Results report on a stakeholder workshop reflecting on a theory of change for low-emission food system transformation in Nandi county, Kenya

a contribution to the establishment of

A Living Lab 4 People on Food System Innovations for Climate Change Mitigation

under the

CGIAR Research Initiative on Low-Emission Food Systems (MITIGATE+)

Allen's Hotel, Kapsabet, Kenya

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This work is part of the CGIAR Initiative on Low-Emission Food Systems, also called MITIGATE+. MITIGATE+ works closely with key national and international partners in co-creating knowledge, information, and tools required to make robust evidence-based decisions in response to challenges in food systems to reduce greenhouse gas emissions. We would like to thank all funders who support the research through their contributions to the CGIAR Trust Fund: https://www.cgiar.org/funders/

Introduction

The workshop was organized by the CGIAR Research Initiative on Low-Emission Food Systems (MITIGATE+), which is implemented by a large consortium of partners. The Initiative aims to reduce annual global food systems emissions by working closely with key actors in target countries to co-create knowledge that enables them to make evidence-based decisions and address challenges in food systems discourse, policy development, and implementation to reduce greenhouse gas emissions.

The Initiative's partners support the establishment of a multistakeholder platform and a "living lab for people" (LL4P) that will support bottom-up innovation cases to help transform food systems in Nandi county, Kenya, while also reducing greenhouse gas emissions.

The workshop was part of a series of stakeholder workshops that aims to help clarify development opportunities, the role of different actors in Nandi county, and their interests. The intention was to bring actors together, invite them to think about a joint vision for food systems in the county, and share perspectives on entry points for initiating system change.

Attendance and logistics

The workshop was attended by 26 participants, including 10 government representatives, 10 farmers, 2 civil society members, 2 private sector representatives, and 2 community leaders. Consent to voluntarily participate and to collect and use data, recordings, and pictures was obtained from all participants after explaining the workshop agenda to them. Detailed notes of all activities were taken. Each participant received two snacks and lunch on each workshop day in addition to compensation for transport (see financial report on workshop). There were no complaints about the logistics or meals.

Revision of actor network

The process of reflecting on a theory of change for the county's food systems began with netmaps that were developed in a workshop on December, 7, 2022, in Kapsabet. Stakeholders developed three netmaps for the county's food systems, and. The facilitators chose one as the basis for discussion during the February workshop. It was emphasized that none of the netmaps were better or worse, but that the one chosen for discussion included more complex relations between actors. Participants were asked to review the netmap and propose revisions (Figure 1).

