



## **RSM2SNF Tanzania Project Launch**

April 14<sup>th</sup>, 2023

Dodoma Hotel, Dodoma City, Tanzania

### **Event summary**

The Research Supporting African MSMEs to Provide Safe and Nutritious Food (RSM2SNF) project for Tanzania was launched on April 14<sup>th</sup>, 2023, under the auspices of the 9<sup>th</sup> Annual Agricultural Policy Conference. The event was attended by 150 in-person participants, with an almost equal number attending virtually. The event included an overview of the project provided by its Lead Principal Investigator, Prof. Saweda Liverpool-Tasie; two sessions with panels composed of stakeholders of the value chains for vegetables and fish, respectively; a wrap-up of the event; and a dinner sponsored by the RSM2SNF project.

### **1. Introduction**

#### **1.1 Why the launch?**

Michigan State University has a purposive tradition of engaging stakeholders in all research projects undertaken. We usually refer to this as “Strategic Stakeholder Engagement.” A stakeholder is a party that has an interest in the research being conducted and can either affect (contribute) or be affected by (benefit from or lose due to) the research outcomes. Logically, therefore, there are many reasons to involve stakeholders from the beginning of the research process. These reasons include the need to show respect and humility: We, as researchers, do not know it all, and we are willing to learn. It is also morally and ethically fulfilling to let those whom we are intending to serve know what is going to happen along the way. We identify a project launch as the preferred initial platform for sharing our ideas, concepts, and proposal of what is intended.

The launch is an ideal platform to exchange ideas and share experiences in an iterative process through which we actively seek the knowledge and experiences of a broad range of individuals with a direct interest in the issues of the proposed project. The launch gives us an idea of the most pressing challenges related to the topic of research, as well as what stakeholders have been able to do so far in addressing the challenges. We usually say, “it is the stakeholders who know most where the shoe is pinching and not the researchers.” This platform is therefore a first order mechanism for reconciling competing viewpoints from various stakeholders.

#### **1.2 Recognizing the limitations of the launch**

We take cognizance of the reality that, despite steps taken to assemble a representative group of stakeholders to make this launch an inclusive platform for

dialogue, several key stakeholders may still be missing; hence, we make a commitment to ensure that we will be very intentional in continuing to identify and include missing stakeholders in our various research processes.

We also fully understand that a one-day launch is insufficient to understand stakeholders and get all we want from them, nor for them to get all they want to know from us. It is for this reason that we are making a commitment to continue the effort of learning more about them and putting in place strategic feedback mechanisms throughout the entire project life. This is a *sine qua non* for a project to have a positive impact, which remains our overall objective.

## 2. Introduction and project overview by Prof. Saweda Liverpool-Tasie

MSU Foundation Professor and Lead Principal Investigator (PI) of RSM2SNF, Prof. Saweda Liverpool-Tasie, started by posing a question to the audience, “When you think of the Tanzania food system, what comes to mind?” She asked the audience to write down what came first to their minds and submit their thoughts to the secretariat team. The event moderator read some of the submitted words or phrases, which mostly included “nutrition” and “sustainability”.



Figure 1: From left to right: Saweda Liverpool-Tasie, MSU Foundation Professor and Principal Investigator of RSM2SNF, introducing the project to Hon Abdallah Hamis Ulega, Tanzanian Minister of Livestock and Fisheries; The audience keenly following the event proceedings; Tanzania Minister of Livestock and Fisheries, Hon. Abdallah Hamis Ulega, giving remarks during the 9th AAPC

The PI then introduced the project team, briefly mentioning their respective responsibilities in the project; the introduced project team is composed of faculty, early careers scholars, and project support staff.

She then presented an overview of the project. She noted key issues that motivated the RSM2SNF project in Nigeria and Tanzania, including (i) the rapid expansion of food systems in the last 2-3 decades that has been accelerated by investments on the part of MSMEs, and (ii) the potential contribution of MSMEs to Tanzania's economy, noting that MSMEs together comprise 95% of all businesses, contribute to one third of the country's GDP, and account for 40% of the country's employment.

