Are premium prices a distraction?

The potential of Participatory Guarantee Systems to improve smallholder market access and supply agroecological produce to mass markets in Kenya

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Executive summary

This Policy Briefing is based on research carried out by Practical Action and the Biovision Foundation in 2023 and 2024 that explored consumer food preferences and investigated Kenyan initiatives that support the development of local markets for organic and agroecological produce.

Agriculture in Kenya, as in any country, faces the twin challenge of adopting sustainable forms of production while at the same time providing affordable, safe, and nutritious food to consumers. This Policy Briefing highlights that consumer demand can be a driver for this type of agriculture if support is provided to market models that support farmers to put in place affordable and accessible standards, certification, and labelling.

Awareness of food safety issues is high in Kenya and the majority of consumers in urban areas would prefer to be buying food that is chemical free and locally produced. However, the only food products that can guarantee these characteristics, in most areas, are third party, organically certified food and food with KS1758 certification. Currently, these certifications are costly for smallholder farmers to obtain. As a result, certified food products are only available at a premium price, in higher end supermarkets, and are only affordable by the highest income earners. A profound inequality in access to safe and nutritious food exists.

A certification system that can increase agroecological production in a traceable manner and ensure affordability is required. This Briefing suggests that Participatory Guarantee Systems (PGS), a local form of quality assurance, can meet both of these needs. Such local systems have already shown that they can stimulate production of organic produce, at affordable prices to mass markets in Kenya. Consumer research, international experience, and interviews with key stakeholders in Kenya indicated an underutilized potential in the use of PGS to improve market access for agroecological farmers and make healthy food available to all consumers. Upscaling the use of PGS can thus act as a major driver for increasing uptake of agroecological methods among farmers. However, the expansion of PGS across the country faces several challenges, among them limited awareness among county governments and consumers on the role of standards for healthy products, a lack of market outlets, and a need for PGS training and group development. The Briefing makes three recommendations to address these challenges:

- **Policy recommendation 1:** The Kenya Accreditation Service (KENAS) to recognize PGS as a form of certification for organic/agroecological products and to endorse the Kenya Organic Agriculture Network (KOAN) as the body it mandates to coordinate PGS development in Kenya.
- **Policy recommendation 2:** County governments to support PGS establishment through the creation of market outlets and appropriate infrastructure, improved consumer awareness, and direct support to PGS group development.
- **Policy recommendation 3:** Donors, development partners and international agencies to support PGS development and enabling infrastructure for mass markets across Kenya.

Introduction

This Briefing is based on research carried out in 2023 and 2024 that explored consumer food preferences and investigated Kenyan initiatives that support the development of local markets for organic and agroecological produce.[A]

The consumer research, carried out with support from market research company, ConsumerPro **[1]**, aimed to better understand attitudes to and purchase patterns associated with, agroecologically and organically produced food. The research focused on main urban areas: Nairobi, Mombasa, and major towns in Kirinyaga County (Mwea, Kagio, Kerugoya, and Kutus). A total of 300 shoppers were interviewed, 100 from each location. The sampling randomly selected shoppers in outlets identified as representative for the population in these locations. This led to a concentration of people in the lower middle-income group and above. The sample is not representative of those classified as 'poor' citizens (earning under KES 7,193 (US$45) a month, approximately 34% of the urban population).[B] However, the results of the research have implications for this group because of the focus on the provision of affordable and healthy food in urban areas (see **Box 1**).

Box 1 The Kenyan urban population

The number of urban consumers is significant. Currently, 29% of the population of Kenya live in urban areas, approximately 15,370,000 people. Average household size in Kenya is 3.9 people (according to the 2019 national census), so this equates to approximately 3.9 million urban households.

In addition to this field research, interviews were carried out with organizations supporting local organic markets and Participatory Guarantee Systems (PGS) development, including: the Kenya Organic Agriculture Network (KOAN), Slow Food Kenya, Biovision Africa Trust, and Participatory Ecological Land Use Management (PELUM) Association Kenya.

