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Foresight4Food
International Collaborative Initiative

Transforming Nakuru's food system through foresight and finance

What areas should investments target and who should take the lead?

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Key messages

Food system transformation and foresight offer a powerful approach that can be instrumental for the realization of sustainable development goals (SDGs)

While the agri-food system in Nakuru has the potential to deliver a range of desirable food systems outcomes, currently it falls short of full potential, and runs the risk of losses in environmental and social outcomes.

Both the private and public sectors including public private partnerships (PPP) have an important role to play but are differently suited in ensuring flow of investments needed to nudge the evolution of a food system that yields desirable outcomes.

Financial service providers can serve the pathways for a desired future. To support the uptake of improved and climate smart technologies by farmers and private businesses financing is needed

Using a food systems perspective

The food system framework is increasingly used as a holistic analytical tool to enhance our understanding of agriculture, food security and nutrition, and shape policies and strategic interventions for more desirable system outcomes (Borman et. al., 2022). A food system includes all the activities and processes involved in getting food from the farm to the table, including production, processing, distribution, preparation, consumption and waste management as well as the broader economic, societal, and environmental factors that influence it (IFAD, 2021; Geneva Environmental Network, 2025; Borman et. al., 2022).

The Foresight4Food model (figure 1) captures the various elements of a food system together with connections and feedback loops between them. The model also includes drivers of food systems (population, consumption, technology, markets, climate and environment, policies and geopolitics) together with outcomes (economic and socio well-being; food and nutritional security; environmental sustainability) in the framework. The concepts of food systems and their transformation perform a key role in identification of interventions that can be instituted to nudge the transformation of food systems towards delivery of desired outcomes while mitigating negative food system outcomes. Consequently, food systems transformation is key in the achievement of Sustainable Development Goals (SDGs) (IFAD, 2021).

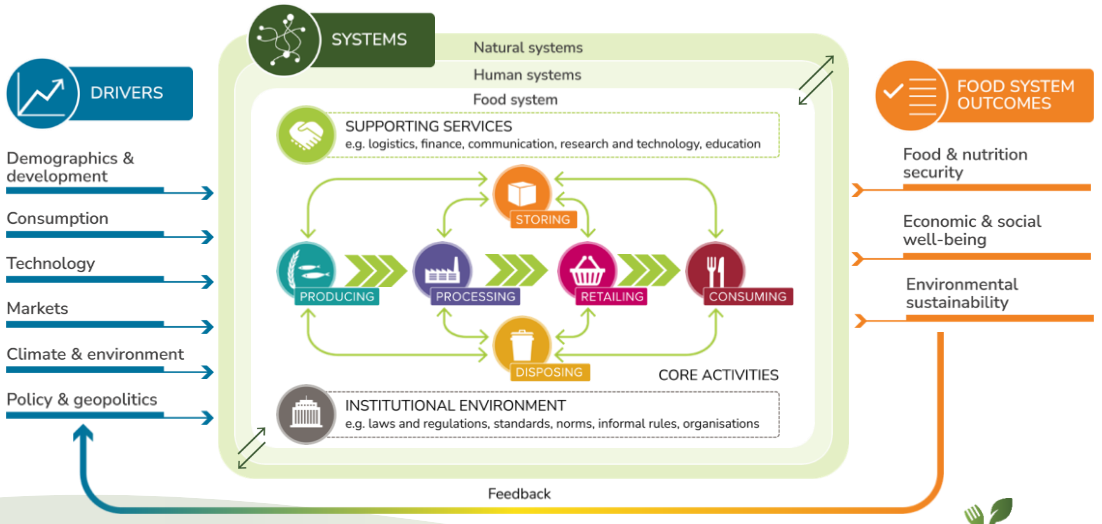

Figure 1: Food Systems Model by Foresight4Food

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Nakuru's food system – the urgency

In 2023 the Foresight4Food project in Kenya conducted a food systems foresight process in Nakuru County with the aim of generating insights of how the food system in the county could evolve with and without interventions to influence its performance (ILRI 2025). Results showed that while a vibrant agriculture sector in Nakuru County can deliver on a range of desirable food systems outcomes related to the economy, livelihoods, nature, climate, and nutrition, currently it falls short of full potential.