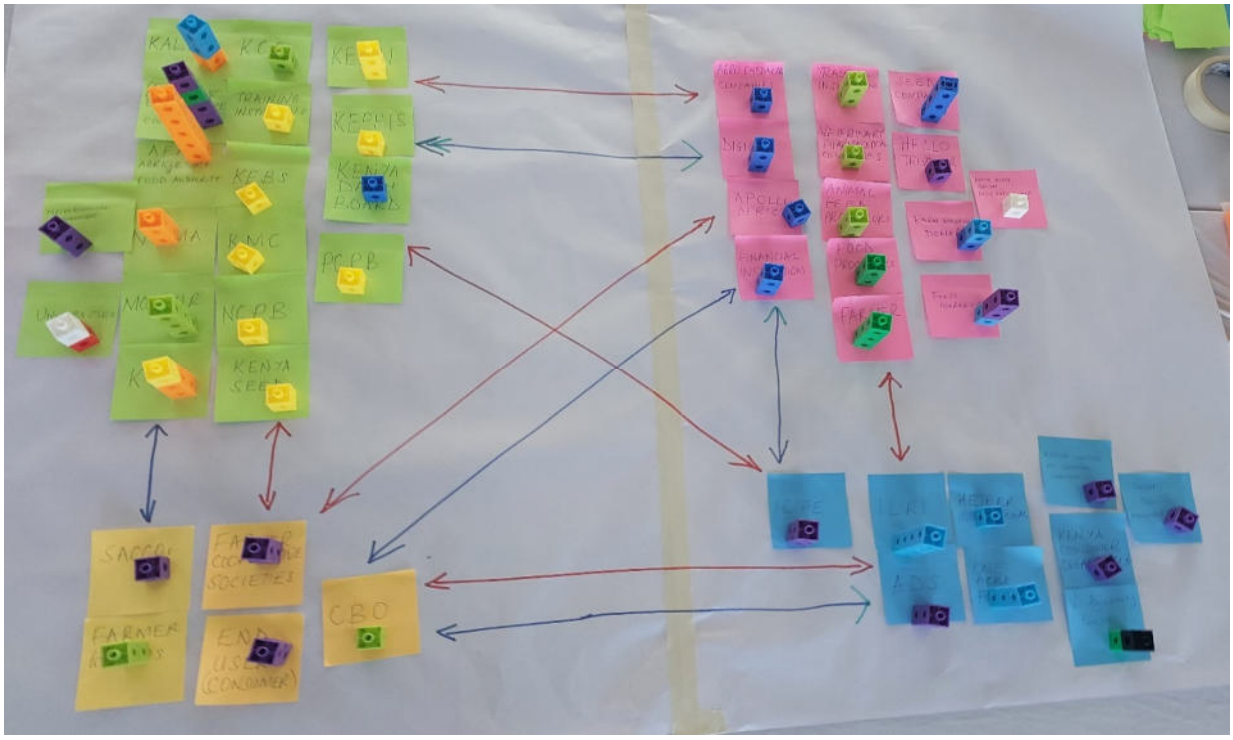

Figure 1: Revised Netmap, *source: David Ngome, ILRI*

Participants proposed adding a few actors, though all of them were rated as having low influence. The most important revision was that information mostly flows in both directions, and government organizations especially depend on information from other actors.

Constellation of current actor network

In the next step, the participants engaged in an embodiment exercise to envision potential and sense a desired future. This was facilitated using an organizational constellation approach called 4D mapping (Hayashi 2021),[1] which helped participants to think creatively about actor relations and system dynamics.

The facilitators presented nine influential actors from the list of stakeholders in the netmap. In their discussion, the participants asked to add providers of agrochemical inputs as an important influential actor, and they dropped the One Acre Fund. The final list of actors included:

1. Farmers
2. Farmer groups and cooperatives
3. Consumers
4. County Department of Agriculture
5. Agriculture Fisheries & Food Authority (AFFA)
6. Seed companies
7. Food marketers
8. ILRI

[1] Hayashi, A. 2021. *Social Presencing Theater: The Art of Making a True Move.* Cambridge, Massachusetts: Pi Press.

9. Providers of agrochemical inputs

One actor after another was called to the stage and participants chose an actor to embody. A constellation emerged after all actors entered the space where they faced each other in a circle. Notably, the farmer knelt and lowered her gaze, the farmer cooperative representative sat beside the farmer, and the food marketer stood with open arms, embracing everybody (Figure 2).

The actors changed positions as they were invited to move. The farmer moved through the network away from the farmer cooperative and knelt next to the consumers.

The participants who embodied the actors made the following key observations:

- The farmers experienced many challenges, including low productivity, weather, markets, and lack of knowledge.
- The food marketer felt he represented the farmers. He needed everyone to get the best products and had strong bargaining power.
- The county government representative searched for an unbiased way to support and coordinate the activities of various stakeholders.
- The seed company representative felt disconnected from the farmers and cooperatives.
- The farmer cooperative sat down so that others could approach him.
- The agrochemical provider worked by educating others about the chemical contents and how to use the inputs.

Figure 2: Sculpture 1 of actor constellation, *source: Kibet Walter, ILRI*

The participants who observed the embodiment exercise made the following key observations:

- Every stakeholder played a role. All actors depended on each other although they had different levels of influence. They needed each other.

- The farmer was the main focus although she seemed desperate and appeared to be crying. The farmer should not be suffering. Farmers should be happy despite their challenges.
- The county government should keep the rest of the actors in check.
- The actors were well-informed and knew what to do.
- Capacity building was needed for farmers who lack knowledge.

These observations represent the perspectives of the exercise participants.

Visioning

In this step, participants were asked to develop a shared vision for the future of Nandi county's food systems. The MITIGATE+ team wants to support them to generate a common goal, hope, creative thinking, and passion. Inspired by Brouwer and Brouwers (2017),[2] we asked participants to imagine taking a ride on a hot air balloon that transports them to the year 2050, where something remarkable has happened with Nandi county's food systems. Having heard about these changes, a German documentary team wants to interview different entities to find out about what has happened and what they can learn to address the challenges facing Germany's food systems.

Participants were asked to choose roles from the German documentary team or the interviewees from Nandy county. All participants were asked to discuss which questions the documentary team should ask and how the interviewees should answer. Afterward, six of the participants acted out the interview. Below is a summary of the interview content.

Key achievements:

- Nandi county is food-secure
- Healthy food is available and malnutrition has declined
- There are strong improvements in literacy
- Forest cover has increased to more than 15 percent, which has reduced the effects of climate change, led to more reliable rainfall, and supported agricultural production
- Farmers' productivity has improved (e.g., the minimum milk production per cow per day is 40 liters)
- Marketing and storage systems are efficient
- Surplus food production is exported
- Youth have returned to farming
- Everybody owns the process

Key enabling factors:

- Actors working together to respond to community needs, climate change, and other changes in communities; each stakeholder plays a role based on their expertise
- Involvement of everyone through social inclusion in food systems
- Improved leadership, especially county government

[2] Brouwer, H. and J. Brouwers. 2017. *The MSP Tool Guide: Sixty Tools to Facilitate Multi-stakeholder Partnerships. Companion to The MSP Guide*. Wageningen University and Research.