She also touched on key challenges confronting MSMEs. These include:

- Micro-level challenges (firm-specific challenges), such as access to credit, and low technical capacity of firm managers.
- Meso-level challenges associated with the conditions of markets and clusters in which many MSMEs in the midstream and downstream operate. Such challenges include congestion, poor infrastructure (e.g., water, electricity, sanitation etc.), and high costs that squeeze MSMEs' marketing margins.
- Macro-challenges (economy-wide challenges) found at both the national and international levels, including government policies and programs responsible for the provision of roads, rail, and other infrastructure, as well as various domestic and trade policies affecting the incentives for MSMEs along key commodity value chains.



Figure 2: Prof. Saweda Liverpool-Tasie presenting the RSM2SNF project overview

She noted that the focus of the RSM2SNF project is on the midstream and downstream of agrifood value chains, as less attention has been paid to these segments of food supply chains relative to producers and consumers (i.e., the start and end of agrifood value chains). RSM2SNF aims to build knowledge on 2–3 specific value chains and evaluate how the structure, conduct, and performance of these value chains can be improved. The project is funded by the Bill and Melinda Gates Foundation, and it will run for five years until 2026.

She noted that the project will engage key stakeholders, including (but not limited to):

- A National Advisory Committee
- Faculty and students at institutions of higher learning (Michigan State University and those in Tanzania and Nigeria)

- Researchers at national research institutes
- The private sector (MSMEs and their associations)
- Relevant government agencies at the national and local levels
- Civil society organizations

Referring to the project's dissemination plan, she noted that the project will produce journal articles, non-technical outputs, such as leaflets/pamphlets, policy briefs, and videos, and also make presentations at national and international stakeholder meetings. She also described the methodology the project will adopt to accomplish its research goals, including:

- Rapid reconnaissance (scoping exercise based on field visits and stakeholder consultations)
- Market studies (Key informant interviews and market-level surveys)
- Stacked surveys (quantitative data collected at the micro level)

She gave examples of how the methodology has been deployed in Nigeria and noted that the project aims to apply research mechanisms that are scientifically sound and socially acceptable. She also summarized the rationale behind the selection of the study's value chains of focus:

- **Fish:** The National Panel Survey finds that 71.2% of households in Tanzania consume fish in a typical week, and there is increasing demand for aquatic foods. However, consumption of fish in Tanzania is still very low at an average of 8.5 kg/ year, while the WHO recommendation is 20 kg/year. The fish subsector in Tanzania is also very broad, including both freshwater and marine catches.
- **Tomato:** There are lots of opportunities in this value chain. Tomatoes are highly perishable, and there is a lot of food loss in its value chain. Furthermore, there are many MSMEs in the midstream of the tomato value chain.
- **Green leafy vegetables:** These include amaranth and cabbage, and they are rich in micro-nutrients. Opportunities exist—especially for women—in the value chains of several of these vegetables.

She concluded by summarising the aim of the project launch as follows:

- Introduce the audience to RSM2SNF
- Share what we want to do
- Hear from each and every person present, including stakeholders in the private sector
- Understand everyone's priorities regarding what might limit safe and nutritious food
- Understand what various stakeholders have been doing to combat challenges
- Become familiar with the opportunities in Tanzania
- Make sure that the project is relevant and useful and that results are adopted.

After ending her presentation, Prof. Saweda Liverpool-Tasie took some questions from the audience. The questions and their respective answers were as follows:

**Q:** Why doesn't the project focus on consumers?

**A:** The project focuses on the midstream and downstream of agrifood value chains because those are segments of food supply chains that have received relatively less attention in the food systems literature and associated policy debates (compared to producers and consumers). This limited attention is important because the activities of actors in the midstream and downstream are crucial for the prices and opportunities for farmers upstream and the prices and quality of food received by consumers. While our primary study methodologies will not have a specific focus on consumers, we have some interventions planned (e.g., in markets) where we might have the opportunity to look at what consumers experience and want.

