort Portal:** The FSL approach puts into consideration both men and women in discussing pertinent issues of the FSL. The stakeholder groups such as Orugali women groups, vendors association, coalition of the willing, food ambassadors among others are gender sensitive to add the involvement of both men and women. These engagements are done through meetings, FSL workshops, focus groups discussions, dialogues and research.

**Bahi Dar:** Although the communities they work in are male dominated, the FSL is doing its utmost to involve both men and women in their activities.

**Rwamwanja:** Before the project started, community awareness / sensitization meetings were conducted to explain the project and to encourage women to participate in the project. Before selection of the women participants, a joint selection committee was set up, and a selection criterion developed, to ensure transparency and fairness. The women formed their own producer groups. Although they are 'Women Groups', they comprise some men. The members of the women producer groups selected group leaders themselves. In several women groups, men were elected in leadership positions by the women.

During the start-up phase, meetings were conducted with the women to adapt key activities, discuss expectations, roles, and responsibilities. Thirty-six women groups were established through which information is shared and decisions taken at group level. Out of 36 groups, 10 Marketing Clusters were formed by the women, each being an amalgamation of 3-4 women groups, and their leaders (8-11 women members) were selected. The cluster is the smallest entity through which plans, decisions etc are made by the women and feedback passed to the women. In addition, out of the entire 1,000 women selected 3 women representatives were selected who are part of the Project Group (higher level) representing the women at higher level fora including UNHCR, OPM etc where women's decisions need to be taken into consideration. These women take part in all planning meetings, joint monitoring of activities, key trainings, etc. and provide feedback to the Project Group. The

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FSL has a functional Complaints Response Mechanism (CRM) in place in the refugee settlement and daily interaction with the women ensures participatory process, complaints are sent, and feedback given on implementation of planned project activities.

**Cotonou:** The approach adopted in the FSL on gender is to consider both men and women equally. In urban gardening activities, women represent a lesser percentage of farmers. However, they had been included to discussions and participate to the activities since there are also members of farmers associations. Association leaders who are women were considered in discussions about description of production system before setting up the implementation. At school level, cooks are mainly women. In selecting children, a simple randomized approach was used considering the fact to allow all the sexes the same probability; the sex-ratio in the sample was 0.9.

**Nairobi:** Nairobi FSL is actively engaging both men and women in the HFA project. Their team as well as the multi-sectoral advisory group consists of both men and women. The community groups which they are working with include women and youth groups.

**Chongwe/Lusaka:** Men and women have been involved in the projects of the FSL and women have been allowed to come and participate with their children when they cannot find child support during training sessions.

## 5. Emerging Innovations

HealthyFoodAfrica (HFA) encompasses a wide range of technological, social and organisational innovations. From its inception till the date of this deliverable, the HFA project through the joint work of the thematic WPs and the 10 FSLs has developed and piloted a range of technological, social and organisation innovations in the 10 FSLs. This implies that innovations are not necessarily technical. They could also be social and even technology-based food product and system innovations must be socially and culturally adapted to have a widespread impact. To maximise project impact, realising actual innovations in food chain governance, technologies, and business models is facilitated in the FSLs. The joint work of the thematic WPs and the 10 FSLs covers a wide range of such innovations. It is worth noting that innovative processes and outcomes are ongoing among the FSLs. Therefore, the list of innovations will be constantly updated as FSL activities unfold. This section presents an overview is given of some innovations which have been realised so far as part of the HFA project. These include: Food safety grading; training in organic farming; mobile app for farmers to enhance their access to markets; Integration of nutrition into the school curriculum; development of Organic/Biological agriculture in urban areas; Empowering women economically through formation of Village Savings and Loans Associations (VSLAs); Promoting the use of inoculants in production of soya; multiplication farm for indigenous crops; Food safety and biodegradable packaging; use of mobile radio for sensitization; Joint innovation/co-creation of pulse production, vegetables and fish technologies to address supply side bottlenecks such as soil acidity and crop nutrition; establishing a locally-based extension structure; and building a direct linkage between farmers and maize buyers, reducing the exploitative influence of middlemen.

**Lusaka - Food safety grading:** In order to enhance capacity of traders in food safety, traders have been trained in food safety and the FSL is in the process of working with the city council to grade eating places as part of the outcomes of the training. Therefore, the Food safety program is running well because of by-in from the city council. This is because it has been easy to incorporate what came out of the training into the routine check for inspectors in the markets where the FSL is working. The FSL is also planning a follow up activity with scaled-up sensitization on food safety issues before the grading of eating places can be implemented.

**Chongwe- Training in organic farming:** Farmers have been trained in sustainable organic agriculture and organic vegetable production. The FSL has trained farmers in sustainable organic agriculture and organic vegetable production in November 2021. The FSL have given training in access to markets and know what challenges are faced. Trainings covered what

farmers need to do to increase their chances to access local markets. With this, organic vegetable production (See **Figure 14**) is running well as farmers have adopted new ways of farming that are environmentally friendly and have been able to use farming methods that are not expensive to manage. One of such methods has been Organic pest control. *This refers to the* management and control of pests without the use of poisonous agro-chemicals In Chongwe District. Members of the FSL are concerned with the pests affecting vegetables In Chongwe. Therefore, they turn to agro-chemicals for control and management of these pests hence poisoning their food. The organic pest control developed by the FSL gives these farmers a safer and more environmentally friendly option.

### **Figure 14. Organic vegetable farming in Chongwe**



Source: Mangiza Chongo (Chongwe FSL)

**Chongwe- Mobile App for farmers to enhance market access:** There already exists a mobile app that farmers are currently using called Limalinks. However, it still has challenges and the FSL will continue to work with the app managers to enhance the experience of the farmers with the app. The challenge here is more administrative. The developers are still reviewing EU policies on supporting such existing innovations or new apps to replace existing one.

**Cotonou - Integration of nutrition into the school curriculum:** Current feeding practices and nutritional status of children and characteristics of primary schools' food environment have been documented by the FSL. This allows the FSL to identify the weakness regarding nutrition in school canteens and the need of improvement. A literature review among existing nutrition education material regarding primary schools was completed in June. Complementary nutrition education material will be developed and validated in July-September (holidays period). Implementation of the nutrition education program will start in October 2022. See **Figure 15** for one of the schools to benefit from this innovation.

**Figure 15. Nutrition in schools project of Cotonou FSL**



Source: Sam Bodjrenou (Cotonou FSL)

**Cotonou - Development of Organic/Biological agriculture in urban areas:** Different urban production systems were characterized. An experimentation had been implemented with urban gardeners (see **Figure 16**) to assess the efficiency (yield, nutrition value, sanitary quality etc.) of different fertilizing approaches in order to have evidences for changes. Data are being analyzed and Restitution to stakeholders is planned in July/August and followed by the implementation of the plan.

**Figure 16. Experimentation with urban gardeners in Cotonou**



Source: Sam Bodjrenou (Cotonou FSL)



**Tamale FSL innovations:**

- ✓ Promoting vegetable consumption in school feeding Program through the establishment of vegetable gardens in school feeding program schools. Foreseen results: 10 school vegetable gardens established and running.
- ✓ Promoting the use of inoculants in production of soya. Foreseen results: 20 Women's groups of 25 each have used inoculants in production of soya.
- ✓ Empowering women with skills in soya production. Foreseen results: 20 VSLA women groups equipped with skills in soya production (See **Figure 17**), and 20 VSLA women groups equipped with skills in soya processing into various recipes.
- ✓ Empowering women economically through formation of Village Savings and Loans Associations (VSLAs). Foreseen results: 20 Vibrant Village Savings and Loans Association (VSLAs) groups in place.
- ✓ Planting of mangoes in the school compounds and communities . Foreseen results: 1000 mangoes seedlings planted in the schools and communities.

**Figure 17. Women engagement in Village Savings and Loans Association, Tamale FSL**



Source: Victor Yakubu (Tamale FSL)

VSLA are money saving associations set up by groups of women. The contribute money into a kind of piggy bank and the keys to the box are held by a couple of these women. The person who keeps the box with the money has no access to the box because that person is

not allowed to have a copy of the key. The box can only be opened when all keyholders are present. That's how the concept of VSLA works. They decide on how much the contributions should be and when to meet up and open the boxes.

**Fort Portal - multiplication farm for indigenous crops:** In Fort Portal Food System Lab there has been the establishment of a multiplication farm for indigenous crops to provide indigenous seeds to farmers. Here, the FSL has been able to conduct food and cooking demonstrations of the locally available indigenous foods in the community on a quarterly basis. Two sessions of *Orugali* (indigenous food preparation demonstrations) have been conducted at village level in order to promote indigenous food and dietary diversity.

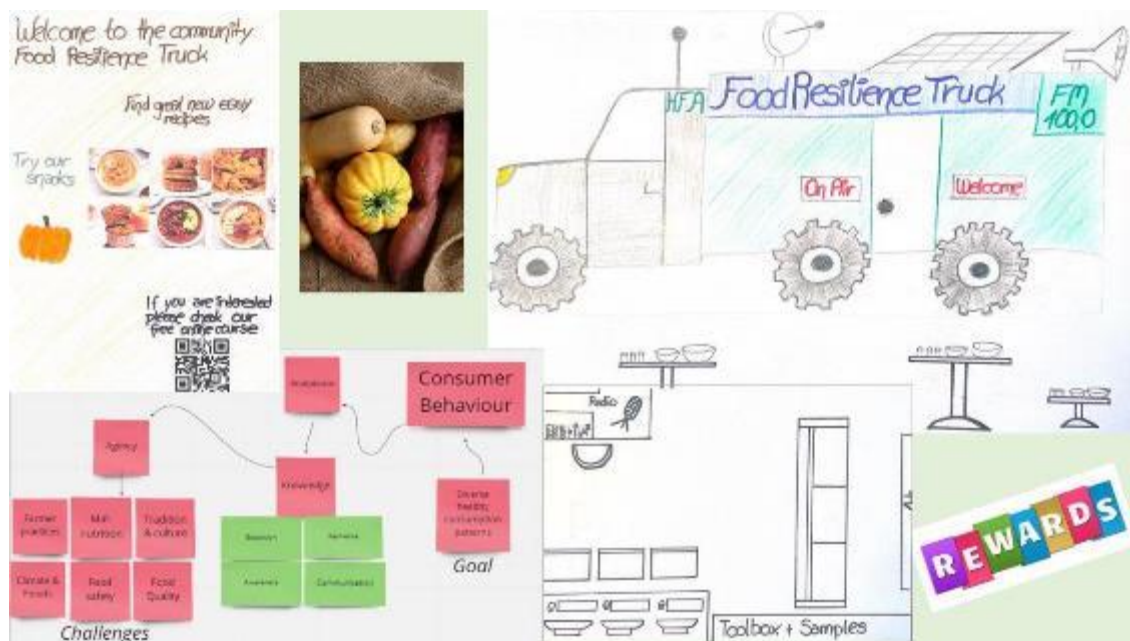
**Fort Portal – Food safety and biodegradable packaging:** The FSL advocates for safe food vending spaces to ensure food safety and, in the same regard, introduce innovative biodegradable packaging materials made of locally available materials for the foods sold on streets other than the synthetic plastic bags that are currently and commonly used. This has been realised by training 40 members of the nutrition coordination committees at the District and Sub County levels. Similarly, 150 street food vendors have been trained on food safety; 30 journalists have also been trained on the food systems, nutrition and food safety. 50 food processors have also been trained on food safety and good manufacturing and good hygienic practices. All members of the coalition of the willing have been trained on advocacy, food systems, and nutrition and food safety.

**Fort Portal – Use of radio for sensitization:** The FSL has also conducted community awareness meetings and weekly radio talk shows (3 days per week) in order to create awareness on agroecology, dietary diversity and nutrition, food safety among others. Journalists have been able to confidently report and host programs on food systems, nutrition and food safety.

The FSL also collaborated (co-created) with Masters students in food system innovation at Aeres University of Applied Sciences in Almere on innovative ways of using the radio for community sensitization. As part of this innovation, a prototype was designed to promote outreach programmes for remote communities using the radio (see **Figure 18**) food resilience centre on the road was designed to carry the radio station around remote places in Fort Portal. This will be an old army truck that is reformed to a resilience truck. A truck is chosen because of the accessibility. The infrastructure in Fort Portal is not great everywhere, so it can be hard for farmers and some consumers to come to a central place in the city. The farmers do not have to come to the city, instead the resilience truck will come to the farmers in their own surrounding to inform them. The farmers can come in the truck, which is equipped with multiple tools which can help the farmer. There is a solar panel on the truck in order to collect electricity.

Firstly, it is important to attract people to the resilience truck. Therefore, flyers will be handed out in the area. These flyers are provided with information about the location of the truck, what people can expect on the truck and why they to come. Furthermore, in order to attract people, the flyers do show people that music and food are part of the truck. There will be a loudspeaker on top of the truck. A commercial with the information about the schedule and what people can expect of the truck will be played through this loudspeaker. Loud music will also be played because music is an important part of the African culture. This will probably attract many citizens to the truck. Especially children, which is important since they are the pathway to reach parents. Another way to attract people is via the radio that is on board of the truck. Via the radio, the location of the truck will also be shared. Therefore, people know when and where they can visit the truck. The radio program is a way to create awareness to the problem and educate citizens and farmers. This will be done by interviews and talks with experts, other farmers and consumers. Those interviews and talks will be recorded in the truck and later be broadcasted at different times and on different radio channels.