- Strong policies to avoid misappropriation of funds
- Policies restricting the subdivision of agricultural land
- Improved government policies on conservation of riparian land and conservation of indigenous forests
- Nongovernmental organizations teaching people about green energy
- Cooperatives and farmer groups assisting farmers in day-to-day activities
- Ministry of Agriculture forming a County Agriculture Sector Steering Committee, which ensures coordination of development partners
- Increasing enrollment in schools
- Training of farmers
- An online extension platform created to support farmers with information; the platform helps farmers to control pests and diseases and to use appropriate technologies
- Improved access to high-quality seeds and breeds; role of National Cereals and Produce Board
- Improved mechanization
- Subsidized fertilizers accessible at subcounty levels
- Improved value chains
- Value addition of agricultural produce (packaging and storage)
- Measures to avoid aflatoxin
- Crop-livestock integration
- Improved feeding; shift from open grazing to more controlled grazing systems
- Youth, in particular, applying modern technologies to improve productivity
- 20 modern marketplaces with low taxes
- Improving women's land tenure
- All household members working together as a unit

The Theory of Change

The remainder of the workshop was dedicated to discussing the following questions in groups:

- Which actor would need to do what to move toward the joint vision?
- What could motivate, enable, or prompt relevant actors to take these actions?
- Who could motivate, induce, or enable the relevant actor?

The complete documentation of the outcomes of this process is provided in the appendix to this report. Key aspects of the discussions are summarized below.

Table 1: Key aspects of the discussion on a county theory of change

Primary actor of concern	What needs to be done to advance Nandi county's food systems toward the desired future?	What could motivate, induce, or enable the actor of concern (column A) to take the action (column B)?	Who could motivate, induce, or enable the actor of concern to take the action?

Farmers	Apply improved practices	• Increased income • Good technology performance • Access to finance • Access to information on technology • Knowledge about technologies/training	Department of Agriculture, research institutions, market actors
	Seek information, technology, resources, and innovation	Awareness for potential to increase income (such as field days, agricultural shows, peer learning)	
		Expectations of others	
	Form savings and credit cooperatives (SACCOs) and join cooperatives and common interest groups (CIGs)	Improved social relations	
		Evidence that it helps improve productivity	
		Trust in good management of existing SACCOs, coops, and CIGs	Managers of SACCOs, coops, and CIGs
Department of Agriculture (DOA)	Improve extension services to support farmers in applying improved practices (see farmers' behavioral change above)	• Timely and adequate remuneration • Staff promotion (service implementation scheme by county government) • Staff mobility (transportation for extension staff) • Implementation of rules and regulations	County government
		• Concern for the community • Improved income for farmers	DoA staff
		Facilitation of farm trainings by county government (financial support and materials)	County government
		Ownership of projects by farmers	Farmers
		Transportation for extension staff	County government
	Strengthen cooperative governance		
	Create a committee to liaise with nongovernmental organizations (NGOs) to align their projects		
	Create policies for financial management		

County government, Department of Environment (DOE)	Promote increased forest cover	Acknowledgement that trees contribute to: • food security (through fruit trees) • subsistence income • organic manure • livestock fodder • reduced natural disasters (landslides, soil erosion, etc.)	
		Income generated from carbon credits/trading	Carbon market actors
		Contributing to something meaningful	DoE staff
		Appreciation that trees contribute to microclimate by: • attracting rain • providing clean air • stabilizing temperature • acting as wind breaks	
	Develop and implement nature conservation activities		
	Provide land title deeds		
	Reduce greenhouse gases	Implementation of laws, regulations, and processes	County assembly
Kenya Forestry Service	Promote more environmentally friendly trees	• Supportive government policies • Increased budgetary allocation • Job security • Promotions • Income	County government?
		• Aesthetics • Recognition	
		• Job satisfaction • Meaningful contribution to success	
Kenya Agricultural and Livestock Research Organisation (KALRO)	Generate more farming technologies	• Job security • Job satisfaction • Promotion • Recognition of achievements • Research funds • Desire to help others in solving their problems • Curiosity	

Financial institutions	Provide e-voucher credits for farm inputs	Reduced transaction costs	
	Adopt warehouse receipt system	Reduced default rate	
	Use farm produce as collateral		
	Provide tailored loans following crop cycle	Expanding business if farmers are able to pay back loans and therefore access more credit	
Agricultural insurance providers	Provide insurance for agricultural enterprises	Being aware that farmers mitigate risks and uncertainties	

Open reflection on the process

The last session was a reflection on possible follow-up actions. The purpose of this exercise was to let participants step back from the details that had been discussed and detach from any confusing and contradicting signals and facts, some of which can be related to a participant's identity.

