Resilient, robust and reliable agro-food sectors in Kenya

From aid to sustainable trade in the horticulture sector

Matui, M.S.; Gonzalez, Y.S.; Kingiri, A.; Gema, J.; Van Rijn, F. and Musyoka, M.P.

Horticulture in Kenya

Horticulture contributes significantly to Kenya’s gross domestic product (GDP) providing employment to more than six million Kenyans directly and indirectly. The horticulture sector is the third largest after dairy and tea in terms of contribution toward agricultural GDP (AGDP) according to the 2015 Kenya Economic Survey. Between 2014 and 2015, horticultural export earnings rose by 7.6% to KES 90.4 billion in 2015 (KNBS, 2016). Between 90% and 95% of horticultural produce is consumed or used locally, while the remaining produce is exported (Muendo and Tschirley, 2004; Kibe, 2009). This brief provides an overview of the supply chain, institutional governance and innovation support system in the horticulture sector based on a literature review and stakeholder interviews. These are evaluated by means of a Strengths, Weaknesses, Opportunities and Threats (SWOT) framework to identify existing opportunities as well as challenges that could potentially impede growth in the sector. It is a first step towards documenting and sharing insights that support the move towards a more resilient, reliable and robust sector. This brief focuses on the vegetable sub-sector owing to its importance to food security.

Domestic market demand for vegetables

The horticulture sector is made up of five commodities: vegetables, flowers, fruits, nuts, and medicinal and aromatic plants (MAPS). Vegetables and flowers dominate the horticulture sector, contributing 36% and 30% of the total value of horticulture, respectively, in 2014 (RSA, 2015). Fruits contributed an estimated 25% in 2014 (RSA, 2015). Within the horticulture sector, vegetables contribute enormously to food security, nutrition and the household incomes of most Kenyan smallholders. Cumulatively, vegetables contributed 36% to the national value of horticulture. Of that percentage, Irish potatoes contribute 43%, tomatoes 19% and cabbages 8% (GoK, 2014).

Because vegetables need to adapt to diverse agro-ecological conditions and fit into different cropping systems, they are mainly produced around Mt. Kenya in the Central Kenya region. This region accounts for over 80% of the vegetables produced in the country (AFDB, 2007).

The horticulture value chain is characterized by several actors from production to consumption. These actors include input suppliers, farmers who are producers, traders who aggregate produce, processors, retailers and domestic and export consumers. Most producers sell their produce to commission agents (brokers) who in turn sell to retailers in a marketplace. Only a fraction of farmers prefers to sell their produce directly to the market, with variation between crops.

The development of the horticulture value chain, especially with vegetables, is driven by demand from

3R Kenya

As part of the Dutch transition strategy from aid to trade in Kenya, Wageningen UR will implement a project that assesses and validates lessons learnt from the Netherlands Embassy’s Agriculture and Food and Nutrition Security programme and other related programmes that support competitive market-led agricultural development. The 3R (Resilient, Robust and Reliable) Kenya from Aid to Sustainable Trade project investigates whether the lessons from the aid era can be transferred and scaled up in the coming trade era. 3R Kenya focuses on the aquaculture, dairy and horticulture sectors. The overall aim of the 3R Kenya project is to have well-informed stakeholder actions supporting the transition from aid to sustainable trade (people, planet and profit) in the selected sectors.
both urban and rural households. About 95% of horticultural production, mostly vegetables and fruits, goes to the domestic market, while the other 5%, mainly flowers and French beans, ends up in the export market (Mithöfer et al., 2006; RAS, 2014). The fact that only 5% of horticultural produce is exported implies that most vegetables are consumed in the domestic market. The demand for vegetables in the Kenyan domestic market is closely linked to household income levels. The rate of increase of vegetable consumption, especially in urban households, surpasses the increase in household incomes. Indeed, as incomes increase, larger quantities of vegetables are consumed. According to a report by Kamau et al. (2011), the average household in Kenya allocates approximately 21% of their income for fresh produce, which is more than double what their rural counterparts spend (KES 400).