**Figure 18. Prototype illustration of Fort Portal radio FM 100 on wheels**



The truck is provided with many features to share knowledge with the farmers and citizens, such as toolboxes, computers and a TV. The toolboxes will be provided with seeds, cuttings and full-grown crops. This way, the farmers have the chance to feel, taste and see other crops that they might not know at this point. Furthermore, the farmers know what they can expect when growing a new variety. The TV in the truck shows videos with explanations

about, for instance crop management for education purposes, to create awareness and to give examples. Computers will be available to get in contact with other farms and experts. In addition, this computer makes it possible to follow online courses in order to create awareness and provide education. The online course will show the farmers the importance of a healthy diet, how to grow the crops and how to work together with other farmers to share the food.

Next to the materials to provide the farmers with information, there will be also people with knowledge on the truck. This will be people from the community, which decreases the threshold for people to come in contact with them. Local experts will also help to attract citizens to come to the truck. The experts can help the farmers when they have a specific question or problem. Furthermore, the experts can go to the farm and look for specific solutions and needs of the farmers. Connecting people, such as experts, farmers and citizens is another important goal of the truck. To attract and thank people for coming to the truck there will be a reward. If the farmer participates in the online courses they will get seeds, vegetables and recipes in order to start growing the crops and already get to know one of the other vegetables by prepare and eating them. For the people who come around, there will be some snacks which are vegetable related and the children will also get colouring books with stickers and pencils. The books and stickers will be with vegetables, so the children already get in touch with the different types of vegetables. This all helps to work towards a better and a healthier food pattern in the surroundings of Fort Portal, Uganda.

***Bahir Dar - Joint innovation/co-creation of pulse production, vegetables and fish technologies to address supply side bottlenecks such as soil acidity and crop nutrition:*** These innovations address three areas of concern which are as follows:

1. Output (especially cash crop production) is decreasing because of soil acidity. The innovation introduces technology that will reduce acidity and increase PH value of the soils to enable cash crop production. This has been realized by the introduction of the use of legumes to reclaim such soil acidity. These legumes include:
  - Bitter lupine – useful for reclaiming acid soils and also source of protein for the poor. This was achieved by conducting interviews with lupine growers (farmers) and the collection of soil samples from different locations.
  - Haricot bean - useful both for soil fertility but also for income because it can be consumed directly. This was realized through combined application of: Inoculation of 2 rhizobium strains; lime addition; and Starter N (10kg/ha and 20 kg/ha).

2. The production of certain crops in the rainy season is currently being hampered by the presence of pests. So, they hope to introduce technology that will boost the production of crops in the rainy season. Crops such as tomatoes which are often the most affected by these rainy season pests.
3. Concerning fisheries, there are water storage facilities which are often used in the dry season. However, during the rainy season, these facilities are not being used by the farmers because there is rain. They want to use these storage facilities for the production of fish during the periods when farmers are not using them (in rainy season).

**Rwamwanja- local Community-based extension structure** - Ten village enterprise agents (VEAs) have been trained in good agriculture practices and in extension methods. Each is responsible for a designated number of women farmers in given villages. Each VEA has a bicycle to be able to move during their work. Each VEA has a mobile phone preloaded with GPS enabled content for reference during community extension work. There is a back-end platform where the activities of VEAs, feedback from the farmers, commonly encountered field problems etc. are being monitored and information updated accordingly.

**Rwamwanja - Building a direct linkage between farmers and maize buyers, reducing the exploitative influence of middlemen:** One thousand women are grouped in 36 producer associations (POs). 3 POs further make up one Marketing Cluster (MC), therefore there are 10 MCs. Around a MC is a bulking centre, therefore 10 maize bulking centres are established and functional. All the women are trained in collective marketing strategies. A multi-stakeholder platform (MSP) is being setup to bring together different maize value chain actors to discuss common constraints and opportunities. Also, as part of this innovation, maize value addition is created through processing, packaging, labelling and distribution of traceable quality maize flour.

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## 6. Next steps

The chances for a maximum exploitation of project results increases with both, stakeholder engagement in the project and the capacity to innovate and learn, including from each other, that is across the 10 FSLs as well as across the thematic WPs. As a result, in order to boost impact and maximum exploitation of the results of the HFA project, we will actively pursue two main goals in the coming months. These include; scaling up innovations and impact, and foresight workshops to strengthen pathways to change.

### **Scaling up innovations and impact**

Going forward, there is the need to focus on key innovations, and undertake market/business assessments to scale up the innovations. The dynamic co-learning relationship between research and practice, and the strengthened innovation capacity among consortium partners and stakeholders involved in the 10 FSLs are factors that will directly foster impact. In this respect, scalability and the potential for wider uptake of approaches, technologies and business models are other key questions that we should still consider. This will be one of our main tasks going forward. So, how do we intend to increase scale with respect to the innovations already accomplished in this project?

One way is by establishing links between FSLs in the same country, if applicable. The case of Chongwe shows how to increase influence, when linking to Lusaka and coordinate activities at regional scale. The vegetables being produced in Chongwe are mostly taken for sale to the nearby city in Lusaka. However, there are so challenges associated with storage, transportation and market access. Linking the Chongwe FSL to the Lusaka FSL on marketing and vending (market issues) brings new opportunities. The FSLs need to address this market access challenge by linking Chongwe FSL participants to traders in the Lusaka FSL, but also at the Lusaka Food Policy Council Level. Furthermore, the Accra FSL, in close collaboration with WP 6, shows that product value addition, and sharing best practices amongst FSLs supports scaling up. The Accra FSL highlighted the need for more coaching on strategies and sharing of best practices amongst FSLs to achieve goals. WP7 will answer such calls in the coming months by facilitating the sharing of best practices between FSLs as a way of scaling up.

### **Foresight**

Foresight is conceptualized as the collection of practices used to imagine desired or plausible futures (van Notten et al., 2003). It is a common descriptor for the diverse

collection of tools that exists for imagining futures in strategic planning or research contexts (Jemala, 2010) and offers opportunities for collaborative work that are not otherwise possible considering the constraints of the present (Wilkinson & Eidinow, 2008).

The initial step to a foresight is visioning and this is what we intend to do in the coming months. To consider how a visioning can be done, a popular method for formulating pathways toward transformation is through a theory of change for existing platforms. When explorative foresights are considered using a theory of change, the goal is to explore plausible, challenging futures and what they imply for the set goal or strategy (Hebinck et al., 2018). Such explorations offer contexts against which to consider strategy or policy options. Here, each living lab will offer its own specific set of challenges and opportunities. In practice, this means that a vision of (a) desired future(s) should be imagined (exploratory), and pathways toward that vision should be developed (normative). In other words, a vision and the pathway(s) towards change (normative) can subsequently be tested against multiple explorative scenarios, with each scenario offering different challenges to test and enhance the feasibility of the imagined pathway toward the desired vision (Hebinck et al., 2018). This will help stakeholders in the FSLs to test and examine the assumptions they are making about how to achieve transformative change, and what the nature of this desired change can be.

Thus, the work on foresight (7.3), which is research as well as project management and support to achieving impact. In that regard, we will organize foresight workshops with the FSLs. Sample questions to be addressed during these foresight workshops guided by the theory of change with FSLs include the following:

1. Has the stakeholder platform been established?
2. Where are we now? Do you have a vision? (Defining first what a vision is)
3. Who is needed to perform this vision?
4. Which stakeholders are needed?
5. How are you going to monitor?

We intend to organise these foresight workshops with each FSL - start with those that need support the most in collaboration with WP1. The outcomes of these foresight workshops will strengthen the pathways (of change) identified along with outcomes generated by the work being done by the FSLs. This will provide an actor capacity needs assessments before the normative stage of the Foresight workshop – towards change. The outcome of these foresight workshops will: 1) enable WP7 to develop overall indicators for change in the FSLs;

- 2) be of direct value to existing linked to existing Monitoring Frameworks within the FSLs;
- 3) continue to improve Policy and Institutional analysis. This is through deliberate stakeholder interventions and how such interventions can help in shaping policies.



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## **8. Annexes**

Information sheets Theory of Change Food System Labs

1. Kenya: Kisumu
2. Kenya: Nairobi
3. Uganda: Rwamwanja Refugee Settlement
4. Uganda: Fort Portal
5. Ethiopia: Bahir Dar
6. Benin: Cotonou
7. Ghana: Tamale
8. Ghana: Accra
9. Zambia: Chongwe District
10. Zambia: Lusaka

## Kenya: Kisumu FSL

### General information

Name of FSL	Food System Lab - Kisumu (FSL-Ki)
Primary contact person(s)	1. Mr. Robert Ouko 2. Dr. Christine Chege
Contact details of contact person(s)	1. Mr. Robert Ouko Email: <a href="mailto:R.Ouko@cgiar.org">R.Ouko@cgiar.org</a> Phone: +254728513959 Alliance of Bioversity International-CIAT 2. Dr. Christine Chege Email: <a href="mailto:c.chege@cgiar.org">c.chege@cgiar.org</a> Phone: +254721475770 Alliance of Bioversity International-CIAT
Scale of operation (urban, rural, peri-urban, regional, national)	<ul style="list-style-type: none"> <li>• Mainly urban, with rural and peri-urban linkages:</li> <li>• Major operation will be done in urban areas of Kisumu (specifically, Obunga and Manyatta informal settlements) with rural/peri-urban linkages. We will work with ALV farmers from rural areas of Vihiga County and those from peri-urban areas of Kisumu County</li> </ul>
Level of operation in food system (production, distribution, storage, marketing, consumption).	<ul style="list-style-type: none"> <li>• For our target value chains (Fish and ALVs), we will focus on entire value chain from production (including input supply), processing, marketing, distribution, storage, and consumption levels.</li> <li>• However, for other food items, we will focus on marketing (food environment) and consumption levels.</li> </ul>
What Work Packages of HFA you are working with?	WP1, 2, 3, 5, 6, 7, 8, 9, 10
How are these different HFA Work Packages brought together in your FSL?	<ul style="list-style-type: none"> <li>• Since we focus on the entire fish and value chains, we find each work package playing significant role in our FSL right from production, processing, marketing/distribution all the way to consumption point.</li> <li>• WP3 is important since it will help us realize sustainable, and resilient production of our target food products (fish and ALVs).</li> <li>• WP5 helps us achieve stronger, efficient, resilient, nutritious, and sustainable market linkages, and fish and ALVs value chains through</li> </ul>

	<p>various pilot value chain approaches i.e innovative value chain governance arrangements</p> <ul style="list-style-type: none"> <li>• WP6 comes in at processing level and assist us in developing novel products, tools, process and business models for our target value chains</li> <li>• WP2 ensures nutrition and mainstream healthy dietary patterns through increased awareness and rapid but sustainable transformation of consumption habits in our FSL</li> <li>• WP1 through transdisciplinary actions, helps in tying the thematic work packages together as well as create a mutual vision and understanding of project objectives. It provides use with technical skills to understand multi-stakeholder approaches as well as gender issues on related work packages.</li> <li>• WP7 helps us maximize the sustainable impact of the HFA project by kick-starting a self-propelling process that leads to wider uptake of promising approaches, technologies, business models and policies in our FSL</li> <li>• WP8 support us with effective project implementation and impact through strategic communication and dissemination activities, to meet expectation of related work packages</li> <li>• WP9 helps in coordinating all HFA project activities including those of thematic work packages</li> <li>• WP10 helps us in understanding ethical issues and requirement while implementing activities involving various work packages</li> </ul>
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**Objectives and key outcomes**

<p><b>What is the main objective of the FSL?</b></p>	<p>Enhanced African leafy vegetables and fish value chains for diverse, safe, nutritious and affordable food for urban poor</p> <p>In this regard, As FSL-ki we aim at improving diets of urban poor consumers in urban Kisumu through increased production and consumption ALVs and fish i.e. making ALVs and fish available, accessible and affordable to the urban poor</p>
<p><b>What are more specific objectives of your FSL?</b></p>	<p>i. To promote sustainable production of healthy and nutritious food products, especially African Leafy Vegetables (ALV) and fish</p> <p>ii. To promote consumption of safe and nutritious commodities, especially ALVs and fish</p>

	<p>iii. To improve the efficiency and functioning of food chains by connecting value chain actors along the ALV and fish value chains</p>
<p><b>What are the key outcomes?</b> (Please define in changes you hope to achieve and be as specific as possible)</p>	<ol style="list-style-type: none"> <li>1. Increased nutritional knowledge and awareness i.e on diet diversity, nutritious and healthy food products including ALVs, Fish</li> <li>2. Increased resilient, sustainability and production of healthy and nutritious food products including ALVs, fish</li> <li>3. Increased consumption of diverse, safe/healthy, nutritious and affordable food products including fish, ALVs</li> <li>4. To realize stronger market linkages and strengthened and efficient fish and ALV value chains</li> <li>5. Increased incomes of various actors along Fish and ALV value chains</li> </ol>
<p><b>What are the key activities needed to achieve these outcomes?</b> (Please list each outcome and link it to what is needed to achieve it)</p>	<ol style="list-style-type: none"> <li><b>1. Increased nutritional knowledge and awareness i.e on diet diversity, nutritious and healthy food products including ALVs, Fish</b> <ul style="list-style-type: none"> <li>• Nutrition Nutrition education, awareness creation, and training of Community Health Volunteers (CHVs), food vendors, and urban poor consumers on dietary diversity, nutritious and affordable recipes/food calendars, food safety, and importance of consuming nutrient-dense diets</li> <li>• Demonstration on on appropriate cooking and food handling methods</li> </ul> </li> <li><b>2. Increased resilient, sustainability and production of healthy and nutritious food products including ALVs, fish</b> <ul style="list-style-type: none"> <li>• Piloting &amp; establishing innovative and sustainable urban gardening techniques for ALVs production i.e. sac, hanging, vertical, pot gardens etc.</li> <li>• Training consumers and producers on urban farming approaches</li> <li>• Training the urban farmers on safe, sustainable, conservative, and year-round production</li> <li>• Ensuring provision of farm inputs seeds etc. through linkages to ALV farmers in Vihiga</li> <li>• Pilot/setting up an aquaponics system with potential private investors</li> <li>• Studying and designing a business models for fish farming and marketing including rural financing possibilities for further scaling up of aquaponics system</li> <li>• Training traditional fishing households on challenges, efficiencies and costs reduction</li> </ul> </li> </ol>