The study found that while agriculture is the leading economic sector in Nakuru, the County faces significant food security challenges, with food poverty at 20.7% and stunting rate in children below 5 years in the standing at 19% in 2022. This incidence of stunting rate is higher than the National's average of 18% despite having reduced from 27.9% in 2014. The study also found that based on 4 critical uncertainties (Business structure, consumption patterns, scale of food trade and level of environmental sustainability) and without additional interventions to alter the current trends, the business-as-usual (BAU) scenario in the County food system will most likely lead to a situation characterized by environmental degradation, increasing income inequality, increased incidence of nutritional diseases and food shortages.

Foresight: Moving towards a desired future for Nakuru's food system

Since November 2023, a diverse group of more than 40 different stakeholders from Nakuru county have come together to consider the future of the food system, supported by researchers and facilitators of Foresight4Food. This inclusive group looked at the challenges and opportunities for food and agriculture today, but also at how it might evolve in 10-15 years' time. 5 scenarios were developed by this group.

Figure 2: The Nakuru food systems scenarios developed

These outputs culminated in **Nakuru's Food System Future' Manifesto for Change,** a vision for their desired future for Nakuru's food system, and a range of possible pathways that can set us in that direction, while preparing us for a range of uncertainties.

The Manifesto calls upon all stakeholders to join and align their actions, and intensify collaboration to transform Nakuru's food system so that it can feed its people; advance inclusive economic development; grow in-county revenue; and eventually GDP growth for Kenya.

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Pathways towards the desired future for Nakuru's local food system

This desired future does not emerge naturally. The scenarios pointed to the need to strongly take action now, and nudge the system into the direction of change needed, while being aware of global drivers and trends. For this to happen, 6 key pathways (see above) were identified that should be initiated together. For effectiveness in supporting the desired transformation the financing systems must be inclusive as emphasized in the 'Directions toward Nakuru's Food System Future' Manifesto for Change.

Investing to transform the Nakuru agrifood system

To reduce the possibility of the negative outcomes forecasted under the Business as Usual (BAU) scenario, there is need for efforts and investments to nudge the transformation of the food system in Nakuru towards the delivery of desired outcomes while mitigating negative outcomes. Both the private and public sectors as well as public private partnerships (PPPs) have an important role to play in ensuring flow of investments that will support evolution of a food system that yields desirable outcomes.

Overcoming challenges, together

A recent workshop held in Nairobi in April 2025, organized by the Netherlands Food Partnership, Foresight4Food, and Rabobank identified factors impeding financing of agri-food system transformation activities together with potential solutions:

- **Lack of coordination** among development agencies investing to transform agri-food systems which leads to duplication of efforts and wastage of scarce resources.
- **Limited financing uptake of climate-smart technologies**, inputs and practices by enterprises in agri-food systems faces hurdles:
- **Relatively high transaction costs in dealings between financial institutions and small-scale operators** that operate within the Kenyan agri-food system. There is a need to search for innovations that can help lower the transaction costs.
- **De-risking by financial institutions which undermines their willingness to lend to small-scale actors such as farmers in the food system**. There is need to review and redesign the current de-risking products including insurance for greater effectiveness.
- **Lack of data or poor-quality data greatly undermines investment decisions by the financial institutions** (this is also true in the public sector)
- **Finance interacts with other factors (technology and performance of markets) to influence food systems transformation.** For a greater chance of success, financing should be bundled with other interventions technical assistance.

Financial service providers, with Nakuru's food systems stakeholders, can realise the pathways by 1) encouraging farmers' collective action in partnership with key private sector partners; 2) Stimulating thinking and going green in agri-business; 3) collaborating with governments, companies and CSOs to create nutritious, resilient and sustainable business value chains.