The session was guided by the image of a wise council, which is a group of women and men with great knowledge and experience. The members look at the issues with an open mind and heart, without any agenda and independent of their identity (such as sex, age, education, or sector).

Statements raised by participants in this process included:

- I see a better Kenya
- I see a vibrant community that is able to feed their children and take them to school
- I feel change/transformation is possible by working together
- I feel inspired, energized; I see an inspired team
- I see the importance of working together; a lot can be achieved through collaboration
- I see a lot of challenges and opportunities
- I feel blessed to be part of a team that is going to change the world
- We are thankful for your time and insights; looking forward to working and interacting with you more; it is good working with ILRI

The meeting closed with a prayer.

Appendix 1: Documentation of Theory of Change reflection

Primary actor of concern	**What needs to be done to advance Nandi county's food systems toward the desired future?**	**What could motivate, induce, or enable the actor of concern to take the action?**	**Who could motivate, induce, or enable the actor of concern to take the action?**
Farmers	Seek information, technology, resources, and innovation	Awareness of potential to increase income (such as field days, agricultural shows, peer learning)	Department of Agriculture (DoA)? Research institutions?
		Expectations of others	
	Achieve zero corruption		
	Adopt climate-smart technologies, such biogas	• Increased income • Good technology performance • Access to finance • Access to information on technology • Knowledge about technologies/training	
	Use integrated farming practices		
	Conserve soil and water		
	Increase horticultural productivity	Increased income through sales of horticultural outputs	Market actors? Research institutions?
	Use organic farming/reduce use of pesticides		
	Form savings and credit cooperatives (SACCOs) and join cooperatives and common interest groups (CIGs)	Improved social relations	
		Increased productivity	
		Good management of existing SACCOs, coops, and CIGs	Farmer cooperatives
		Trust in managers	Managers of SACCOs, coops, and CIGs
Farmer cooperative	Mobilize more members to join		

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Department of Agriculture	Use online/e-extension (digital) methods	• Timely and adequate remuneration • Staff promotion (service implementation scheme by county government) • Staff mobility (transportation for extension staff) • Implementation of rules and regulations	County government
	Improve dissemination of climate-smart technologies		
	Promote good agricultural practices	• Concern for the community • Improved income for farmers	DoA staff
	Develop, promote, enhance use, and scale up demonstration/model farms (field days and exhibitions)	Facilitation of farm trainings by county government (financial support and materials)	County government
		Ownership of projects by farmers	Farmers
	Provide extension services	Transportation for extension staff	County government
	Adequately staff extension officers		
	Strengthen cooperative governance		
	Develop a county soil laboratory		
	Scale up breeding services		
	Promote pasture (fodder) establishment and conservation		
	Facilitate extension officers to disseminate information to farmers		
	Create a committee to liaise with nongovernmental organization (NGOs) to align their projects		
	Use a bottom-up approach for extension services, starting from the farmer		

	Create policies for finance management		
	Be user-driven		
	Offer peer-to-peer social learning		
County government, Department of Environment	Conserve catchment areas and riparian zones		
	Remove invasive species		
	Develop and implement agroforestry policies		
	Implement mitigation and adaptation measures on climate change		
	Promote increased forest cover	Acknowledgement that trees contribute to: • food security (through fruit trees) • subsistence income • organic manure • livestock fodder • reduced natural disasters (landslides, soil erosion, etc.)	
		Income generated from carbon credits/trading	Carbon market actors
		Contributing to something meaningful	DoE staff
		Appreciation that trees contribute to microclimate by: • attracting rain • providing clean air • stabilizing temperature • acting as wind breaks	
	Provide land title deeds		
	GHG reduction	Implementation of laws, regulations, and processes	County assembly

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Kenya Forestry Service	Promote more environmentally friendly trees	• Supportive government policies • Increased budgetary allocation • Job security • Promotions • Income	County government?
		• Aesthetics • Recognition	
		• Job satisfaction • Meaningful contribution to success	DoA staff
KALRO	Generate more farming technologies	• Job security • Job satisfaction • Promotion • Recognition of achievements • Research funds • Desire to help others in solving their problems • Curiosity	
Horticultural research institutions	Develop technologies to increase horticultural productivity and reduce diseases	Acknowledgement of low horticultural productivity and high disease infestation	
Horticultural brokers	Market horticultural produce	• Income • Increased sales • Horticultural outputs	
Financial institutions	Provide e-voucher credits for farm inputs	Reduced transaction costs	
	Adopt warehouse receipt system	Reduced default rate	
	Use farm produce as collateral		

	Provide tailored loans following crop cycle	Expanding business if farmers are able to pay back loans and therefore access more credit	
Agricultural insurance providers	Provide insurance for agricultural enterprises	Being aware that farmers mitigate risks and uncertainties	