**Q:** MSMEs are also engaged in the staple foods value chains. How did you come about selecting your value chains to focus on? Why not staples, such as maize?

**A:** The criteria for the selection of the value chains include foods that are nutritious, such as fish and indigenous vegetables. We focus on the consumption of a diverse diet.



*Figure 3: Participants asking questions about RSM2SNF during the launch*

**Q:** Safety is a key concept. We have overuse and non-compliance with regulations when it comes to the application of chemicals on vegetables. How are you going to tackle that?

**A:** Food safety is multi-dimensional. We are aware that there are food safety challenges present all along food supply chains. This includes the use of many different chemicals by farmers during production but also in our food markets. Therefore, during our stacked surveys (where we will be collecting information from representative samples of MSMEs from production to retail), we will collect details on agro-chemical use (and other practices that could positively or negatively affect food safety) and will be able to better understand the different food safety concerns along our study value chains. In this way, we will identify opportunities for improving the ability of our study supply chains to increase the supply of affordable, safe, and nutritious food.

**Q:** What about the quality of seeds, will you focus on that too?

**A:** This is very important and through our micro-studies we intend to capture that aspect too. However, we hope to have a broad view of the study value chains because it is necessary to ensure that efforts made to guarantee quality seeds and/or output at the production stage are preserved as the product moves through the process of transportation, processing, storage, and sale.

### **3. RSM2SNF Value Chains**

#### **3.1 Session I: Panel on vegetable value chain chaired by Prof. John Msuya from Sokoine University of Agriculture (SUA)**

The panellists for this session included Dr. Victoria Gowele from SUA; Ms. Lightness Chaky, a tomato producer and trader from Ruaha Mbuyuni, Iringa; and Ms. Mwamvua Mlangwa, a green leafy vegetable producer based in Dar es Salaam who uses a hydroponic system in production.

Prof. John Msuya started by providing an overview of how the session would be conducted and welcoming the panellists. He then posed discussion questions that relate to tomatoes and green leafy vegetables.



*Figure 4: Prof. John Msuya's opening remarks during session 1 on the tomato and green leafy vegetables value chains*

**Q (directed to Dr. Victoria Gowele):** What is already known in the literature about green leafy vegetables?

**A:** Dr. Victoria Gowele started by acknowledging Her Excellence Dr. Samia Suluhu Hassan, the president of the United Republic of Tanzania. She then pointed out the important roles that vegetables play for humans:

- Source of micronutrients and vitamins A, C, etc.
- Source of fibre, which helps in proper digestion and reduces the burden of malnutrition, overweight, and obesity.
- Its production is resilient to climate change.
- Provides sources of income for all gender, hence reducing gender inequality.

Citing the literature, she further noted that consumption of vegetables in Africa, and in Tanzania in particular, is very low, hence people must be educated to increase their consumption. With regards to food safety, Dr. Victoria Gowele submitted that contamination of vegetables is very high, referencing a study from a region in Tanzania whereby 63% of the vegetables sold at the market were found to be contaminated by bacteria, and 47% were found to be contaminated by pesticides. She added that there is considerable post-harvest loss due to limited processing technology.

On the same matter, Prof. John Msuya noted that there are misconceptions related to the consumption of vegetables. Some people believe that once they consume vegetables, they won't get sick even if they don't sleep under mosquito nets.

**Q (directed to Ms. Lightness Chacky):** Where and how did you get the idea to enter the production of tomatoes?

**A:** Ms. Lightness Chacky started by describing her education journey. She is a graduate from the College of Business Education and pursued a Bachelors in procurement and logistics in 2016. It is now 7 years since she started this business, which she began because of lack of favourable employment opportunities. She is encouraging the youth to engage in agriculture since it is profitable.



Figure 5: Ms. Lightness Chaky answering question during session 1

**Q:** What kind of challenges do you face in tomato production?

**A:** Ms. Lightness Chaky mentioned three major challenges, including insufficient processing methods, poor seed quality, and challenges related to policies in the agricultural sector.