Issues in the horticulture sector
Several issues affect the horticulture sector, especially the vegetable enterprises. These issues affect the sustainability of the supply chain, institutional governance and the innovation support systems along the value chain. Combined, these three themes help us to understand the robustness, reliability and resilience of the horticulture sector.

Robustness - supply chain
Robust supply chain integration refers to efficient and trusted interactions between supply chain partners that reduce transaction costs and the risks involved in enhancing product quality and safety and reinforcing sustainability. In this brief, the robustness will be approached from the perspective of sustainability; this we means we will highlight the robustness of the sector in terms economic, social and environmental sustainability.

---

**Table 1: Strengths and opportunities vs. weaknesses and threats in terms of sector sustainability**

<table>
<thead>
<tr>
<th>Growing demand for vegetables</th>
<th>Overreliance on a single catchment area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality controls</td>
<td>Quality controls</td>
</tr>
<tr>
<td>Growing awareness among</td>
<td>Difficulties in traceability</td>
</tr>
<tr>
<td>horticultural farmers of</td>
<td></td>
</tr>
<tr>
<td>better production technologies</td>
<td></td>
</tr>
<tr>
<td>Increasing tendency towards</td>
<td>Uncompetitive market and regulatory</td>
</tr>
<tr>
<td>aggregation, standardization</td>
<td>frameworks</td>
</tr>
<tr>
<td>and contracting</td>
<td></td>
</tr>
<tr>
<td>Growing awareness of food</td>
<td>Low trade volumes</td>
</tr>
<tr>
<td>safety, quality and waste</td>
<td></td>
</tr>
<tr>
<td>Rise in social media marketing</td>
<td>Low economies of scale</td>
</tr>
<tr>
<td>Increasing tendency towards</td>
<td>Weak producer and consumer</td>
</tr>
<tr>
<td>vegetable processing</td>
<td>organizations</td>
</tr>
<tr>
<td>Availability of appropriate</td>
<td>High post-harvest losses in vegetables</td>
</tr>
<tr>
<td>production, processing and</td>
<td></td>
</tr>
<tr>
<td>marketing technologies</td>
<td></td>
</tr>
<tr>
<td>Expansion of fresh produce</td>
<td>Low adoption of technologies</td>
</tr>
<tr>
<td>areas from high potential to</td>
<td></td>
</tr>
<tr>
<td>other low potential areas</td>
<td></td>
</tr>
</tbody>
</table>

**Strengths and opportunities**

- **Growing demand for vegetables**: the increasing per capita incomes and household level incomes, coupled with an increasingly urbanized population in Kenya, are driving the growing demand for vegetables. Moreover, the growing awareness of the nutritional and health benefits of vegetables is adding to this demand. As such, the market for vegetables in the domestic market remains unexploited.

- **Expanding the supermarket value chain**: Kenya has experienced an unprecedented expansion of supermarket chains since market liberalization in the early 1990s, with consumers shifting from traditional retailers to supermarkets (Neven and Reardon, 2004). The development of supermarket chains is providing smallholder farmers with a great opportunity to reach high-end consumers and implement better quality and safety standards on fresh vegetables. Moreover, supermarket value chains also present an opportunity to reinvent economic diversification and reorganizing of rural areas.

- **Quality controls**: Quality controls present good opportunities for farmers. Smallholder farmers who meet or exceed quality control requirements for their fresh produce are more likely to have good market access. In addition, quality controls increase the demand for quality inputs on the input supply side, such as certified seed, and promote competition between input suppliers. For instance, stakeholder interviews revealed that Kisima Farm had increased its uptake of certified seed potatoes. A visit to Kisima Farm showed that the higher uptake of certified seed potatoes increased yields by 60% percent compared to non-certified seed potatoes.