The importance of mass markets

The term 'mass markets' refers to open-air or partially covered markets that attract consumers of all income groups because of their affordability and the common standards found. They contrast with 'niche' markets serving small population segments with specialised produce. In our research **60% of shoppers (consumers) interviewed said that such locations were their main shopping point for food – and this preference is higher for lower income groups.** Mass markets are characterized by the domination of fresh, unprocessed produce, a combination of formal and informal elements, and a high turnover of produce. The importance of fresh produce to Kenyan consumers is illustrated by the fact that, in our assessment of focal products, 99% of households bought fresh tomatoes and 70% bought fresh mangoes.

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A Forthcoming: Biovision Foundation (2024). 'Agroecological Enterprises in Kenya: Assessment of End-Market Demand and the Potential of Market Systems Development in Selected Subsectors of Agricultural Value Chains' (internal publication prepared by Practical Action).
B Overall poverty line for urban areas is KES 7,193 a month (approximately $45) according to The Kenya Poverty Report 2021, Kenya Bureau of Statistics, 2023. https://www.knbs.or.ke/wp-content/uploads/2023/09/The-Kenya-Poverty-Report-2021.pdf

What type of food are people looking for

Our research findings, and other available data, show that consumers have a number of preferences for the food that they buy.

Preference 1: Consumers want food that is free of chemicals

Ninety-four per cent (94%) of people demonstrate a preference for food that is free from chemicals. This cuts across all income groups. Other evidence in Kenya illustrates this preference: in a Consumer Grassroots Association survey conducted in 2021, 87% of the population identified pesticide use in food as a major concern **[2]**. Concern has been expressed about potential links between a rise in cancer and non-communicable diseases and pesticide use.[C]

These concerns are rooted in the high incidence of the use of dangerous chemicals in Kenyan agriculture. According to a 2023 report from the Heinrich Böll Foundation, 76% of all pesticides used in Kenya contain Highly Hazardous Pesticides and 44% of the pesticides used are already banned in Europe **[3]** .

Trends in demand for horticultural products also play a role in increasing demand for chemical-free or safe products. It has been estimated that, in order to meet demand, the compound annual growth rate (CAGR) for production levels, between 2024 and 2029, will be 4.0% for fresh fruit and 4.5% for fresh vegetables **[4]**. Demand for chemical-free horticulture products is usually high and is often the cornerstone of the organic sector. This is shown by figures from the Research Institute for Organic Agriculture FiBL **[5]** in 2018, the most demanded organic products in Kenya were (in descending order) fresh vegetables, fresh fruits, tea, and honey. Fresh vegetables and fruits are the major products found in mass open-air markets.

Preference 2: Consumers want food that is 'locally' produced by small farmers

Seventy-six per cent (76%) of sampled consumers indicate a preference for food from 'local' sources, a synonym for the agroecological criterion of connectivity, which includes food being produced within the local economy (see **Figure 1**). This preference is particularly high for the lower income groups, with 87% of people earning under KES 20,000 (approximately $502), exhibiting this preference. It is also connected to the preference for food produced by small farmers, stated by 66% of the respondents. Again, the numbers are higher for people in the lower income groups: 78% of people earning less than KES 20,000 a month have this preference.

The meaning of the term 'local food' as food produced in the local economy is self-evident for respondents from the towns in Kirinyaga. One hypothesis for what this means in Nairobi and Mombasa is the regularly observed phenomenon of people buying food from traders who collect food from their home area.[D] The preference also **resonates with the trend seen in the last decade of increasing interest in 'traditional' food that embodies local culture: for instance, the increasing popularity of African Leafy Vegetables.**

Agroecological produce

The type of food identified in these consumer preferences is strikingly aligned with food produced from agroecology (see **Box 2, [6]**, and **Figure 1**). Agroecology is an environmentally and socially sensitive approach to farming. The key dimensions of agroecology are laid out in **Figure 1** below. Agroecology, while allowing some chemical inputs if they are used in ways that do not compromise soil health, biodiversity, water quality, or safety, provides consumers with food free from hazardous pesticide residues.