	<p><b>3. Increased consumption of diverse, safe/healthy, nutritious and affordable food products including fish, ALVs</b></p> <ul style="list-style-type: none"> <li>• Capacity building on sustainable, resilient and nutritious production systems for on fish and ALV</li> <li>• Sustainable urban ALV farming /gardening</li> <li>• Nutrition education, awareness creation, and trainings</li> <li>• Promoting of innovations in fish production i.e aquaponics</li> <li>• Development and piloting of novel products, processes, tools, and agribusiness model for ALV &amp; Fish value chains</li> <li>• Strengthening market linkages and value chain efficiencies</li> </ul> <p><b>4. To realize stronger market linkages and strengthened and efficient fish and ALV value chains</b></p> <ul style="list-style-type: none"> <li>• Building capacity of processors on novel products, processes, tools and business model for fish and ALVs value chains (Youths/women)</li> <li>• Training farmers in Vihiga on farmer business, entrepreneurship, market linkages, chain efficiencies, food safety and quality</li> <li>• Piloting innovative value chain governance arrangements to link urban vegetable producers with other farmers i.e peri-urban Kisumu, Vihiga</li> </ul> <p><b>5. Increased incomes of various actors along Fish and ALV value chains</b></p> <ul style="list-style-type: none"> <li>• Capacity building on fish and ALV sustainable, resilient and nutritious production systems</li> <li>• Sustainable urban ALV farming /gardening for consumption and sale of surplus</li> <li>• Promoting and piloting of innovations in fish production i.e aquaponics system</li> <li>• Development and piloting of novel products, processes, tools, and agribusiness model for ALV &amp; Fish value chains</li> <li>• Strengthening market linkages and value chain efficiencies through pilot action on innovative value chain governance arrangement</li> </ul>
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**Beneficiaries**

<p>Who are the main beneficiaries you seek to involve? Who will benefit from your intervention (s)?</p>	<ul style="list-style-type: none"> <li>• Consumers (Urban poor consumers)</li> <li>• Other primary value chain actors – Fish/ALV producers, processors, traders (wholesaler/distributors/retailers)</li> </ul>
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<p>Do you have clear what you want these actors to do at the end of the project, and do they know?</p>	<ul style="list-style-type: none"> <li>• Yes, at the end of the project, we need actors to consume diverse, healthy and nutrient dense diets. We also need them to be engaging in sustainable and resilient production and value addition of ALVs and fish for improved nutrition and income. They should be engaging in stronger, coordinated, efficient, connected and sustainable Fish/ALVs marketing chains. i.e be supplying to supermarkets, export</li> <li>• Currently, we are still in the process of meeting relevant actors and stakeholders to explain to them our project, its aim as well as changes we want to bring on. We believe that they will learn to know our project expectation with time.</li> </ul>
<p>Do you have an overview in time of what needs to be done first?</p>	<p>Yes, multi-stakeholder engagement, data collection, piloting etc</p>
<p>Are all the steps to take, meetings, testing, research, etc. clearly outlined and funded by HFA, or are there other linked programmes and activities?</p>	<p>Yes, all the steps to take, meetings, testing, research, etc. clearly outlined and funded by HFA</p>

### Key stakeholders

<p>Who are the key stakeholders you have identified?</p>	<ul style="list-style-type: none"> <li>• Consumers (Urban poor consumers)</li> <li>• Other primary value chain actors – Fish/ALV producers, processors, traders (wholesaler/distributors/retailers)</li> <li>• County government departments i.e Health &amp; Sanitization, Agriculture &amp; Irrigation, Fisheries &amp; Livestock, Business, Marketing and Cooperatives (Trade and Enterprise Development/ Cooperative Development and Marketing)</li> <li>• Farmer groups/cooperatives</li> <li>• Traders associations</li> <li>• Local administration</li> <li>• Other projects and programs i.e             <ul style="list-style-type: none"> <li>✓ FAO Agri-invest project</li> <li>✓ FAO Urban food system project</li> <li>✓ GIZ-agri-jobs projects</li> <li>✓ Foodland project/Farm concern</li> </ul> </li> </ul>
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	<ul style="list-style-type: none"> <li>✓ VicInAqua project (Integrated Aquaculture based on Sustainable Water Recirculating System for the Victoria Lake Basin)</li> <li>✓ SNV/World Vegetable Center-Veggies 4 planet and People (Discussion still on)</li> <li>✓ SmallFish food project (Discussion still on)</li> <li>• National government; KCSAP project (potential, discussion not yet started)</li> <li>• Aquaculture Business Development Programme (ABDP)/ IFAD (potential, discussion not yet started)</li> </ul>
<p>Have you undertaken any specific stakeholder analysis (roles and needs) (including gender considerations)?</p>	<p>Yes,</p> <ul style="list-style-type: none"> <li>• County Department of Health &amp; Sanitation – Participatory mapping of informal settlement with major nutrition related problems. Also, the department is willing to let their CHVs assist in implementing HFA nutrition education and awareness creation activities</li> <li>• County Department of Fisheries/Foodland project – Already have aquaponics system for fingerlings production under VicInAqua project. However, discussions are still on how we can link the two projects, where the County project will be the source of fingerlings for HFA aquaponics systems for out growers. Also, the county government has technical skills for fish production. Extension officers are ready to assist in implementation of fish innovations. Also, department has a youth group known us Victoria Youth Group, which has been rigorously trained on aquaculture system. Discussion are still on how we can link up. The department is also helping us in identifying potential investors who will venture and co-invest in the aquaponics system.</li> <li>• Other projects; FAO Agri-invest, FAO-Urban Food System, FoodLand, Veggies for planet and People. We greed to build a network for co-learning and sharing of experience.</li> </ul>
<p>Can we differentiate between main beneficiaries-Actors / Actors in the Value Chain / Service Providers / and Enabling Environment?</p>	<p>Yes, our main beneficiaries are urban poor consumers as well as other actors along Fish and ALV value chains i.e producers, processors, retailers and wholesalers. Both national and county government also will benefit from policies that will be developed/recommended from the HFA project.</p>
<p>What changes in behaviour would you like to see for each</p>	<p>Stakeholders need to support and embrace healthy, diverse, and nutritious diets</p> <p>Stakeholder should work towards ensuring sustainability of the projects</p>

<p>of these stakeholders, on the long run, and after 4 years?</p>	
<p>Are there any stakeholders already engaged in working towards realising your outcomes? If yes, who are they and what are they currently doing?</p>	<p>Yes,</p> <ul style="list-style-type: none"> <li>• County Department of Health &amp; Sanitation – Participatory mapping of informal settlement with major nutrition related problems. Also, the department is willing to let their CHVs assist in implementing HFA nutrition education and awareness creation activities</li> <li>• County Department of Fisheries/Foodland project – Already have aquaponics system for fingerlings production under VicInAqua project. However, discussions are still on how we can link the two projects, where the County project will be the source of fingerlings for HFA aquaponics systems for out growers. Also, the county government has technical skills for fish production. Extension officers are ready to assist in implementation of fish innovations. Also, department has a youth group known us Victoria Youth Group, which has been rigorously trained on aquaculture system. Discussion are still on how we can link up. The department is also helping us in identifying potential investors who will venture and co-invest in the aquaponics system.</li> <li>• Other projects; FAO Agri-invest, FAO-Urban Food System, FoodLand, Veggies for planet and People. We greed to build a network for co-learning and sharing of experience.</li> </ul>

**Innovations**

<p>Do you have clear what the main innovations are that you want to sustain, or scale?</p>	<p>i. Innovation in fish production i.e aquaponics system</p> <p>ii. Innovative and sustainable urban gardening/production techniques for ALVs production i.e. sac, hanging, vertical, pot gardens etc.</p> <p>iii. Innovative value chain governance arrangements for ALV and fish chains i.e inclusive agri-food chain governance models, market strategies, ICT tools, contract farming, producer organizations and partnerships</p> <p>iv. Innovative products, process, and agri-business models for Fish and ALVs value chains</p>
<p>What do you consider as the main contextual and/or political factors that can</p>	<ul style="list-style-type: none"> <li>• Political support from county government</li> <li>• Community members and leaders support</li> <li>• Multi-stakeholder engagement/participatory decision making</li> </ul>

<p>facilitate or prevent the FSL to achieve its main aim?</p>	<ul style="list-style-type: none"> <li>• Technical and financial support from project</li> <li>• General elections next year which might results in delays</li> </ul>
<p>What are contextual and political factors which can facilitate the realisation of your outcomes?</p>	<ul style="list-style-type: none"> <li>• Multi-stakeholder engagement/participatory decision making</li> </ul>

**Leverage and supporting programmes**

<p>Are there any other ongoing policies or programmes in your area of operation that are or can be relevant to link up with to maximise your outcomes?</p>	<p>Policies, Bills or Plans</p> <ul style="list-style-type: none"> <li>• Kisumu county integrated development plan</li> <li>• Kisumu county environment policy 2019</li> <li>• Kenya vision 2030</li> <li>• National food and nutrition security policy.</li> <li>• Kisumu County Crop Agriculture Bill, 2016</li> <li>• Kenya Big four agenda</li> </ul> <p>Programmes</p> <ul style="list-style-type: none"> <li>• Agricultural Sector Development Support Programme (ASDSP)</li> <li>• Kenya Climate Smart Agriculture Project (KCSAP)</li> <li>• National Agricultural and Rural Inclusive Growth Project (NARIGP)</li> <li>• Aquaculture Business Development Programme (ABDP)</li> </ul>
<p>What support is needed from HFA and WPI/7 specifically to realise your outcomes?</p>	<p>Technical support:</p> <ul style="list-style-type: none"> <li>• Technical support on way of realizing equitable multi-stakeholder approach to transformations in local food systems, through a structured participatory, transdisciplinary, co-creating and co-learning process.</li> <li>• Capacity building to facilitate multi-stakeholder processes in an efficient and inclusive fashion.</li> <li>• Capacity building on gender issues.</li> <li>• Helps with a strategy for maximizing transformational impact through effective dissemination and exploitation.</li> <li>• Help in identifying institutional and policy factors that affect the exploitation and up-scaling of promising approaches, technologies, business models and policies, and influence impact in our FSL.</li> </ul> <p>Financial support for various FSL-Activities</p>

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<p>What is needed to support the stakeholders in making the changes needed?</p>	<p>Both technical (capacity building) and Financial support</p>
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## Kenya: Nairobi FSL

### General information

Name of FSL	Nairobi
Primary contact person(s)	
Contact details of contact person(s)	
Scale of operation (urban, rural, peri-urban, regional, national)	Urban
Level of operation in food system (production, distribution, storage, marketing, consumption).	Production, marketing, consumption
What Work Packages of HFA you are working with?	2,3 and 4
How are these different HFA Work Packages brought together in your FSL?	<p>Project activities- promote food security among the urban poor (access to safe and nutritious foods)</p> <ul style="list-style-type: none"> <li>• Urban farming intervention (promote consumption of healthy diets and promote sustainable food production)</li> <li>• Food safety- target food vendors. A large proportion of urban poor purchase foods from vendors</li> <li>• Value addition and food preservation and storage- involve food packaging</li> </ul>

### Objectives and key outcomes

What is the main objective of the FSL?	To assess the feasibility and effectiveness of urban farming and the feasibility of interventions aimed at curbing unhygienic food handling among food handlers
What are more specific objectives of your FSL?	<ul style="list-style-type: none"> <li>• To explore the acceptability, adoptability, reach, enablers and barriers of urban farming and interventions to curb unhygienic food handling and food wastage among food vendors</li> <li>• To assess the effectiveness of urban farming in reducing household food insecurity</li> </ul>

	<ul style="list-style-type: none"> <li>• To assess the effectiveness of urban farming in improving dietary diversity among adolescent girls and boys (10-19 years) and women and girls (12-49 years) who have children aged between 6 and 23 months</li> <li>• To assess the effectiveness of urban farming in improving the nutritional status of women, children and adolescents</li> <li>• To determine the impact of urban farming on women's and youth's empowerment</li> <li>• To assess the perceived effects of interventions to curb unhygienic food handling and food wastage among food vendors on food safety and wastage</li> </ul>
<p>What are the key outcomes? (Please define in changes you hope to achieve and be as specific as possible)</p>	<ul style="list-style-type: none"> <li>• Improved household food security,</li> <li>• Improved dietary diversity- increased consumption of leafy vegetables and animal source proteins and consequently Improved nutrition status</li> <li>• Women and youth empowerment</li> <li>• Improved knowledge and practice food safety</li> </ul>
<p>What are the key activities needed to achieve these outcomes? (Please list each outcome and link it to what is needed to achieve it)</p>	<p>Household food security and dietary diversity- s</p> <ul style="list-style-type: none"> <li>• Identifying and addressing barriers to urban farming</li> <li>• Setting up farming hubs</li> <li>• Training community organized groups and providing inputs</li> </ul> <p>Women and youth empowerment-</p> <ul style="list-style-type: none"> <li>• Training on agribusiness</li> </ul> <p>Food safety-</p> <ul style="list-style-type: none"> <li>• Identify barrier to food safety among food vendors</li> <li>• Train food vendors on food safety</li> <li>• Engage county government- water supply</li> </ul>