---

1The expenditure elasticity of vegetables, for example, is elastic (kale -1.142, onions - 1.159) (Bundi et al., 2013).
2Despite these figures, the per capita consumption of fresh produce in Kenya is 115 kg, which is less than the WHO recommendation of 146 kg per capita (see WHO and FAO 2003).
• **Growing awareness among horticultural farmers of better production technologies:** most horticultural farmers have participated in export chains that encourage farmers to gain knowledge on good agricultural practices. There were several NGO programmes and government initiatives in the late 1990s and 2000s that aimed to integrate smallholders into the export markets and support them in complying with the numerous standards. Knowledge and experience in the domestic market and learning from their neighbours provided farmers with a strong basis to make informed decisions on what to grow and how to grow it. Lead farmers brought new innovations to their context and were sometimes willing to share them with their neighbours. For instance, in the Molo area in Nakuru County, a farmer exposed to seed potato multiplication began to multiply disease-free seed potato, ventured into certified seed and acted as a source of knowledge for neighbouring potato farmers.

• **Increasing tendency towards aggregation, standardization and contracting:** to enhance economies of scale in vegetable production, farmers have increasingly joined forces in producer marketing organisations and are aggregating their produce and entering into marketing contracts, thereby enhancing their bargaining power in the market. These farmer-producer organizations are becoming vehicles through which quality and standardization can be implemented, leading to better quality produce and consequently better market penetration and higher profits. A few marketing organisations were observed, which confirmed this trend, such as the Sabasaba banana cooperative in Muranga, the Embarigo onion CBO in Nyeri, MUSAGRO in Sabasaba banana cooperative in Muranga, the Tharaka Nithi, and Mamu and Mawingu commercial villages in Nyandarua.

• **Growing awareness of food safety, quality and waste:** the Kenyan media, pushed by the state to focus more on local content, has been highlighting agricultural issues more than ever. Almost every media outlet has at least one programme that focuses on agriculture – ranging from entrepreneurship to food safety. Recently a programme on the chemicals currently being used to ripen fruits attracted a lot of public interest. The issue of heavy metals in leafy vegetables has been addressed more than once. Such public interest pushes demand for traceability, quality and safety in fresh vegetable production. The government responded with the KS 1758 standard that seeks to address such issues. The issue of food loss and waste does not receive an equal amount of attention. Farmers are also becoming increasingly aware of and interested in bio-control for integrated pest management.

• **Rise in social media marketing:** the use of the internet, particularly social media, as a distribution platform connected to fresh produce orders and systematic deliveries to estates and homes is on the rise, especially in urban satellite estates.

• **Increasing tendency towards vegetable processing:** a growing trend towards processing has been observed, though production is driven by the need to prolong shelf life and thus needs to improve market access. Sweetunda, a product of Burton & Bamber agro-processing company, is a case in point. The company specializes in the preservation of fruit and other crops and therefore helps to reduce post-harvest losses. Sweetunda products are already on the shelves of Kenya’s high-end grocery stores, such as Zucchini.

• **Availability of appropriate production, processing and marketing technologies:** greenhouse farming (farming tunnels) and the use of handheld devices (simple handheld tractors) are on the rise. Other examples include integrated pest management, especially in mango production, to combat pests such as the fruit fly; and a novel processing method that dries fruit and vegetables and streamlines supplies between seasons. Driven by low availability of seed potatoes, the Kenya Agriculture and Livestock Research Organization (KALRO) introduced aeroponics technology as a solution to the perennial problem of shortage of certified seed potatoes in Kenya.

• **Expansion of fresh produce areas from high potential to other low potential areas:** the high potential areas are highly populated, and increasing land subdivision is limiting the amount of land available for horticultural production. As such, horticultural firms are switching to dry lands (arid and semi-arid lands) and using efficient water utilisation technologies for irrigation. For example, GrowPact is a group promoting horticultural production through better technology (see box on the next page).

**Weaknesses and threats**

• **Overreliance on a single catchment area:** About 80% of the fresh produce, particularly vegetables, come from one region, Central Kenya. The level of production in other parts of the country is too low to meet demand. Most of the fresh vegetables are produced under rain-fed conditions in Central Kenya. When the central parts of the country are hit by drought, the prices of vegetables rise sharply as a result of severe supply shortages.

• **Quality controls:** most of the quality controls originate from the market, especially the export market, and increasingly from supermarket out-
lets. Whereas these controls are important to ensure that quality and safety standards are met, many smallholder farmers have difficulty meeting these standards and end up selling their produce cheaply. As a result, they fail to benefit from the premium price attached to quality vegetables.