Furthermore, there are numerous pieces of research illustrating the additional benefits of farming in this way. In 2023, the Global Alliance for the Future of Food, in the first ever True Cost Accounting[E] assessment of an agroecological farming approach in India, found that, in a programme covering 6 million farmers, yields increased by 11%, incomes by 49%, crop diversity increased, sick-days were reduced, and women were empowered **[7]**. In Kenya, long-term trials indicate that organic agriculture, which overlaps to a substantial extent with agroecology, can be at least as productive as conventional agriculture, although the type of crop and agronomic practice also play a part **[8]**.

C As an example of the sort of media coverage this gets see this article by Felistus Mwalia of the Route to Food Initiative: 'The use and effects of pesticides in Kenya', AwaaZ Magazine, https://www.awaazmagazine.com/volume-17/issue-1/special-feature-issue-1/the-use-and-effects-of-pesticides-in-kenya (last accessed 29 February 2024).
D This also suggests that consumers have more trust in how such food has been produced. However, the reality is that most of this food has no traceability associated with it. As a result, this trust could be misplaced.
E True Cost Accounting is an approach that measures all costs and benefits including hidden ones relating to health, society, and environment. See https://sustainablefoodtrust.org/our-work/true-cost-accounting/

All these agroecological approaches have common impacts: reduced use of inorganic inputs; safe, nutritious food and improved human health; improved local livelihoods; more sustainable agriculture resilient to shocks; and, as a result, healthier local economies.

Figure 1. Thirteen principles of agroecology and three operational principles of sustainable food systems source [F]

Box 2 Agroecology and safe, sustainable food

The draft of the National Agroecology Strategy for Food System Transformation, 2024-2033, for public review identifies agroecology as an 'integrated approach that optimizes the interactions between plants, animals, humans, and the environment while taking into consideration the social aspects that need to be addressed for a sustainable and fair food system.'

What limits consumers from buying agroecologically produced food?

Most consumers do not have access to this type of food, despite the fact that they would prefer to buy it. There are two major constraints that explain this:

Constraint 1: Most urban consumers cannot pay a premium price for food

The costs of basic foodstuffs in Kenya have been rising for the past few years and for poor households, for whom food accounts for about 36% of spending, **[9]** this is a serious problem. Food products that include agroecological characteristics in Kenya are either certified organic or have KS1758 certification **[10]** and both are sold with a premium price. Our data shows that 70% of people with an interest in agroecologically produced food and earning less than KES 20,000/ month are not prepared to pay extra for it (see **Figure**

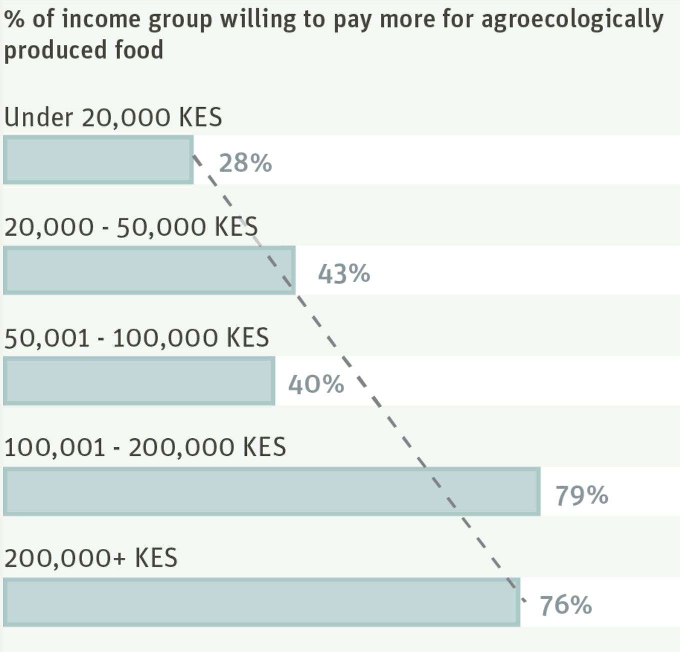
F Visualisation of the 13 principles of agroecology by Biovision 2021; based on High Level Panel of Experts (HLPE), 2019. Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. Rome. HLPE developed the 13 principles that are visualised. Online, the visualisation can be found on F-ACT | Agroecology Info Pool (agroecology-pool.org). It was developed in the context of the F-ACT (though the B-ACT that was developed later is more relevant for our purposes: B-ACT | Agroecology Info Pool (agroecology-pool.org))

2). It is only when people start earning over KES 100,000/month that the majority of consumers are prepared to pay a premium price.