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What investments are needed?

1. **Investments in technology development and dissemination**: Supporting uptake of improved technologies, particularly climate-smart technologies (technologies that aim to increase productivity, enhance resilience to climate change, and reduce greenhouse gas emissions) and practices by farmers (especially small-scale farmers who form the bulk of agriculture producers in Nakuru County) and other actors in supply chains through grants, subsidies and tax breaks

2. **Public investments to enhance governance in the informal food marketing sector**: While most food distribution in the local markets is in the hands of informal, inadequate legislation and weak food regulatory agencies have contributed to poorly regulated food outlets and low hygiene levels.

3. **Investments in increasing awareness and uptake of indigenous vegetables:** Healthy and diverse diets remain elusive for a significant section of the population due to heavy emphasis on production of staple crops. Indigenous, healthy vegetables are one way of supporting production and consumption diversification.

4. **Investment in agro-processing to reduce post-harvest losses:** Especially in fruits (about 40% of all fruit is lost or wasted, whereas only 8% is currently processed), potatoes, fish and meat (e.g. canned or smoked)

5. **Establishment of modern food outlets** in the light of the growing demand for food safety and quality associated with increase in urban population

6. **Investing in uptake of improved / climate smart technologies especially among small-scale farmers:** these farmers form the bulk of agriculture producers in the County and among whom productivity levels for many crops are below potential levels.

Who was involved in this foresight process?

Government:

- Nakuru County Government
- National Government at Ward, Sub-County, County & National levels
- County and National Government Ministries, Departments and Agencies

Private sector:

- ASNET
- Youth in Agribusiness
- Nakuru North Agribusiness
- Kenya Association of Manufacturers (KAM)
- KENTGRA
- DTB Bank
- Fresh Crop
- Premiere Foods
- BIDCO
- Co-operatives

Community Based Organizations

- Kabazi Beyond 2030 Networks including: Sub County /ward heads of departments; Chief's forum; school heads forum; Women networks; Kabazi business community

NGOs & Civil Society

- Nakuru Endelevu Trust Initiative (NETI): the umbrella Organization for CSOs and NGOs.
- World Research Institute (WRI)

Research

- Egerton University Living Lab
- University of Nairobi
- KALRO
- ILRI
- KEPHIS
- KMFRI
- DOALF & VS
- Ndungiri TVET, Kabazi Ward

7. **Invest in scaling of digital support services:** this includes those dealing with provision of agricultural extension services (iCow, iShamba); weather information services (KALRO's Kenya Agricultural Observation Platform (KAOP), SunCulture); market information systems (M-Kilimo); supply chain coordination (Viazi Soko, Smart Cow); and data and crowdsourcing (KAZNET, Nuru).

8. **Invest in scaling renewable energy**: this includes the uptake of cleaner sources of energy such as solar, natural gas and biogas in households as an alternative to the current widespread use of biomass.

9. **Establishment of storage facilities**: Through PPP the warehouse receipt system can be scaled to help curb post-harvest losses.

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What is Foresight4Food?

The Foresight4Food Initiative uses food systems and foresight approaches to foster a deeper understanding of the complexities within food systems and drive impactful decision-making by facilitating informed and strategic dialogues between government, private sector, science, and civil society. Foresight4Food implements the 'Foresight for Food Systems Transformation' (FoSTr) programme, which is financed by the Kingdom of the Netherlands, overseen by IFAD and led by the University of Oxford's Environmental Change Institute and Wageningen University & Research. FoSTr is a demand-driven facility for analysing key trends and potential futures in global and local food systems and supporting national food systems transformation pathways.

Foresight4Food currently operates in Bangladesh, Jordan, Kenya and Uganda. In Kenya, Foresight4Food is partnering with Results for Africa Institute, CGIAR-ILRI, and University of Nairobi.

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