**Q:** Do the agricultural officers help you in your business?

**A:** Yes, but we need to have more education on the proper farming methods and an understanding of profitability in agribusiness.

**Q:** What should researchers do to help tomato farmers?

**A:** More research should be conducted, particularly on the production and market nodes.

Before welcoming Ms. Mwamvua Mlangwa, a brief video showed how she practices green leafy vegetable farming by using hydroponic technology. After the video, Ms. Mwamvua was welcomed by Prof. John Msuya to take the floor. She noted that she was employed as a network service provider in a company for 15 years before venturing into this kind of farming. In her remarks, she pointed out that she had an opportunity to go to Israel to learn more about the hydroponic farming method. She emphasized that hydroponics is a good farming method that can be practiced on a small piece of land and can be used to grow a variety of crops.



Figure 6: From left to right: Hon. Mizengo Peter Pinda, the former Prime Minister of Tanzania, giving remarks during the RSM2SNF launch event; Audience at the session on the value chain for tomato and green leafy vegetables

During session 1, Hon. Mizengo Peter Pinda, the former Prime Minister of the United Republic of Tanzania, introduced two young female participants (Khadija and Raha) who are engaged in the tomato and green leafy vegetable value chains, particularly in the node of raising seedlings from a nursery and selling them to farmers.

Hon. Mizengo Peter Pinda asked a question about the size of hydroponics production and the associated start-up costs. Ms. Mwamvua Mlangwa responded that her hydroponics farm is of half an acre, and she uses normal pipes and water pumps. However, since Dar es Salaam is very sunny and the water gets hot, which slows down crop development, she decided to install A/C to cool the water. She recommended that pipes should be sold at a subsidized price and calls on the Tanzania Agricultural Development Bank (TADB) to at least lend money at a low interest rate.

**Q:** Mr. Pesa asked whether there are nutrients that are available in the soil but not in the hydroponic system's water that Ms. Mwamvua is using.

**A:** Ms. Mwamvua clarified that the nutrients can be made available by adding fertilizers to the water.

**Q:** Ms. Monica asked how long it took for Ms. Mwamvua to see a return on her initial investment cost. She added that it has been noted that 60% of vegetables are contaminated in Arusha and asked what should be done to reduce this contamination? Do local markets measure the level of contamination?

**A:** Ms. Mwamvua noted that it took her two years to see a return on her investment costs. As regards to vegetable contamination, she noted that in order to reduce the

level of contamination, vegetables should be washed well, and the waiting time after pesticide application and before harvest should be observed; moreover, she added that the local markets do not measure the level of contamination.

**Q:** Dr. Silas asked a question about the issue of competition. Since hydroponics looks very expensive, how does Ms. Mwamvua set prices?

**A:** The hydroponics farm is on a small piece of land, and harvests are very large, hence there are large profits. The taste of the vegetables from the hydroponics farm is the same as that of vegetables planted in soil.

**Q:** Dr. Mushi asked what strategies can be adopted to reduce the level of contamination?

**A:** Good agricultural practices, good seeds, good fertilizers, and education for farmers should be provided. Good processing methods should be applied.

### **3.2 Session II: Panel on the fish value chain, moderated by Dr. Lydia Gaspare from the University of Dar es Salaam**

The panellists included Dr. Silas Mathew (researcher, Tanzania Fisheries Research Institute), Dr. Nazaeli Madalla (Director of Aquaculture at the Ministry of Livestock and Fisheries), Dr. Alex Wenaty (researcher/academic from Sokoine University of Agriculture), Mr. Mikidadi Nsombo (fish processor and trader from Mwanza), and Dr. Innocensia John (researcher/academic, University of Dar es Salaam).