Constraint 2: Availability of agroecologically produced food

Consumers note a lack of availability of organic food products, the only type of agroecological food currently identifiable in the market[G]. This is not surprising. According to the International Federation of Organic Movements (IFOAM), 182,000 ha of land is under organic farming in Kenya **[11]**. This is only 0.7% of the total cultivated land. Of this production, about 85% is sold to export markets, according to the KOAN[H]. The remainder mostly goes to domestic high-end local outlets. These data can be used as a proxy for the low quantities of agroecological food that is currently being produced and certified. It is possible that more is produced under agroecological conditions but it does not get certified.

Figure 2. Willingness to pay more for agroecological food



What are the options for delivering agroecologically produced food to mass markets?

There are three relevant ways in which safe and sustainable food production can be certified at the moment, each of which has advantages and challenges.

- **Third party organic certification:** This is the best-known approach. Farmers pay a certification body, which assesses agricultural practices against international standards that include the EU Organic Regulation, USDA National Organic Program Standards, Organic Japanese Agricultural Standards, China National Organic Standard, or the East Africa Organic Products Standard (EAOPS). Third party certification has potential to provide high quality organic food for regional and global premium price markets and niche markets in Kenya. While organic grower-group certifications have reduced the cost of third party organic certification for smallholder farmers, third party certification remains a costly challenge for many, and the need for price premiums means that third party certified organic can only meet a relatively small amount of the demand among Kenyan citizens illustrated in this Briefing.
- **KS1758 'Horticulture Code of Conduct':** KS1758, introduced in 2022, aims to ensure food safety and protect the environment. It includes measures to **minimize use of chemicals and encourage use of organic inputs** and is benchmarked against EurepGAP, but is not an organic standard[I]. It has two product areas: floriculture; and fruits, vegetables, herbs, and spices. The costs of achieving KS1758 are similar to the costs of achieving GlobalG.A.P. and are only affordable for small farmers when they are working in a group, are part of a formal market, and are able to benefit from premium prices. Expansion in the use of the standard may lead to efficiencies and the cost coming down, but this requires significant increases in consumer awareness of the standard. So, at the moment **KS1758 only involves a limited number of farmers and only benefits customers able to pay a premium price.**
- **Participatory Guarantee Systems (PGS):** PGS[J] are locally run quality assurance systems that incorporate the participation of farmers and other stakeholders. In Kenya the main PGS network is coordinated by the KOAN. Approved PGS groups use EAOPS to benchmark their internal regulations and are allowed to use the Kilimohai mark, which has been endorsed by the Kenya Bureau of

G In order not to confuse consumers who are more used to the term 'organic food' this terminology was used in the interviews with them.
H Kenya News Agency (2021). 'Organic farming ensures consumption of safe food', October 16. https://www.kenyanews.go.ke/organic-farming-ensures-consumption-of-safe-food/. We assume this to include land farmed under the Kilimohai label, the main functioning PGS in Kenya, but have no breakdown of the figures to be sure.
I EurepGAP was a precursor to the GlobalG.A.P. set of standards: https://www.globalgap.org/
J In 2021, it was estimated that there were 235 PGS initiatives, in 77 countries, reaching over a million farmers. See IFOAM website for details. https://www.ifoam.bio/news/30-years-pgs-development-declaration-pgs-pre

Standards, to brand their products as organic or agroecological. PGS costs are a fraction of third party[K] organic certification and have several additional advantages such as the empowerment of farmer groups, peer-to-peer spreading of knowledge on farm and market best practices, and an active focus on developing domestic markets and making healthy, locally produced food available to all Kenyan families[L].

Table 1 presents an overview of the coverage and strengths and weaknesses of the three options.