**Beneficiaries**

<p>Who are the main beneficiaries you seek to involve? Who will benefit from your intervention (s)?</p>	<ul style="list-style-type: none"> <li>• Women (12-49 years)</li> <li>• Youth (18-35 years)</li> <li>• Adolescents (10-19 years)</li> <li>• Children (6-23 months)</li> </ul>
<p>Do you have clear what you want these actors to do at</p>	<ul style="list-style-type: none"> <li>• Take up urban farming for household use and income generation</li> </ul>



the end of the project, and do they know?	<ul style="list-style-type: none"> <li>• Participate in income generating activities (sell of produces and farm inputs)</li> <li>• Improve food handling safety practices</li> </ul>
Do you have an overview in time of what needs to be done first?	<ul style="list-style-type: none"> <li>• Identification of key stakeholders to be engaged</li> <li>• Community engagement</li> <li>• Baseline survey to understand the situation on the ground</li> <li>• Identifying potential farming sites and setting up of the intervention</li> </ul>
Are all the steps to take, meetings, testing, research, etc. clearly outlined and funded by HFA, or are there other linked programmes and activities?	Most of the steps are funded by the HFA but we have other linked programs which will complement some of our activities

### Stakeholders

Who are the key stakeholders you have identified?	National and county government departments, community members and their leaders, urban farming experts, non-governmental organizations, (food vendors, the private sector)
Have you undertaken any specific stakeholder analysis (roles and needs) (including gender considerations)?	Yes
Can we differentiate between main beneficiaries-Actors / Actors in the Value Chain / Service Providers / and Enabling Environment?	Yes
What changes in behaviour would you like to see for each of these stakeholders, on the long run, and after 4 years?	Target- uptake of urban farming and increased food production for sale and domestic use, consumption of diverse diets,
Are there any stakeholders already engaged in working towards realising your outcomes? If yes, who are	Yes- County

they and what are they currently doing?	
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**Innovations**

Do you have clear what the main innovations are that you want to sustain, or scale?	Innovative urban farming methods- vertical gardening, aquaponics
What do you consider as the main contextual and/or political factors that can facilitate or prevent the FSL to achieve its main aim?	Contextual- space, poverty Political- support from government, policies and strategies, support from community leaders,
What are contextual and political factors which can facilitate the realisation of your outcomes?	Support from the county and national government, availability of land/space and farm inputs, safe water, technical know-how and

**Leverage and supporting programmes**

Are there any other ongoing policies or programmes in your area of operation that are or can be relevant to link up with to maximise your outcomes?	Urban farming policy Initiatives by the government Zero hunger project
What support is needed from HFA and WP1/7 specifically to realise your outcomes?	
What is needed to support the stakeholders in making the changes needed?	Community- knowledge

## Uganda: Rwamwanja Refugee Settlement FSL

### General information

Name of FSL	FSL Rwamwanja (FSL-RW)
Primary contact person(s)	Katareiha Elias
Contact details of contact person(s)	Tel: +256780149543 Email: <a href="mailto:Elias.Katareiha@kirkonulkomaanapu.fi">Elias.Katareiha@kirkonulkomaanapu.fi</a>
Scale of operation (urban, rural, peri-urban, regional, national)	Rural. Refugee settlement
Level of operation in food system (production, distribution, storage, marketing, consumption).	Value chain – production - marketing
What Work Packages of HFA you are working with?	WP2 , WP3, WP5
How are these different HFA Work Packages brought together in your FSL?	<p><b>WP3:</b> supporting sustainable production of maize;</p> <p><b>WP5:</b> enhancing the profitability of maize by improving maize quality, linking the producers to a beneficial market and improving the performance of all actors along the value chain;</p> <p><b>WP2:</b> Still under discussion. Initially, the design of the FSL did not include the nutritional pathway.</p>

### Objectives and key outcomes

What is the main objective of the FSL?	To assist smallholder maize farmers in improving their productivity, in adopting a code of good agricultural practices in maize farming, and to assist them in organising themselves for effectively tapping in the market for their maize.
What are more specific objectives of your FSL?	<ol style="list-style-type: none"> <li>1. To promote sustainable production of maize with smallholder women maize producers in Rwamwanja refugee settlement.</li> <li>2. To establish a local Community-based Extension Structure supported by Village Enterprise Agents (VEAs).</li> <li>3. To organize the smallholder women maize producers into producer and marketing associations.</li> </ol>

	4. To create 'direct' linkages between smallholder maize farmers and the market thereby reducing the influence of middlemen in the marketing of their maize.
What are the key outcomes? (Please define in changes you hope to achieve and be as specific as possible)	<ol style="list-style-type: none"> <li><b>Increased maize productivity through:</b> Establishing a local Community-based Extension structure using VEAs. Training of women smallholders in good agriculture practices on maize. Increasing the fertility of soil through grain-legume intercropping with rhizobia inoculated common beans.</li> <li><b>Increased quality of maize grain, through:</b> training the smallholders in post-harvest handling. Establishing a maize milling and packaging centre (value addition).</li> <li><b>Farmer organization, through:</b> formation of Producer Associations. Formation of maize marketing clusters. Registration of these associations into legal entities. This will enhance the marketing (bulking, collective marketing) and negotiation capabilities in the market.</li> <li><b>Increased access to the market for maize, through:</b> directly linking the organized smallholders to a registered buyer. strengthening the buying system through contracts / buying agreements.</li> </ol>
What are the key activities needed to achieve these outcomes? (Please list each outcome and link it to what is needed to achieve it)	See above

### Beneficiaries

Who are the main beneficiaries you seek to involve? Who will benefit from your intervention (s)?	<ul style="list-style-type: none"> <li><b>Direct beneficiaries:</b> 1,000 smallholder maize farmers with their family members (totaling approx. 7,000 people), mainly refugee women.</li> <li><b>Indirect beneficiaries:</b> community members of the producer groups; middlemen (local maize collectors), organizations and companies in the supply chain (maize processors, transporters, input suppliers, advisory agencies / NGOs, micro-finance agencies etc.).</li> </ul>
Do you have clear what you want these actors to do at the end of the project, and do they know?	Not yet. The process of engaging these actors is underway. A multi-stakeholder formation process being initiated.
Do you have an overview in time of what needs to be done first?	Yes

<p>Are all the steps to take, meetings, testing, research, etc. clearly outlined and funded by HFA, or are there other linked programs and activities?</p>	<ul style="list-style-type: none"> <li>- At the FSL level, the work involving WP3 and WP5 is funded.</li> <li>- The work involving WP2 is not funded.</li> <li>- At FSL level, testing, research and data collection activities are not funded.</li> </ul>
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### Key stakeholders

<p>Who are the key stakeholders you have identified?</p>	<ul style="list-style-type: none"> <li>• Smallholder maize farmers: They are the primary producers of maize. They sell their maize at farm gate individually.</li> <li>• Middlemen: These are the local buyers of the maize. They exploit the poor farmers by offering low prices. They do primary value addition e.g. drying, sorting – and forward the maize to the towns / cities where they gain very high prices.</li> <li>• Transporters: They transport the maize from the refugee settlement to the towns. Some of them are the middlemen. Others are simply truck owners doing transport business.</li> <li>• Processors: They buy maize from middlemen and turn it into maize flour and other bi-products e.g. animal feeds.</li> <li>• Public extension system: They provide agro-technical knowledge to the farmers, to improve maize productivity.</li> <li>• Input suppliers: they supply maize farm inputs e.g. seeds, fertilizers etc.</li> <li>• Advisory agencies/NGOs: They train producers on the production techniques.</li> <li>• Micro-finance agencies: Provide financing to producers.</li> </ul>
<p>Have you undertaken any specific stakeholder analysis (roles and needs) (including gender considerations)?</p>	<p>Yes</p>
<p>Can we differentiate between main beneficiaries-Actors / Actors in the Value Chain / Service Providers / and Enabling Environment?</p>	<p>Yes</p>
<p>What changes in behaviour would you like to see for each</p>	<ul style="list-style-type: none"> <li>- Smallholder farmers to take maize growing as a business.</li> </ul>

of these stakeholders, on the long run, and after 4 years?	
Are there any stakeholders already engaged in working towards realising your outcomes? If yes, who are they and what are they currently doing?	Many Livelihood Partners (agencies / NGOs) are working in the refugee settlement to promote maize growing. However, very few are focusing on maize profitability for the smallholder producers.

### Innovations

Do you have clear what the main innovations are that you want to sustain, or scale?	<ol style="list-style-type: none"> <li>1. Local Community-based Extension system</li> <li>2. The use of ICT (mobile phones uploaded with agricultural content) in agriculture extension</li> <li>3. Direct linkage of producers to a maize buyer through a buying contract</li> </ol>
What do you consider as the main contextual and/or political factors that can facilitate or prevent the FSL to achieve its main aim?	<ul style="list-style-type: none"> <li>• Food aid: The smallholders are refugees who are dependent on food aid. sometimes, food aid can deter individual initiative to produce own food or engage in income generation.</li> <li>• Lack of land: The refugees are given very small plots of land (0.5 acre) to build a house and farm.</li> </ul>
What are contextual and political factors which can facilitate the realization of your outcomes?	<ul style="list-style-type: none"> <li>• Ready market for maize both as grain and flour for human and animal consumption</li> <li>• The WFP has reduced food / cash rations for refugees thus there is need for the households to produce supplementary food or income</li> <li>• The refugee settlement is located in a maize producing corridor with favorable climatic conditions and generally fertile soils for maize growing.</li> </ul>

### Leverage and supporting programmes.

Are there any other ongoing policies or programmes in your area of operation that are or can be relevant to link up with to maximise your outcomes?	
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<p>What support is needed from HFA and WP1/7 specifically to realise your outcomes?</p>	<p><b>WP7</b> Building a strong multi stakeholder platform and further engagement FSL-RW will need support to strengthen the participation of knowledge institutions (research / academia etc.), the private sector, and national level public actors.</p> <p><b>WP1</b> Training in how to facilitate multi-stakeholder processes.</p>
<p>What is needed to support the stakeholders in making the changes needed?</p>	<p>Regular stakeholder engagement – meetings, educational campaigns etc.</p>

## Uganda: Fort Portal FSL

### General information

Name of FSL	Fort Portal Food systems Lab
Primary contact person(s)	1. Mohammed Ahamed Shariff- Executive Director, KRC 2. Bwambale Bernard-FSL focal person
Contact details of contact person(s)	<a href="mailto:krcugamdadirector@gmail.com">krcugamdadirector@gmail.com</a> ; <a href="mailto:shariff@krcug.org">shariff@krcug.org</a> (+256772911693) <a href="mailto:carlosbenard12@gmail.com">carlosbenard12@gmail.com</a> , <a href="mailto:benard@krc.org">benard@krc.org</a> (+256787739419)
Scale of operation (urban, rural, peri-urban, regional, national)	Urban, Rural and Peri urban
Level of operation in food system (production, distribution, storage, marketing, consumption).	Production, Marketing and consumption
What Work Packages of HFA you are working with?	WPs 2,3,4 and 7
How are these different HFA Work Packages brought together in your FSL?	Work package 2, 3 and 4 are interlinked in our operation; we are able to have meetings with the different work package teams to discuss our progress. However the implementation of the activities is done through the different food system actors including Coalition of the Willing, Food ambassadors (influential leaders who promote healthy diets for all in their respective constituencies), Street Food Vendors, Formal chefs, Farmer groups, Orugali groups (a Toro tradition in which families sit together around a meal served on a flat traditional tray known as Orugali), researchers, Local government, CSOs, NGOs, media and artists.