*Figure 7: From left to right: Dr. Lydia Gaspare, Dr. Mathew Silas, Dr. Nazael Madalla, Dr. Alex Wenaty, Mr. Mikidadi Nsombo, and Dr. Innocensia John at session 2 on the fish value chain*

The framework of the fishery sector of Tanzania was presented by Dr. Lydia Gaspare, who explained that the fishery sector encompasses both capture fisheries and aquaculture. Capture fisheries are divided into marine fisheries (oceans/seas) and inland fisheries (lakes/rivers, etc). The fishery sector accounts for 1.7% of the country's GDP. The most common species harvested are small pelagic fish, (sardines/dagaa), Nile tilapia, Nile perch, octopus, prawns, and eels.

The first panellist, Dr. Silas, discussed the issues of climate change and small-scale fisheries. He discussed the effects of climate change on fish stock decline, the loss of some fish species, and the unpredictability of catches. He presented the notion that the fishery sector is an "unmined mineral". The effect of climate change on the destruction of coral reefs and ecosystems needs to be addressed by everyone in society. He emphasized that we are all responsible! We also need to give attention to post-harvest losses to reduce the dependence on capture fisheries, as the fish saved from post-harvest loss can be used for consumption and for business purposes.

The second panellist, Dr. Nazael Madalla, presented the history of aquaculture in Tanzania and discussed the need to invest in aquaculture because of the rising demand for fish and population growth. He insisted, "investors are welcome to invest in this sector, the Government is working hard to ensure all the permits are provided soon after applications." At the same time, he noted that the aquaculture sector is facing several challenges around feed, seed, know-how (knowledge about fish farming and modern practices), and inadequate extension services. He insisted on researching on the variety of species which can be cultured beyond the common tilapia and catfish.

Dr. Alex Wenaty next presented on the nutritional value of fish products during processing and in the whole fish value chain. Smoking is one technique used in fish processing. Others include salting and sun drying. The nutritional value of smoked or processed fish is still debated, but smoked fish tends to have a higher nutritional value. Chemical contaminants, such as the use of formalin with the intention of extending fish shelf life, have been observed in fish products from Mwanza.

Mr. Mikidadi Nsombo, a fish trader and transporter from Mwanza, next discussed the unfair competition between fish traders and fishers. Traders who are processing the fish in accordance with regulations incur high costs and yet compete in the same market with local fishers who do not observe those regulations. This provides no incentive to adhere to the regulations. He therefore urged enforcement of the laid-out regulations in the fishing sub-sector. He discussed the occurrence of fish politics and the frequent changes in the policies, rules, regulations, and procedures which affect the marketing of fish and fish products. He made a case for the harmonization

of by-laws, policies, and procedures between local and municipal councils to reduce barriers and challenges in the fishing and fish marketing businesses.

Dr. Innocensia John presented on gendered roles in the fishery industry. Many nodes of the fish value chain are gendered, with different roles played by men and women. She noted that most women are involved in the processing and marketing nodes. The work done by women is not very appreciated, but she suggested that women's empowerment, financial inclusion, and gender awareness campaigns can be used to bring equality and lure more women into the fish value chain.

Three questions were asked by the audience:

- What is mabondo?
- During the processing of tilapia, how should we use the remaining unprocessed fish parts?
- Does the Aquaculture Department collaborate with the Aquaculture Association of Tanzania?

The panellists answered the questions as follows:

- i) Mabondo (plural) refers to the swimming bladder (air sac) found in the Nile perch that enables it to float. The part of the fish is reported to have an export value which is several times more than the value of the fish itself.
- ii) Unprocessed parts from fish can be used for manufacturing fertilizers, fish meal for aquaculture, etc.
- iii) The Aquaculture Department in the Ministry of Livestock and Fisheries collaborates very closely with the Aquaculture Association of Tanzania.

#### **4. Synthesis by Dr. Ayala Wineman**

Dr. Ayala Wineman provided a synthesis of the sessions. She began by displaying results of the ice breaker that had asked "what one word comes to mind when you hear of the phrase "food system" in Tanzania?" She noted that "nutrition" appeared to be most frequently mentioned. among various other terms.