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Type of certification	Coverage	Strengths	Weaknesses
3rd party organic certification	Organic agriculture	Premium prices possible	High cost and red tape, limits small farmer involvement
		Access to export markets for well-organized smallholder grower groups	Pushes prices beyond reach of most Kenyan consumers
		Best known, widely recognized	Does not encompass forms of agroecology that include some chemical use
KS1758	Good, safe agricultural practices for horticulture	Based on international standard	Low applicability for small farmers due to cost
			Focused on export markets
		Premium prices possible	Only relevant for horticulture
			Not widely recognized
Participatory Guarantee Systems	Organic agriculture and agroecology	Low cost for farmers	Based on simple value chains, models for larger urban areas with more complex value chains need development
		Can provide affordable food to local markets	
		Can serve as an accessible building block for smallholder access to third party certification and export markets	
		Participatory and empowering	Consumer awareness of Kilimohai mark is low
		Could be used to develop a standard for safe, environmentally sustainable but not 100% organic food – opening up opportunities for many more farmers	
		Potential for expansion across Kenya	
		International PGS models and experiences that can be drawn upon	

K For Kenya, this point is made below for KOAN's support for the development of a national network of PGS assessors, in partnership with other organizations.
L It is important to note, however, that not all countries recognize PGS as a certification system (yet). See: 'Can products from PGS be labelled as organic?' (https://www.ifoam.bio/our-work/how/standards-certification/participatory-guarantee-systems/pgs-faqs).

PGS is currently the only certification system capable of providing safe, sustainably produced, and affordable food to mass markets in Kenya

How can food produced under agroecological practices and principles be delivered to mass markets? The answer to this lies in a standards and certification system that can increase agroecological production in a traceable manner and ensure affordability for all, and especially low income consumers. Unlike other certification schemes, PGS can be mobilized to supply food both at premium prices for niche markets and competitively priced food to mass markets. In our research, we compared food prices in Slow Food-supported Kenya's Kagio Earth Market (organic from a PGS) with Kagio Old and Kagio Main Markets (both conventional markets). Organic produce in Kagio Earth Market was, on average, 99% of the price of conventional produce in the other markets.[M] Likewise, we compared prices in KOAN-supported Kangari and Kutus organic markets[N] with the conventional markets they sit alongside, within the same location. In this case organic prices were between 93 and 96% of the conventional prices, save for tomatoes.[O]

Prices of organic food from PGS, sold in conventional mass markets, are between 93 and 99% of the cost of conventional produce

PGS groups can provide affordable food because they involve short, simple value chains that maximize the returns going to the farmer and use production systems that have less cost associated with chemical inputs.

All three of the presented certification schemes promote sustainable agricultural practice and provide safer food to consumers. However, PGS is the only one that is currently both applicable to small farmers and has potential to provide affordable food to mass markets. **If this potential is to be achieved, a number of constraints need to be overcome:**

- Awareness of PGS is low within national and county governments. Formal recognition is needed of the role that PGS can play in supporting local food supply and the role of KOAN as the coordination body for farmer groups seeking PGS certification. KOAN is supporting the development of a national network of PGS assessors, in partnership with Slow Food Kenya, PELUM Kenya, and the Biovision Africa Trust. This will help improve coverage and keep costs down.
- PGS groups need to access existing and new markets. Physical outlets in mass markets, such as Kagio Earth Market, provide an opportunity to market PGS produce alongside conventional products (see **Box 3**). Other marketing opportunities include government procurement for schools and other institutions.

Box 3 PGS-Case Study

The Kagio Earth Market was opened in 2022 with support from the Kirinyaga County Government and others. Food to the market is provided by a small group of farmers managing a PGS, which has been supported by Slow Food Kenya. The farmers have all successfully transitioned to farming without any chemical inputs and brand their food using the Kilimohai organic mark. In an assessment in early 2024, the prices found in the market were competitive with those in the conventional markets nearby.

The Market is not just a place to buy and sell food; it is also a location where communication takes place about food, nutrition, and the cultural importance of what is for sale.

- The expansion of PGS requires investment in the development of farmer groups. KOAN estimates that there are 500,000 farmers in Kenya who have been trained in organic production by civil society groups but lack suitable markets. Supporting these farmers to form PGS groups and get connected to local markets could be 'low hanging fruit' for county governments and donors. However, it requires an expansion in the number of PGS assessors. The development of the capacity of county government extension staff to be PGS assessors can potentially help with this need.
- Consumer awareness of PGS and the type of produce they provide needs to increase. The Kilimohai brand provides a useful focus for awareness raising. Mass marketing involving promotions to encourage consumers to buy products and advertising through mass media can reach millions and consequently increase demand for organic/agroecological products.