### Objectives and key outcomes

What is the main objective of the FSL?	Influencing the food system in Fort-Portal tourism city and its rural hinterlands to be more sustainable, equitable, inclusive, and resilient by effectively reconnecting food production and food consumption.
What are more specific objectives of your FSL?	<ul style="list-style-type: none"> <li>To influence sustainable, resilient and equitable production and consumption of diverse, nutritious and safe food for all.</li> </ul>



	<ul style="list-style-type: none"> <li>• To gain an improved understanding of the determinants of current dietary patterns and barriers to healthier and more sustainable diets.</li> <li>• To reduce food losses and increase food safety.</li> <li>• To influence local policies, regulations and plans to respond to the sustainable food system demands in the emerging city.</li> </ul>
<p><b>What are the key outcomes?</b> (Please define in changes you hope to achieve and be as specific as possible)</p>	<ul style="list-style-type: none"> <li>• Improved knowledge on evidence of the determinants of current dietary patterns and barriers to healthier and more sustainable diets.</li> <li>• Enhanced sustainable production and consumption of healthy and nutritious food products.</li> <li>• Reduced food losses and increased food safety.</li> <li>• Effective local policies, regulations and plans to respond to the sustainable food system demands in the emerging city.</li> <li>• Reduced levels of malnutrition.</li> </ul>
<p><b>What are the key activities needed to achieve these outcomes?</b> (Please list each outcome and link it to what is needed to achieve it)</p>	<ul style="list-style-type: none"> <li>• Conduct Annual follow up surveys (Household food diaries, FGDs and semi-structured interviews).</li> <li>• Conduct radio programs / drama series on healthy and nutritious diets</li> <li>• Mentor and Coach SMEs in the Orugali approach for healthy and nutritious foods.</li> <li>• Conduct joint inspections with health department for street food vendors in Hygiene and nutritious food preparation.</li> <li>• Assessment of the production systems in terms of costs and sustainability.</li> <li>• Conduct food safety tests for sampled foods in the different systems.</li> <li>• Conduct advocacy sessions on food loss and food safety for farmer groups, vendors, chefs and consumers.</li> <li>• Follow-up on the commitment of the food summit</li> <li>• Facilitate meetings to review the implementation and enforcement of the existing local policies and plans on food systems and build consensus on amendments</li> <li>• Conduct meetings with DNCC and SNCCs to pursue food policy proposals.</li> <li>• Conduct the people's food summit</li> </ul>

**Beneficiaries**

<p><b>Who are the main beneficiaries you seek to involve? Who will benefit from your intervention (s)?</b></p>	<p>The project will target the city dwellers and the FSL stakeholders including Coalition of the Willing, Food ambassadors (influential leaders who promote healthy diets for all in their respective constituencies), Street Food Vendors, Formal chefs, Farmer groups, Orugali groups (a Toro tradition in which families sit together</p>
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	<p>around a meal served on a flat traditional tray known as Orugali), researchers, Local government, CSOs, NGOs, media and artists.</p>						
<p>Do you have clear what you want these actors to do at the end of the project, and do they know?</p>	<p>We have engaged the actors through the food systems workshops, operational team meetings, radio programs to discuss the challenges in the Fort Portal City food system and generate ideas on its improvement.</p> <p>We have also engaged them in participatory research through food diaries to understand food diversity at household level. In the previous phases of the food lab, local food actors were involved in experiential learning of the different food recipes. The actors played a leading role in influencing changes in the Kabarole production and environment ordinance to address issues of food and nutrition security. KRC again collaborated with the food system actors in the development of the District and Sub County Nutrition Action Plans 2020-2025 and is now following up on its implementation.</p>						
<p>Do you have an overview in time of what needs to be done first?</p>	<p>From the FSL's first workshop, the stakeholders identified the basics that need to be done first and in the next FSL workshop we shall be able to identify the next steps. Primarily the stakeholders noted the following Food system challenges and actions for immediate attention</p> <table border="1" data-bbox="564 1095 1487 1926"> <thead> <tr> <th data-bbox="564 1095 794 1155"><b>Work Package</b></th> <th data-bbox="794 1095 1107 1155"><b>Key challenges</b></th> <th data-bbox="1107 1095 1487 1155"><b>Activity / action</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="564 1155 794 1926"> <p><i>Work Package 2</i> Improving nutrition and health</p> </td> <td data-bbox="794 1155 1107 1926"> <ul style="list-style-type: none"> <li>⊙ Community nutrition Knowledge gap.</li> <li>⊙ Need for capacity building of health workers and community structures on nutrition.</li> <li>⊙ Lack of recent evidence (research) on nutrition status of children in Fort portal.</li> <li>⊙ Shortage of Nutritionists Officers across board and in government structures.</li> <li>⊙ Gap between what is prioritized in</li> </ul> </td> <td data-bbox="1107 1155 1487 1926"> <ul style="list-style-type: none"> <li>⊙ Use Radio sensitization programs.</li> <li>⊙ Conduct community dialogues in different village settings on issue of Nutrition and health.</li> <li>⊙ Visual aids: Use of drama groups and artists for creating awareness in communities.</li> <li>⊙ Use of food SACCOS which the coalition of the willing had established in phase III.</li> <li>⊙ Build capacity of health workers and community structures such as VHTs and health extension workers on nutrition.</li> </ul> </td> </tr> </tbody> </table>	<b>Work Package</b>	<b>Key challenges</b>	<b>Activity / action</b>	<p><i>Work Package 2</i> Improving nutrition and health</p>	<ul style="list-style-type: none"> <li>⊙ Community nutrition Knowledge gap.</li> <li>⊙ Need for capacity building of health workers and community structures on nutrition.</li> <li>⊙ Lack of recent evidence (research) on nutrition status of children in Fort portal.</li> <li>⊙ Shortage of Nutritionists Officers across board and in government structures.</li> <li>⊙ Gap between what is prioritized in</li> </ul>	<ul style="list-style-type: none"> <li>⊙ Use Radio sensitization programs.</li> <li>⊙ Conduct community dialogues in different village settings on issue of Nutrition and health.</li> <li>⊙ Visual aids: Use of drama groups and artists for creating awareness in communities.</li> <li>⊙ Use of food SACCOS which the coalition of the willing had established in phase III.</li> <li>⊙ Build capacity of health workers and community structures such as VHTs and health extension workers on nutrition.</li> </ul>
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		<p>homesteads for use and sell (all is sold with none left at home).</p> <ul style="list-style-type: none"> <li>⊙ No nutrition center specific for management of over nutrition and its effects.</li> </ul>	<ul style="list-style-type: none"> <li>⊙ Conduct research on common determinants of poor nutrition and research on the current nutrition status.</li> <li>⊙ Need for a nutrition center to cover the gap for over nutrition.</li> </ul>
	<p><b>Work Package 2</b></p> <p>Sustainable production of healthy and nutritious food products.</p>	<ul style="list-style-type: none"> <li>⊙ Poor quality seeds: this affects the quality of production.</li> <li>⊙ Production of monotonous food crops</li> </ul>	<ul style="list-style-type: none"> <li>⊙ Carry out farmers or end user needs assessment to identify enterprises to be worked on.</li> <li>⊙ Conduct Survey on determinants and barriers of production of variety of food crops.</li> <li>⊙ Forming farmers groups or identifying existing groups to work with.</li> <li>⊙ Linkage of farmers to quality seeds and farm inputs.</li> <li>⊙ Training / capacity building of different farmers in their different activities based on their needs.</li> <li>⊙ Needs assessment report or decision support group.</li> </ul>
	<p><b>Work Package 3</b></p> <p>Increased efficiency of agri-food chains and improved food safety</p>	<ul style="list-style-type: none"> <li>⊙ Poor harvest handling: How this chain is being affected when they don't have the means (machines) of processing to improve the produce.</li> </ul>	<ul style="list-style-type: none"> <li>⊙ Solution would be certification of product on market: When food is produced market should be there.</li> <li>⊙ Need for a study on the food safety in the region.</li> </ul>

		<ul style="list-style-type: none"> <li>⦿ Safety: Food contamination affects the health of consumers.</li> <li>⦿ No existing data on food safety in the region.</li> </ul>	<ul style="list-style-type: none"> <li>⦿ Inspection of the food products and processing systems to ensure they meet the standards for human consumption.</li> <li>⦿ Link processors to UNBS for certification of the products.</li> </ul>
	<p><i>Work Package 4</i></p> <p>Maximizing sustainable impact</p>	<ul style="list-style-type: none"> <li>⦿ Lack of baseline survey for nutrition and food value chains.</li> <li>⦿ Lack of by-laws hence policies are not working in some sub counties.</li> <li>⦿ Sub county action plans; they do not own the action plans</li> <li>⦿ Funding gap to process bylaws.</li> </ul>	<ul style="list-style-type: none"> <li>⦿ Engage communities to identify the gaps.</li> <li>⦿ Curtail that by building capacity in developing processes of forming bylaws.</li> <li>⦿ Solved by networking and collaboration with partners to help have this goal realized.</li> <li>⦿ Disseminate all action plans to all stakeholders at sub counties, parishes and VHT level.</li> </ul>
<p>Are all the steps to take, meetings, testing, research, etc. clearly outlined and funded by HFA, or are there other linked programmes and activities?</p>	<p>Not all activities are funded by HFA. We are in the process of realigning some budgets to allow us be able to do some activities. We are also seeking for partnerships with other stakeholders to support the funding of some of the activities under the food lab.</p>		

**Key stakeholders**

<p>Who are the key stakeholders you have identified?</p>	<p>local government, Coalition of the Willing, food ambassadors, farmers, small scale food processors, street food vendors, formal chefs, academia, District Nutrition Coordination Committee, researchers, media, artists and civil society organisations.</p> <p>The Coalition of the Willing is a consumer advocacy group that promotes consumption of safe, nutritious indigenous food. It is comprised of farmers, artists, food processors, food vendors, chefs, nutritionists and local and opinion leaders. Food ambassadors are influential leaders who promote healthy diets for all in their respective constituencies.</p>
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<p>Have you undertaken any specific stakeholder analysis (roles and needs) (including gender considerations)?</p>	<p>We have done an analysis of farmers and vendors and have been able to identify their needs.</p>
<p>Can we differentiate between main beneficiaries-Actors / Actors in the Value Chain / Service Providers / and Enabling Environment?</p>	<p>Yes we can differentiate but we may need more support to understand the clear cut distinctions</p>
<p>What changes in behaviour would you like to see for each of these stakeholders, on the long run, and after 4 years?</p>	<p>In 10 years, each individual in a household will have access to diverse, nutritious and safe food either through household domestic production or from the local market at an affordable cost.</p>
<p>Are there any stakeholders already engaged in working towards realising your outcomes? If yes, who are they and what are they currently doing?</p>	<p>For realization and sustainability of the Fort Portal Food System Lab vision, we have brought on board local actors in the food system. These actors include local government, Coalition of the Willing, food ambassadors, farmers, small scale food processors, street food vendors, formal chefs, academia, researchers, media, artists and civil society organisations.</p> <p>The Coalition of the Willing is a consumer advocacy group that promotes consumption of safe, nutritious indigenous food. It is comprised of farmers, artists, food processors, food vendors, chefs, nutritionists and local and opinion leaders. Food ambassadors are influential leaders who promote healthy diets for all in their respective constituencies.</p> <p>We have ensured that the actors are engaged in operational groups such as the Coalition of the Willing, Orugali groups (a Toro tradition in which families sit together around a meal served on a flat traditional tray known as Orugali), vendors association, chef alliance, artists' hub and journalist associations to have a bigger influencing voice.</p>

**Innovations**

<p>Do you have clear what the main innovations are that you want to sustain, or scale?</p>	<p>In Fort Portal Food System Lab we intend to establish a multiplication farm for indigenous crops to provide indigenous seeds to farmers. We also plan to advocate for safe food vending spaces to ensure food safety and, in the same regard, innovate biodegradable packaging materials made of locally available materials for the foods sold on streets other than the synthetic plastic bags that are currently and commonly used.</p>
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<p>What do you consider as the main contextual and/or political factors that can facilitate or prevent the FSL to achieve its main aim?</p>	<p>Collaboration with political and technical leaders has created a conducive environment for our operation.</p> <p>Involvement of the different stakeholders at all levels has been instrumental in conducting the FSL activities.</p> <p>Availability of the media especially the KRC radio has enabled us to reach a bigger population with information on the Food system.</p> <p>Engaging the community directly in the food system activities is key for the operations.</p>
<p>What are contextual and political factors which can facilitate the realisation of your outcomes?</p>	<p>The emerging of the Fort portal city is an opportunity for realization of the outcomes as it comes with increased population and opportunities for food systems.</p> <p>New leadership that needs to be involved immediately in the food system discussions.</p> <p>The existence of the food and environment ordinance and the nutrition action plans at the Sub counties and the Districts.</p>

### Leverage and supporting programmes

<p>Are there any other ongoing policies or programmes in your area of operation that are or can be relevant to link up with to maximise your outcomes?</p>	<p>Yes; there are a number of government programs that we can leverage on such as the operation wealth creation, agri-led program, multi stakeholder school nutrition program, the youth empowerment project and the "emwoga" fund.</p> <p>We can also leverage on our partners in the family farming project, nutrition programs among others.</p>
<p>What support is needed from HFA and WP1/7 specifically to realise your outcomes?</p>	<p>Support us in developing the theory of change and continuous guidance on attainment and Monitoring of the program activities and tracking of the outcomes.</p>
<p>What is needed to support the stakeholders in making the changes needed?</p>	<p>Continuous engagement of the stakeholders in programing.</p> <p>Funding for activities.</p>

## Ethiopia: Bahir Dar FSL

### General information

Name of FSL	FSL-BD
Primary contact person(s)	Prof. Enyew Adgo
Contact details of contact person(s)	<a href="mailto:enyewadgo@gmail.com">enyewadgo@gmail.com</a> , P.O.Box 1289, Bahir Dar Ethiopia
Scale of operation (urban, rural, peri-urban, regional, national)	Urban and peri-urban
Level of operation in food system (production, distribution, storage, marketing, consumption).	Production, marketing, consumption
What Work Packages of HFA you are working with?	WP1, WP2, WP3, WP5, WP7
How are these different HFA Work Packages brought together in your FSL?	The different researchers are responsible with the different topics we are working with and the respective researchers are also collaborating with similar WPs of the HFA

### Objectives and key outcomes

What is the main objective of the FSL?	Improving supply, marketing and utilization of nutritious food in urban and pre-urban areas of Bahir Dar
What are more specific objectives of your FSL?	<ul style="list-style-type: none"> <li>• Joint innovation/co-creation of pulse production, vegetables and fish technologies to address supply side bottlenecks such as soil acidity and crop nutrition</li> <li>• Understanding the determinants of current dietary patterns and barriers to healthier and more sustainable diets</li> <li>• Promotion of healthier and nutritious food production</li> <li>• Promotion of the efficiency and functioning of food chains</li> </ul>
What are the key outcomes? (Please define in changes you hope to achieve and be as specific as possible)	<ul style="list-style-type: none"> <li>• Enhanced consumption of alternative protein sources</li> <li>• Improved awareness and understanding of nutrition</li> <li>• Improved dietary quality</li> <li>• Increased availability and supply of nutritious foods sustainably</li> </ul>