Figure 8: Dr. Ayala Wineman providing a synthesis of the sessions

She noted that after the sessions by the panellists, many people in attendance may be thinking of establishing their own hydroponics farm or fish farm. She also commented on the opportunities that the food sector offers and commended the involvement of stakeholders in the event. She was fascinated by the mind-set change that led to youths establishing their own farms and actively engaging in commercial agriculture. She also noted an important role for the media and the education system in changing the perceptions of youths and other stakeholders about agriculture and nutrition. She suggested that a way forward would be to include establishing food and nutrition programmes in schools and prioritizing nutrition within schools.

She also talked about the tension between priorities of food safety and wanting to reduce food loss and showed that finding solutions that favour all angles (food safety, nutrition, and affordability) can be very challenging in reality. She thought that the best way forward is to prioritize and pay attention to the choices people make and the basis for such choices to be able to understand how best any intervention can serve the people.

She was happy to know that some university students were eager to learn agricultural skills from the stakeholders, such as related to hydroponics farming. This hunger for practical skills is a lesson for the RSM2SNF project.

## **5. Closing remarks by Prof. Isaac Minde**

Prof. Isaac Minde expressed his excitement about how well the whole launch session went and hoped that everyone felt likewise. He thanked everyone for their attention, participation and active engagement. He also mentioned individuals and groups that

made the sessions successful, especially noting the attendance of the invitees, faculty researchers, and early career scholars, and he emphasized the project's intention regarding capacity building.



*Figure 9: Prof. Isaac Minde, In-Country Project Coordinator, giving closing remarks for the launch*

He commended representatives from the Agricultural Sector Lead Ministries (ASLMs) for their participation despite their tight schedules, including the parliamentary sessions that were running parallel to the AAPC meeting. Representatives from the ministries of Agriculture; Livestock and Fisheries; and Industry, Trade, and Investment were all present. Finally, he thanked Hon. Mizengo Pinda and everyone who participated in the event. He invited all the attendees to be frontline stakeholders to the just-launched project. He looks forward to the sustained contribution of all stakeholders, and expects that they will, in turn, benefit immensely from the research project outcomes.

The moderator then welcomed the audience to dinner, which was sponsored by the RSM2SNF project.

## Appendix: Agenda of the RSM2SNF Launch

**Table 1: Agenda for the RSM2SNF inauguration event**

AGENDA	
14:00-14:30 EAT	Welcome to the session and ice breaker on Tanzania's food system (Mr. Austin Makani)
14:30-15:00 EAT	<p>Project overview:</p> <ul style="list-style-type: none"> <li>• Introduction of research team (Prof. Saweda Liverpool-Tasie)</li> <li>• Presentation of RSM2SNF (Prof. Saweda Liverpool-Tasie)</li> <li>• Q &amp; A</li> </ul>
15:00 –16:00 EAT	<p>Session 1: Vegetable value chain (particularly tomatoes and green leafy vegetables (GLVs))</p> <ul style="list-style-type: none"> <li>• Prof. John Msuya</li> <li>• Dr. Victoria Gowele</li> <li>• Tomato producer/trader (Ms. Lightness Chaky)</li> <li>• GLV producer/trader (Ms. Mwamvua Mlangwa)</li> <li>• Q &amp; A</li> </ul>
16:00 –17:00 EAT	<p>Session 2: Fish value chain</p> <ul style="list-style-type: none"> <li>• Dr. Lydia Gaspare and Dr. Innocensia John</li> <li>• Director of Aquaculture, Ministry of Livestock and Fisheries (Dr. Nazael Madalla)</li> <li>• Representative of MSMEs engaged in the fish value chain (Mr. Mikidadi Nsombo)</li> <li>• Climate change and the fish subsector (Dr. Matthew Silas)</li> <li>• Q &amp; A</li> </ul>
17:00-17:15 EAT	Synthesis (Dr. Ayala Wineman)
17:15-17:30 EAT	Closing comments (Prof. Isaac Minde)