M The survey collected prices of 11 products, from five stalls, in each market. The products were cassava, cowpea, amaranth, arrowroot, gitogo kiiru, sweet potato, pumpkin, sugar cane, coriander, kale, and spinach. Average organic prices varied from 92% to 110% of conventional prices (average 99%).
N A total of 18 products were surveyed in Kangari (amaranth, arrowroot, butternut, cabbage, capsicum, kale, maize, mango, pumpkin, sweet potatoes (orange & white), avocado, spinach, tomatoes, tree tomatoes, banana, black nightshade, broccoli), and 8 in Kutus (from the same list).
O Organic tomatoes are consistently more expensive due to pest and disease control challenges.

Progress of new collaboration on PGS certification

Organizations in Kenya such as KOAN, Slow Food Kenya, and Biovision Africa Trust, have explored together the options for a unified PGS certification system in Kenya, based on the further development and upscaling of the existing platform for 'living agriculture': Kilimohai. Kilimohai certification and labelling provides a flexible platform that can be made fully inclusive of agroecological principles and practices, and aligns with the PGS protocols of both Slow Food Kenya and KOAN.

Furthermore, the Kilimohai brand will provide a useful platform for awareness raising and consumer identification of products produced by farmers practising organic agriculture agroecology. The strong collaboration and initiatives on PGS in Kenya can be supported by exchange with international partners pioneering PGS activities and donors interested in expanding agroecology and smallholder farmers' access to markets.

Conclusions

Even though most consumers in urban areas in Kenya exhibit a preference for agroecologically produced food, in part as a result of concerns over health, access to such food is still very limited. Moreover, supply of such food is low and most of it finds its way into, either high-end supermarkets where it can only be enjoyed by a wealthy minority, or to exports. Access to such food should be available to all and so systems are needed that enable farmers to transition to more sustainable agriculture like agroecology and which can deliver this food affordably to mass markets. PGS schemes have already proven that they can achieve these two objectives and present an interesting opportunity for county governments to achieve sustainable agriculture and safe food supply objectives at the same time, benefiting large numbers of small-scale farmers and consumers. However, they are at an early stage of development and more government and donor support is needed to help them expand their current coverage of towns in Kenya and start to test business models that can reach larger urban areas.

Policy recommendations for Kenya Government bodies and donors

Policy recommendation 1: The Kenya Accreditation Service (KENAS) to recognize PGS as a form of certification for organic/agroecological products and to endorse the Kenya Organic Agriculture Network (KOAN) as the body it mandates to coordinate PGS development in Kenya.

It will be easier for PGS to be accepted and adopted by county governments if there is recognition of PGS at national level. Currently the KENAS does not include PGS in its scope of work or recognize the role of KOAN in the use of PGS. This recognition would provide legitimacy to engage county governments and other stakeholders on PGS development and market development.

Recommendation 2: County governments to support PGS establishment through the creation of market outlets and appropriate infrastructure, improved consumer awareness, and direct support to PGS group development.

County governments can both assist with and benefit from PGS development. The following can be integrated into County Integrated Development Plans: food safety awareness campaigns; the establishment of dedicated market spaces for PGS produce within existing conventional markets; the development of PGS farmer groups including the training of county government staff to be PGS assessors; and the development of procurement systems for primary schools and other institutions that include PGS produce. Organizations like Slow Food Kenya, PELUM, and KOAN are available to assist in this process.

Policy recommendation 3: Donors, development partners and international agencies to support PGS development and enabling infrastructure for mass markets across Kenya

PGS presents an important opportunity for many organizations and donors working on agriculture and rural development in Kenya to achieve multiple objectives. Working with county governments, PGS development can be a way of improving agricultural markets and rural economies, sustainability, resilience, and food supply, at the same time. Important areas of support include the development of farmer PGS groups, local market development, and consumer awareness campaigns.

Endnotes:

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