	<ul style="list-style-type: none"> <li>Improved market access for nutritious foods (vegetables, fishes and pulses)</li> </ul>
<p>What are the key activities needed to achieve these outcomes? (Please list each outcome and link it to what is needed to achieve it)</p>	<p>Activities to be performed to achieve the outcomes <b>enhanced consumption of alternative protein sources, improved awareness and understanding of nutrition and improved dietary quality:</b></p> <ul style="list-style-type: none"> <li>Baseline data will be collected regarding nutrition (dietary pattern, energy/nutrient adequacy and dietary diversity) and associated factors of mothers and children less than 24 months in the study area</li> <li>Factors which affect food choices and determinants of changes in the food environment will be assessed</li> <li>Based on baseline data/ findings, appropriate nutrition education materials will be developed</li> <li>Nutrition education will be given for mothers of children under 24months (to mainstream healthy dietary patterns)</li> <li>Impacts of nutrition education on mothers'/children's nutrition/ dietary patterns will be assessed through end-line survey</li> </ul> <p>Pilot projects on nutritious foods (pulse, vegetables, fruits, fish) will be conducted to achieve the outcomes <b>increased availability and supply of nutritious foods sustainably:</b></p> <ul style="list-style-type: none"> <li>Existing problems of the farming system of pulses will be understood</li> <li>including disappearance of faba bean productions</li> <li>Two varieties of faba bean and soybean and two liming rates, and two rhizobium species (available) will be combined and tested at two locations affected by soil acidity</li> <li>Evaluating lupine as intercrop and or residual crop to enhance land productivity and sustainability and understanding the mechanisms behind the acid tolerance nature of lupine in the production area</li> <li>Performance evaluation of tomato varieties under rain shelter technology for its sustainable supply</li> <li>Agronomic and performance evaluation of storage onion varieties for sustainable market supply</li> <li>Promotion of avocado orchard establishment by smallholder farmers</li> <li>Testing and utilization of improved tilapia seed</li> <li>Formulation of quality fish feed through locally available feed ingredients</li> <li>Testing and optimizing system of Aquaponic technology</li> </ul>



	<p>The outcome <b>Improved market access for nutritious foods</b> will be achieved in collaboration with WP5.</p> <ul style="list-style-type: none"> <li>• The current value chain of food will be assessed</li> <li>• Appropriate value chain that eases the availability of nutritious food will be designed and implemented.</li> </ul>
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### Beneficiaries

<p>Who are the main beneficiaries you seek to involve? Who will benefit from your intervention (s)?</p>	<p>Major beneficiaries are smallholder farmers, youths, and mothers of children under 24 months. Moreover extension agents, consumers, traders and etc. will also benefit from the interventions.</p>
<p>Do you have clear what you want these actors to do at the end of the project, and do they know?</p>	<p>Yes</p>
<p>Do you have an overview in time of what needs to be done first?</p>	<p>Yes</p>
<p>Are all the steps to take, meetings, testing, research, etc. clearly outlined and funded by HFA, or are there other linked programmes and activities?</p>	<p>No other linked programs and activities are available. All are founded by the HFA</p>

### Key stakeholders

<p>Who are the key stakeholders you have identified?</p>	<p>Farmers, cooperatives, development agents, traders, consumers, Agriculture offices, input suppliers, fishermen association, fishery research center, Health Bureau, Health Posts, Care Ethiopia, UNICEF, Women, Youth and Children Affairs Offices,</p>
<p>Have you undertaken any specific stakeholder analysis (roles and needs) (including gender considerations)?</p>	<p>Not yet</p>

Can we differentiate between main beneficiaries-Actors / Actors in the Value Chain / Service Providers / and Enabling Environment?	Yes Farmers, Service cooperatives, traders, consumers, input dealers, experts
What changes in behavior would you like to see for each of these stakeholders, on the long run, and after 4 years?	<b>Farmers</b> – they produce more and get more income using the improved technologies <b>Service cooperatives, traders and input suppliers</b> - involve actively in marketing of products and inputs <b>Consumers</b> – get affordable nutritious food <b>Experts</b> – involve actively in proven of tested technologies
Are there any stakeholders already engaged in working towards realizing your outcomes? If yes, who are they and what are they currently doing?	Not yet

### Innovations

Do you have clear what the main innovations are that you want to sustain, or scale?	Yes
What do you consider as the main contextual and/or political factors that can facilitate or prevent the FSL to achieve its main aim?	Facilitating: Agricultural and nutrition policy of the country Hindering: Political instability in the country, COVID-19 pandemic,
What are contextual and political factors which can facilitate the realisation of your outcomes?	Due attention of the government for sustainable production of nutritious food in the country

### Leverage and supporting programmes

Are there any other ongoing policies or programmes in	Yes, as indicated above, the government of Ethiopia as well as Amhara Region give due attention for the production of nutritious food to alleviate stunting.
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<p>your area of operation that are or can be relevant to link up with to maximise your outcomes?</p>	
<p>What support is needed from HFA and WPI/7 specifically to realise your outcomes?</p>	<p>Sharing us best practices done somewhere, devising uniform methodologies and approaches</p>
<p>What is needed to support the stakeholders in making the changes needed?</p>	<p>Continuous discussion with relevant stakeholders and supporting the smallholder farmers in establishing avocado farms and rain shelter technology.</p>

## Benin: Cotonou FSL

### General information

Name of FSL	FSL-Co
Primary contact person(s)	Amoussa Hounkpatin Waliou Bodjrenou Sam
Contact details of contact person(s)	Amoussa Hounkpatin Waliou: <a href="mailto:amouswal@yahoo.fr">amouswal@yahoo.fr</a> ; +22997052020 Bodjrenou Sam: <a href="mailto:bodjrenousam@gmail.com">bodjrenousam@gmail.com</a> ; +22961001440
Scale of operation (urban, rural, regional, national)	Urban
Level of operation in food system (production, distribution, storage, marketing, consumption)	Whole value chain with focus on production, storage & conservation, preparation and consumption
What thematic Work Packages of HFS you are working with	2, 3, 5
What is the main aim of your FSL?	Improving the diets of children & adolescents through urban farming in Cotonou peri urban area
What are the main innovation link to your FSL?	<ul style="list-style-type: none"> <li>• Integration of nutrition into the school curriculum</li> <li>• Implementation of gardens in primary schools</li> <li>• Development of Organic/Biological agriculture in urban areas</li> <li>• Management of food stock through smartphone</li> <li>• Technical assistant to cooks through smartphone</li> </ul>
What are the key outcomes? Please define in changes?	<ol style="list-style-type: none"> <li>1. Gardens are developed in primary schools</li> <li>2. Nutritional and sanitary values of existing recipes are improved through integration of fruits and vegetables grown in school gardens</li> <li>3. Recipes with high nutritional and sanitary values are cooked in canteens and served to children</li> <li>4. Children knowledge about food and nutrition are improved</li> <li>5. Academic School performance and children nutritional status are improve after two years of implementation</li> </ol>

	<p>6. Cropping practices among urban farmers are improved: reducing the use of fertilizers and chemical and promoting Organic/Biological agriculture</p> <p>7. Food canteen managers use mobile software to better manage food stock and ingredients</p> <p>8. Cookers are trained on better hygiene practices and cooking method preserving micronutrients</p>
<p>What are contextual and political factors which can prevent you from realizing your outcomes?</p>	<ul style="list-style-type: none"> <li>• The interruption of school canteens program</li> <li>• The non-involvement of local authorities</li> <li>• Non-obtention of agreement from agriculture and primary school Ministries</li> </ul>
<p>What are contextual and political factors which can facilitate you from realizing your outcomes?</p>	<ul style="list-style-type: none"> <li>• The involvement of local authorities</li> <li>• The Existence of School canteens</li> <li>• The existence of other initiatives and research projects aiming at improving school feeding</li> <li>• Good collaboration with all stakeholders</li> </ul>
<p>What are the key stakeholders you have identified?</p>	<ul style="list-style-type: none"> <li>• Ministry of Agriculture, Livestock and Fisheries</li> <li>• Territorial Agency for Agricultural Development</li> <li>• Ministry of maternal and primary school</li> <li>• Inspectors and pedagogic advisers</li> <li>• Director of primary Schools</li> <li>• Teachers in primary Schools</li> <li>• Children's parents association</li> <li>• Children's parents</li> <li>• Children</li> <li>• Cookers (in school canteens)</li> <li>• Urban Gardeners Associations</li> <li>• Sellers/Traders of vegetables in urban areas</li> <li>• Consumers (association of consumers)</li> <li>• Researchers in the areas of nutrition, food security, public health and urban farming from University of Abomey-Calavi</li> </ul>
<p>What should each of your stakeholders do differently to help you achieve the outcomes listed in the previous section?</p>	<p>All the stakeholders, or at least their representatives, will participate to the definition of strategies and activities to be implemented.</p> <ul style="list-style-type: none"> <li>• Ministry of Agriculture, Livestock and Fisheries: Authorize the study and facilitate the implementation of activities in urban gardens.</li> </ul>

	<ul style="list-style-type: none"> <li>• Territorial Agencies for Agricultural Development: facilitate the implementation of activities in urban gardens, give Technical assistance, participate to the training of urban farmers</li> <li>• Ministry of maternal and primary school: Authorize the study and facilitate the implementation of targeted activities in selected schools</li> <li>• Inspectors and pedagogic advisers: Authorize the study, facilitate and supervise the implementation of activities in their schools, participate to the development of training curricula</li> <li>• Director of primary Schools: Authorize the study, facilitate and supervise the implementation of activities in their schools, participate to the development of training curricula</li> <li>• Teachers in primary Schools: Supervise school children and participate the implementation of activities in their schools</li> <li>• Children's parents association: help in implementation and management of school canteens</li> <li>• Children's parents: Allow the participation of children by signing the informed consent form.</li> <li>• Children: Participate to the implementation of the program</li> <li>• Cookers (in school canteens): cook diet with adequate nutritional and sanitary values</li> <li>• Urban Gardeners Associations: Participate to the implementation of activities related to better and healthy cropping practices</li> <li>• Sellers/Traders of vegetables in urban areas: Participate to the implementation of activities related to conservation storage and marketing of vegetable products</li> <li>• Consumers (association of consumers): Participate the implementation of activities in the project. Give strategical advices</li> <li>• Researchers in the areas of nutrition, food security, public health and urban farming from University of Abomey-Calavi: Support research activities by sharing experiences and contributing to the implementation of activities</li> </ul>
<p><b>Are there any stakeholder already engaged in working towards realizing your outcomes? If yes who are they?</b></p>	<p>Yes. Agreement for participation</p> <ul style="list-style-type: none"> <li>• Researchers from University of Abomey-Calavi,</li> <li>• Urban Gardeners Associations</li> <li>• Ministry of Agriculture, Livestock and Fisheries</li> </ul>
<p><b>Are there any other ongoing policies or programs in your area of operation that are or can be relevant to link up</b></p>	<ul style="list-style-type: none"> <li>• OFSP,</li> <li>• Project 2,</li> <li>• Projet de Nutrition et de Développement de la Petite Enfance,</li> <li>• Approche Communale pour le Marché Agricole,</li> </ul>

<p>with to maximize your outcomes?</p>	<ul style="list-style-type: none"> <li>• NaviNut,</li> <li>• Project BEN009,</li> <li>• Programme National d'Alimentation Scolaire Intégré</li> </ul>
<p>What support is need from HFA and WP1/7 specially to realize your outcomes</p>	<p>Training on :</p> <ul style="list-style-type: none"> <li>• Strategies for maximizing transformational impact through effective dissemination and exploitation.</li> <li>• Identifying and supporting the most promising and realistic pathways for achieving transformational impact at FSL level.</li> <li>• Communication to better inform decision-makers in the public sector about the factors that enable and contribute to sustainable food systems at local, national and international level.</li> <li>• Development of business models.</li> <li>• Transdisciplinary approaches, methodologies and tools</li> </ul>

## Ghana: Tamale FSL

### General information

Name of FSL	Tamale FSL
Primary contact person(s)	Atmoning Yakubu Victor Mohammed Adam Nashiru
Contact details of contact person(s)	<a href="mailto:atmoang2010@yahoo.com">atmoang2010@yahoo.com</a> , 0244512946 <a href="mailto:nashiru2009@yahoo.com">nashiru2009@yahoo.com</a> , 0243540629
Scale of operation (urban, rural, peri-urban, regional, national)	Peri urban and rural
Level of operation in food system (production, distribution, storage, marketing, consumption).	Production and consumption
What Work Packages of HFA you are working with?	2, 3, 6 and 7
How are these different HFA Work Packages brought together in your FSL?	It is based on what we are doing

### Objectives and key outcomes

What is the main objective of the FSL?	Awareness raising for improved child nutrition and innovative food products
What are more specific objectives of your FSL?	<ol style="list-style-type: none"> <li>1. To improve school children's nutrition and food security by establishing school gardens in 10 public schools in Tamale, Ghana.</li> <li>2. To improve communities' nutrition, food security, climate change adaptation and gender equality by planting fruit trees in 10 urban communities in Tamale Metropolitan area, Ghana.</li> <li>3. To improve urban youth's awareness of the importance of nutrition, food security, gender equality and climate change adaptation by training 20 Youth Ambassadors who will reach out to youth in youth clubs and the schools in the metropolitan area of Tamale, Ghana.</li> </ol>



	4. To introduce novel food products based on fruits from fruit trees and legumes in 10 urban and peri-urban communities to provide new livelihood opportunities for women and improved nutrition and food security.
What are the key outcomes? (Please define in changes you hope to achieve and be as specific as possible)	<ul style="list-style-type: none"> <li>• Sustainable soya production and consumption of soya recipes</li> <li>• Improved nutrition of children through sustainable access and consumption of vegetables from school gardens.</li> <li>• Mango production to improve children access to consumption of mango for improved nutrition</li> </ul>
What are the key activities needed to achieve these outcomes? (Please list each outcome and link it to what is needed to achieve it)	<ul style="list-style-type: none"> <li>• Soya bean production and processing –improve nutrition through consumption</li> <li>• Mango production - improved nutrition through consumption of mango</li> <li>• School vegetable gardening – improved child nutrition through the consumption</li> </ul>

### Beneficiaries

Who are the main beneficiaries you seek to involve? Who will benefit from your intervention (s)?	<ul style="list-style-type: none"> <li>• Children and women</li> <li>• Children and women and entire community</li> </ul>
Do you have clear what you want these actors to do at the end of the project, and do they know?	Sustain the gains made Yes they do know
Do you have an overview in time of what needs to be done first?	Putting the community structures in place to support the project
Are all the steps to take, meetings, testing, research, etc. clearly outlined and funded by HFA, or are there other linked programmes and activities?	Yes

### Key stakeholders

Who are the key stakeholders you have identified?	<ul style="list-style-type: none"> <li>• Ministry of Food and Agriculture</li> <li>• Ghana Education Service</li> <li>• Ghana Health Service (Nutrition Department )</li> <li>• Local Government</li> <li>• Restaurant operators</li> <li>• Government School Feeding Programme</li> </ul>
Have you undertaken any specific stakeholder analysis (roles and needs) (including gender considerations)?	Not yet
Can we differentiate between main beneficiaries-Actors / Actors in the Value Chain / Service Providers / and Enabling Environment?	Yes
What changes in behaviour would you like to see for each of these stakeholders, on the long run, and after 4 years?	Good eating habits of dietary diversity
Are there any stakeholders already engaged in working towards realising your outcomes? If yes, who are they and what are they currently doing?	<ul style="list-style-type: none"> <li>• Ministry of Food and Agriculture</li> <li>• Ghana Education Service</li> <li>• Ghana Health Service (Nutrition Department )</li> <li>• Local Government</li> <li>• Restaurant operators</li> <li>• Government School Feeding Programme</li> </ul>

### Innovations

Do you have clear what the main innovations are that you want to sustain, or scale?	Promoting the use of soya in the processing of different recipes and consumption
What do you consider as the main contextual and/or political factors that can facilitate or prevent the FSL to achieve its main aim?	Not applicable

<p>What are contextual and political factors which can facilitate the realisation of your outcomes?</p>	<p>Existence of state institution such as</p> <ul style="list-style-type: none"> <li>• Ministry of Food and Agriculture</li> <li>• Ghana Education Service</li> <li>• Ghana Health Service (Nutrition Department )</li> <li>• Local Government</li> </ul>
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**Leverage and supporting programmes**

<p>Are there any other ongoing policies or programmes in your area of operation that are or can be relevant to link up with to maximise your outcomes?</p>	<ul style="list-style-type: none"> <li>• School Feeding Programme</li> <li>• Government Planting for food and job</li> </ul>
<p>What support is needed from HFA and WP1/7 specifically to realise your outcomes?</p>	<p>Technical support</p>
<p>What is needed to support the stakeholders in making the changes needed?</p>	<p>Capacity ,information sharing and input support</p>

## Ghana: Accra FSL

### General information

Name of FSL	Accra Food System Lab
Primary contact person(s)	Seth Koranteng Agyakwah and Amy Atter
Contact details of contact person(s)	CSIR-Water Research Institute, Accra, Ghana <a href="mailto:agyaseth@yahoo.com">agyaseth@yahoo.com</a> +233244610181 <a href="mailto:amykuus@yahoo.com">amykuus@yahoo.com</a> +233508453747
Scale of operation (urban, rural, peri-urban, regional, national)	Urban, peri-urban, rural
Level of operation in food system (production, distribution, storage, marketing, consumption).	Production (fish farming), food processing, storage, marketing, consumption
What Work Packages of HFA you are working with?	Directly: WPs 2, 3, 4, 6 Indirectly: WPs 1, 7, 8, 9
How are these different HFA Work Packages brought together in your FSL?	Through collaboration of two CSIR institutes (CSIR-Water Research Institute and CSIR-Food Research Institute) with their respective specialties in fish production technology development, safe food processing and nutrition management that culminate into related value chain businesses, co-generation and management skills, gender equality and empowerment of women. Both institutes are working within the FSL.

### Objectives and key outcomes

What is the main objective of the FSL?	To enhance production and use of fish as part of a healthy diet and agri-food chain development and businesses
What are more specific objectives of your FSL?	<ol style="list-style-type: none"> <li>1. To improve nutrition and mainstream healthy dietary patterns through increased awareness and rapid but sustainable transformation of consumption habits</li> <li>2. Improve and innovate culture systems and technologies, and resource utilization for homestead or backyard aquaculture (fish farming/gardening) for nutrition and business</li> <li>3. To test performance and resilience of fish species (e.g. tilapia and catfish) for sustainable homestead aquaculture system</li> </ol>

	<ol style="list-style-type: none"> <li>4. Evaluate the safety of tilapia and catfish</li> <li>5. Improve fish smoking technology</li> <li>6. Develop novel, sustainable and nutritious safe fish-based and vegan-based food products and test associated tools and processes and business pathways</li> <li>7. Build capacities for broad-based co-generation and co-management of processes and products, gender equality and women's/youth empowerment for policy reforms and transformative and sustainable food systems</li> </ol>
<p><b>What are the key outcomes?</b> (Please define in changes you hope to achieve and be as specific as possible)</p>	<ol style="list-style-type: none"> <li>1. Illustrated Homestead farming technologies made available to farmers and for business</li> <li>2. Improved production management system practiced by fish farmers</li> <li>3. Regulatory processes and support systems functioning towards sustainable fish production</li> <li>4. Farmers adopt good aquaculture practices (GAP), and increased production</li> <li>5. Dietary fish intake patterns will be documented.</li> <li>6. Safety of fresh fish (tilapia and catfish) from selected sites documented and improved post-harvest innovation to extend shelf life made available.</li> <li>7. Safe and improved processing technologies (smoking, drying, canning) made available to processors</li> <li>8. Value addition to fish (processing) in some forms (including ready-to-eat form) made available to some uptakers and consumers</li> <li>9. Improved forms of packaging introduced to processors</li> <li>10. Introduction of viable business model to processors and uptakers</li> <li>11. Scientists, community, policy makers, local governance and value chain actors/businesses dialogues on reforms for improved, equitable and sustainable food systems</li> <li>12. Create employment and generate incomes among youth, men and women</li> </ol>
<p><b>What are the key activities needed to achieve these outcomes?</b> (Please list each outcome and link it to what is needed to achieve it)</p>	<p><b>(A.) i. Conduct survey on small scale, and homestead/backyard fish culturing (gardening) systems in Greater Accra and Eastern Regions. Develop technical report on survey outcome (linked to 1, 2, 3)</b></p> <p>ii. Establish and test on station, homestead aquaculture production technologies (HPTs) such as recirculatory aquaculture production system, aquaponics, flow-through aquaculture production system (linked to 1, 2 above)</p> <p>iii. Conduct field visits and feasibility studies at selected locations per community and selected schools on HAPT establishment. (linked to 1)</p> <p>iv. pilot HPTs in selected communities in 4 MMDAs, with stakeholder and MMDAs involvement (linked to 1,2,3,4)</p> <p>v. Conduct 4 community animation sessions on homestead production technology (linked to 1,2,3,4)</p>

	<p>v. 20 homestead fish production units established in 4 communities including some selected schools (linked to 1,2,3,4)</p> <p>vi. 40 persons x 4 trainings on preferred fish species; improved management of HPTs; preprocessing and post-harvest handling; and marketing, Business planning using appropriate model (e.g. business canvas model) (linked to 2,3)</p> <p>vii. 24 handholding sessions held with beneficiaries (6 visits/community and schools) (linked to 2,3,4)</p> <p>viii. Develop training manuals for 4 ToT workshops and 4 rolled down training sessions (linked to 2,3,4)</p> <p>ix. Monitoring to assess uptake of HPTs (linked to 1)</p> <p><b>(B.) i. Conduct surveys on dietary patterns on fish intake and preferences among Ghanaians in selected communities (linked to 5)</b></p> <p>ii. identify various fish farms for sampling, both in Greater Accra and Eastern Region for safety analyses (Microbial, molecular, chemical, parasitic) (linked to 6)</p> <p>iii. Organized multi-stakeholder meetings (3), conduct survey on existing fish smoking ovens and conduct experiments on efficiency improvement (linked to 7).</p> <p>iv. Conduct 4 trainings on improved fish smoking ovens on pilot bases (linked to 8, 9)</p> <p>v. Organized up-taker stakeholders meetings (4) on proposed novel food products, conduct optimization and sensory test (linked to 8, 9).</p> <p>vi. Conduct 2 trainings on preferred food products, packaging and business model to uptakers (linked to 8, 9, 10)</p> <p>vii. Organize fish fair to outdoor developed HPTs, improved processing technologies, innovative food products and business opportunities to stakeholders and community people (linked to 1 – 11)</p> <p><b>(C) (All activities here are linked to Outcomes 1 – 11)</b></p> <p>i. Stakeholder inception meetings / shared conceptual framework and outcomes: 8 community animations</p> <p>ii. 1 community and media sensitisation</p> <p>iii. Gender audit</p> <p>iv. 2 ToT on gender training for stakeholders/personnel</p> <p>v. 8 rolled down gender training and refreshers</p> <p>vi. Review of gender responsiveness of plans, execution, documentation and reporting</p> <p>vii. Annual FSL gender responsive monitoring meetings</p> <p>viii.g) Develop a project gender-responsive manual</p> <p>ix. Develop a summary report on gender and social mobilisation in novel foods and technologies for improved dietary patterns, transformative sustainable development, practice brief and policy brief.</p>
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**Beneficiaries**

<p>Who are the main beneficiaries you seek to involve? Who will benefit from your intervention (s)?</p>	<p>Policy makers (relevant ministries); Local government agencies – 1 Metropolis, 2 Municipalities and 1 District Assemblies (MMDAs), traditional authorities, value chain actors and associations – fish farmers, fish processors, traders, food processing entrepreneurs, chefs, traditional food caterers, street food vendors; and some basic schools.</p>
<p>Do you have clear what you want these actors to do at the end of the project, and do they know?</p>	<p>At this stage very limited number (some of the key organization) have an overview knowledge what they should do.</p> <ol style="list-style-type: none"> <li>1. MMDAs will facilitate smooth implementation and upscale of shared and learned interventions (developed HPTs, processes and food product technologies) to benefit more vulnerable and critically challenged communities and people in their jurisdiction.</li> <li>2. NGOs will reach out to more MMDAs and communities including those outside the 4 beneficiary MMDAs, to propagate information, support upscale processes on developed HPTs, processes and food product technologies.</li> <li>3. Fish farmers will adopt and use HPTs, best aquaculture management practices, comply with regulatory processes, and share learnings with their networks.</li> <li>4. Fish processors will adopt and use improved smoking ovens and apply regulatory provisions, and shared learnings with their networks.</li> <li>5. Food processing entrepreneurs will contribute to development of novel fish-based and vegan food products using locally available resources and uptake into the markets adopt and produce newly developed,</li> <li>6. Chefs and traditional food caterers will prepare meals and serve clients with project developed formulations</li> <li>7. School feeding and antenatal weaning food outlets will uptake relevant novel foods.</li> </ol>
<p>Do you have an overview in time of what needs to be done first?</p>	<p>Yes.</p>
<p>Are all the steps to take, meetings, testing, research, etc. clearly outlined and funded by HFA, or are there other linked programmes and activities?</p>	<p>All meetings (including of team and external stakeholders) , testing, and research are clearly outlined and funded by HFA.</p>

### Key stakeholders

<p>Who are the key stakeholders you have identified?</p>	<p>Policy makers, regulatory bodies, research institutions and academia, MMDAs, NGOs, service providers, financial institutions and food processors already operating in the market.</p>
<p>Have you undertaken any specific stakeholder analysis (roles and needs) (including gender considerations)?</p>	<p>Not yet. Awaiting ethics clearance. Gender proofing of questionnaires and interview guides have been undertaken.</p>
<p>Can we differentiate between main beneficiaries-Actors / Actors in the Value Chain / Service Providers / and Enabling Environment?</p>	<p>Yes! Actors in the value chain – Fish farmers, Input dealers (feed, seed, nets etc.), Marketers, Traders, Processors, chefs</p>
<p>What changes in behaviour would you like to see for each of these stakeholders, on the long run, and after 4 years?</p>	<ul style="list-style-type: none"> <li>• Efficient enforcement of regulations guiding safe fish production and food processing</li> <li>• Policy makers and government to promote adoption of project developed sustainable HPTs, novel and healthy food products, adoption of efficient and safe fish processing technologies</li> <li>• Regulatory bodies to continually sensitize community members, food/fish producers, processors and traders of regulatory provisions and benefits to their businesses and health</li> <li>• Financial institutions to support SMEs related to safe fish production and food processing</li> <li>• Adoption of co-generation and co-management procedures with increased women and youth voices and participation.</li> </ul>
<p>Are there any stakeholders already engaged in working towards realising your outcomes? If yes, who are they and what are they currently doing?</p>	<p>Yes.</p> <ul style="list-style-type: none"> <li>• Environmental Protection Agency are reviewing their regulatory provisions to ensure compliance by small scale fish farmers.</li> <li>• Food and Drugs Authority and Ghana Standards Authority are stemming up sensitization, education of communities on food safety issues, registration/certification of premises.</li> <li>• MMDAs are incorporating project goals into their programs to facilitate implementation at the community level within their various jurisdiction. They have identified communities and uptakers of project technologies to work with.</li> </ul>



**Innovations**

<p>Do you have clear what the main innovations are that you want to sustain, or scale?</p>	<p>Aquaponics (which is not currently being practiced), utilizing ground water for urban/peri-urban aquaculture, improved smoking technology, developed ready-to-eat fish-based and vegan based foods, improved packaging of smoked and other value added fish products, improved cold boxes for fresh fish handling, effecting changes in consumption of healthy fish-based diets through multi-actor multi-stakeholder platforms.</p>
<p>What do you consider as the main contextual and/or political factors that can facilitate or prevent the FSL to achieve its main aim?</p>	<p>Political and economic stability, and acceptance of novel homesteads and foods will facilitate FSL to achieve its main goals Non-involvement of relevant stakeholders and actors in project activities leading to implementable project outcomes will hinder uptake . Poor sensitization of relevant stakeholders</p>
<p>What are contextual and political factors which can facilitate the realisation of your outcomes?</p>	<p>Political and local governance leaders adopt co-generation and co-management strategic planning and consultations; and subsequently policy briefs and project recommendations in their development agenda – working with communities and value chain actors.</p>

**Leverage and supporting programmes**

<p>Are there any other ongoing policies or programmes in your area of operation that are or can be relevant to link up with to maximise your outcomes?</p>	<p>Yes</p>
<p>What support is needed from HFA and WPI/7 specifically to realise your outcomes?</p>	<p>Coaching to map out strategies to achieve FSL goals</p>
<p>What is needed to support the stakeholders in making the changes needed?</p>	<p>Facilitate regular and effective communication on project updates</p>

## Zambia: Chongwe district FSL

### General information

Name of FSL	Chongwe FSL
Primary contact person(s)	Mangiza Chirwa Chongo
Contact details of contact person(s)	mchirwa@hivos.org
Scale of operation (urban, rural, peri-urban, regional, national)	Rural/Peri-Urban
Level of operation in food system (production, distribution, storage, marketing, consumption).	Production, (Marketing linked to Lusaka)
What Work Packages of HFA you are working with?	WP 3, 4, & 5
How are these different HFA Work Packages brought together in your FSL?	The WPs support the goal of the FSL as required through technical support. The FSL by facilitates a real life scenario in which interventions by WPs can be tested and lessons learnt.

### Objectives and key outcomes

What is the main objective of the FSL?	Enhance Production of Vegetables and related Chains
What are more specific objectives of your FSL?	<ol style="list-style-type: none"> <li>1. To enhance capacity of farmers in organic farming and other sustainable production methods e.g. chemical fertilizer use, water harvesting, climate resilient farming methods etc.</li> <li>2. To enhanced access to markets for supported crops</li> <li>3. Support conducive policy environment</li> <li>4. To increase incomes for the FSL farmers through improved production and reduced loses</li> </ol>
What are the key outcomes? (Please define in changes you hope to achieve and be as specific as possible)	<ol style="list-style-type: none"> <li>1. Enhanced capacity of farmers in organic farming and other sustainable production methods.</li> <li>2. Increased access to markets for supported crops</li> <li>3. Specific by-laws supportive of organic farming practices</li> </ol>

	4. Reduced role of middle men in marketing of supported crops resulting in increased incomes for the FSL farmers
What are the key activities needed to achieve these outcomes? (Please list each outcome and link it to what is needed to achieve it)	<ol style="list-style-type: none"> <li>1. Capacity building in sustainable agriculture practices such as organic farming, chemical fertilizer usage, water harvesting, climate change, etc.</li> <li>2. Link farmers to traders through FSL meetings between LSK and Chongwe FSL. Possible development of app with market information</li> <li>3. Advocacy activities to targeted policy makers and private sector</li> <li>4. Capacity building activities in agriculture as a business</li> </ol>

### Beneficiaries

Who are the main beneficiaries you seek to involve? Who will benefit from your intervention (s)?	<ul style="list-style-type: none"> <li>• IFS farmers</li> <li>• Consumers</li> </ul>
Do you have clear what you want these actors to do at the end of the project, and do they know?	<ul style="list-style-type: none"> <li>• Small Scale Farmers-Yes</li> <li>• Government-Yes</li> <li>• Traditional Leaders-Yes</li> <li>• MoFA/Farmer extension-No</li> <li>• UNZA-Yes</li> <li>• KASISI training centre and other capacity building organizations</li> </ul>
Do you have an overview in time of what needs to be done first?	Engagement of FSL and stakeholders has already kicked off. Next step is baseline data collection followed by support the farmers with seedlings of crops we intend to support (tomatoes and leafy vegetables)and then capacity building in organic agriculture
Are all the steps to take, meetings, testing, research, etc. clearly outlined and funded by HFA, or are there other linked programmes and activities?	All trainings and advocacy materials will be funded by HFA. Still figuring out how to go about the app

### Key stakeholders

Who are the key stakeholders you have identified?	<ul style="list-style-type: none"> <li>• Small Scale Farmers</li> <li>• Government-Chongwe district council, ministry of agriculture</li> <li>• Traditional Leaders</li> </ul>
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	<ul style="list-style-type: none"> <li>• UNZA</li> <li>• KASISI training centre and other capacity building organizations like Wecreate, Musika etc-</li> </ul>
Have you undertaken any specific stakeholder analysis (roles and needs) (including gender considerations)?	No to stakeholder analysis but yes to gender considerations
Can we differentiate between main beneficiaries-Actors / Actors in the Value Chain / Service Providers / and Enabling Environment?	<ul style="list-style-type: none"> <li>• Main Beneficiaries- Farmers and Consumers</li> <li>• Enabling Environment-Chongwe district council, ministry of agriculture</li> <li>• Service provider-Kasisi agriculture training center, we create, musika etc</li> </ul>
What changes in behavior would you like to see for each of these stakeholders, on the long run, and after 4 years?	<ul style="list-style-type: none"> <li>• Sustainable agriculture farming practices</li> <li>• Improved policy environment</li> </ul>
Are there any stakeholders already engaged in working towards realising your outcomes? If yes, who are they and what are they currently doing?	World bank project ongoing about supporting irrigation. Not sure if Chongwe is one of the benefiting towns of focus but might contribute to supporting agriculture in the area.

### Innovations

Do you have clear what the main innovations are that you want to sustain, or scale?	Mobile app
What do you consider as the main contextual and/or political factors that can facilitate or prevent the FSL to achieve its main aim?	General elections in August –political atmosphere prior, during and after elections might destabilize working environment.

### Leverage and supporting programmes

<p>Are there any other ongoing policies or programmes in your area of operation that are or can be relevant to link up with to maximise your outcomes?</p>	<p>Not sure</p>
<p>What support is needed from HFA and WPI/7 specifically to realise your outcomes?</p>	<p>Not sure</p>
<p>What is needed to support the stakeholders in making the changes needed?</p>	<p>Advocacy Capacity</p>

## Zambia: Lusaka FSL

### General information

Name of FSL	Lusaka FSL
Primary contact person(s)	Mangiza Chirwa Chongo
Contact details of contact person(s)	mchirwa@hivos.org
Scale of operation (urban, rural, peri-urban, regional, national)	Urban
Level of operation in food system (production, distribution, storage, marketing, consumption).	Distribution, storage, marketing and consumption
What Work Packages of HFA you are working with?	2, 4, 5, 6
How are these different HFA Work Packages brought together in your FSL?	2 (food consumption and healthy nutrition) 4 (Post harvest technology and food safety)- preservation and safety knowledge 5 (Food chain governance)-technical assistance on creation of sustainable systems 6 (Innovative food products)-Providing knowledge

### Objectives and key outcomes

What is the main objective of the FSL?	Support the informal food sector (IFS) in providing good, safe and healthy food
What are more specific objectives of your FSL?	<ol style="list-style-type: none"> <li>To foster co-learning and co-creation processes for urban food planning and programming. This process will ensure participation from IFS and will be done through support to the Lusaka Food Policy council.</li> <li>To reduce food losses by supporting preservation through simple technologies. Focus on tomato and ground nuts.</li> <li>Create a direct link between vegetable (tomato) farmers from Chongwe and Lusaka traders to reduce losses that are incurred via middle men.</li> </ol>
What are the key outcomes? (Please define in changes you	1. Outlined strategies to address current IFS food related challenges in Lusaka (e.g. storage, food safety, access to credit especially for women, etc)

hope to achieve and be as specific as possible)	<p>2. Minimized loses of tomatoes and ground nuts. Safer food for the consumers. Increased incomes for the IFS handling these products.</p> <p>3. Increased incomes as a result of reduced income loses paid by both farmers and traders to middle men.</p>
What are the key activities needed to achieve these outcomes? (Please list each outcome and link it to what is needed to achieve it)	<p>1. Development of Lusaka Food strategy with participation from all stakeholders. Trainings on food safety, entrepreneurship and finance etc and research on private sector participation in storage provision. Advocacy through targeted meetings and IEC to policy makers.</p> <p>2. Trainings in tomato preservation, jam making, peanut butter making etc. Advocacy and support to Zambia bureau of standards and Lusaka city council on safety standards.</p> <p>3. Interactions between Chongwe FSL farmers and Lusaka FSL traders. Creation of mobile app that can link traders and farmers directly.</p>

### Beneficiaries

Who are the main beneficiaries you seek to involve? Who will benefit from your intervention (s)?	<ul style="list-style-type: none"> <li>• IFS Traders</li> <li>• Consumers</li> </ul>
Do you have clear what you want these actors to do at the end of the project, and do they know?	<ul style="list-style-type: none"> <li>• IFS Traders-Yes</li> <li>• LCC Public Health Department-Yes</li> <li>• Zambia Bureau of Standards-No</li> <li>• Financial Sector Deepening-No</li> <li>• Silva Catering Ltd-No</li> <li>• Zambia Development Agency-Yes</li> <li>• Farmers-No</li> </ul>
Do you have an overview in time of what needs to be done first?	Meeting with food policy council to kick start IFS involvement and then will stagger capacity building activities and advocacy activities throughout the life of the project
Are all the steps to take, meetings, testing, research, etc. clearly outlined and funded by HFA, or are there other linked programmes and activities?	All trainings and advocacy materials will be funded by HFA. Still figuring out how to go about the app

**Key stakeholders**

<p>Who are the key stakeholders you have identified?</p>	<ul style="list-style-type: none"> <li>• IFS Traders-FSL members</li> <li>• LCC Public Health Department-Trainings on food safety</li> <li>• Zambia Bureau of Standards (ZBS)-Trainings on food safety and awareness and testing of produced products. Creation of long term agreement/system on providing safety checks in key market (Soweto)</li> <li>• Financial Sector Deepening (FSD)-Trainings on financial literacy and credit facility incubation for women</li> <li>• Silva Catering ltd-Trainings on Tomato preservation and peanut butter manufacturing</li> <li>• Zambia Development Agency (ZDA)-Entrepreneurship trainings and mentorship</li> <li>• Farmers-FSL members</li> </ul>
<p>Have you undertaken any specific stakeholder analysis (roles and needs) (including gender considerations)?</p>	<p>No to stakeholder analysis but yes to gender considerations</p>
<p>Can we differentiate between main beneficiaries-Actors / Actors in the Value Chain / Service Providers / and Enabling Environment?</p>	<ul style="list-style-type: none"> <li>• Main Beneficiaries-Traders, Farmers, Consumers</li> <li>• Enabling environment-ZDA, LCC, ZBS, FSD</li> <li>• Silva catering-Service provider</li> </ul>
<p>What changes in behavior would you like to see for each of these stakeholders, on the long run, and after 4 years?</p>	<ul style="list-style-type: none"> <li>• Food safety behavior change from both IFS traders and policy makers policing of food safety standards</li> <li>• System creation for participation of IFS traders in policy spaces</li> </ul>
<p>Are there any stakeholders already engaged in working towards realising your outcomes? If yes, who are they and what are they currently doing?</p>	<p>LCC-Already engaged to co-chair food policy council. Challenge is sustainability hence need to create embedded system</p>



**Innovations**

Do you have clear what the main innovations are that you want to sustain, or scale?	Mobile app
What do you consider as the main contextual and/or political factors that can facilitate or prevent the FSL to achieve its main aim?	General elections in August –political atmosphere prior, during and after elections might destabilize working environment as markets frequently find themselves engaged in political affairs
What are contextual and political factors which can facilitate the realisation of your outcomes?	Existing commitments to MUFPP by local authority can facilitate realization as they are yearly events and LCC has to report on progress its making

**Leverage and supporting programmes**

Are there any other ongoing policies or programmes in your area of operation that are or can be relevant to link up with to maximise your outcomes?	Not sure
What support is needed from HFA and WPI/7 specifically to realise your outcomes?	Technical support towards policy and institutional change (Embedding IFS in policy spaces and ZABS in safety checks)
What is needed to support the stakeholders in making the changes needed?	Advocacy Training