- **Difficulties in traceability:** Even though the supermarket chains have established practices that ensure traceability and safeguard safety and quality standards, most of the vegetables are sold in open air markets or in kiosks, where quality and safety standards are not strictly followed and where it is impossible to trace the producer. Traceability is even a costly affair in supermarket value chains, as a result of monitoring and logistics costs.

- **Uncompetitive market and regulatory frameworks:** While competition is good, on the one hand, unhealthy competition can stifle new opportunities for investment in the sector. For example, manufacturers of bio-control products believe that the process of registering their products is unduly long, mainly because of resistance from other established players in the market and regulatory institutions.

- **Low trade volumes:** Trade volumes at the assembly market are substantially low, making any form of processing and aggregation of volumes difficult.

- **Low economies of scale** Fragmentation and the distribution of smallholder farmers, coupled with small-scale production, present aggregation challenges that make it difficult to benefit from economies of scale in the market.

- **Weak producer and consumer organizations:** Most consumers are either ignorant or deem themselves powerless when it comes to challenging or confronting abuse. For example, there was a recent incident of heavy metal poisoning in kales and another in which strange additives were found to help ripen bananas. Consumers discussed these incidents for about a week, but soon thereafter it was business as usual. Moreover, in the fresh produce domestic market, there is a lack of clear leadership in the supply chain that represent customers’ desires, expectations and preferences.

- **High post–harvest losses in vegetables:** Vegetables, like most horticultural produce, are highly perishable, which significantly shortens their market exposure and leads to potentially high losses. Most of these losses occur during sorting and on the shelves. Evidence shows that the top five vegetables with the most wastage according to RSA 2015 are: potatoes (75%), tomatoes (50%), snow peas (50%), French beans (24%) and sugar snaps (14%). Better prices and consistent markets would be likely to reduce post–harvest losses on vegetables (Riungu, 2011)

- **Low adoption of technologies:** Although technologies are available to overcome several specific challenges in the vegetable value chain, their rate of adoption is low. For example, adoption is extremely low with clean seed potatoes – 4.5% of the population according to Wang’ombe and Van Dijk (2013). Several factors are associated with low adoption. First, the capacity of smallholder farmers to adopt is constrained by the high cost of these technologies. Second, technologies that would help to reduce post–harvest loss and improve storage and cooling for mid-sized and smallholder farms are still not well developed. Charcoal cooling, the adoption of which is not widespread, is a good example. Third, there is no adequate mechanism in place to impart to farmers the knowledge needed to make the technology. For instance, there are many idle greenhouses scattered all over the country as a result management-related issues. Fourth, these technologies are not always readily available. For instance, due to seed regulations, KALRO is not expected to meet more than 1% of the demand for aeroponics technology.

---

**GrowPact**

GrowPact is part of Viscon Group Netherlands. GrowPact originally started by responding to the growing demands of farmers in developing countries for simple and smart machinery as well as supporting knowledge. The model offers turn-key solutions for the production of horticultural products. The toolbox (container) contains all the required equipment a farmer needs to produce fruit and vegetables. In order to guarantee success, GrowPact supports farmers through its academy, which provides the necessary knowledge to not only help them start up a project but also sustain it.

The first GrowPact project will be in Kitale and will demonstrate how Land Life’s COCOON planting technology can be used for the sustainable production of fruit. COCOON is designed to support a seedling through its critical first year. By providing water and shelter while stimulating the seedling to produce a healthy and deep root structure, it taps into the sub-surface water supply within its first year. COCOON thus produces independent, strong trees that do not rely on external irrigation and can survive harsh conditions.

---

**Reliability - institutional governance**

Reliable institutional governance refers to public-private cooperation; co-innovation and a public economic policy framework that supports private investment and enhances opportunities for (inter)national trade. This brief focuses on how policies, standards and markets are being supportive from a trade perspective, that is, the degree to which they support private investments and enhance trade opportunities.
Table 2: Strengths and opportunities vs. weaknesses and threats in terms of institutional governance

<table>
<thead>
<tr>
<th>Strengths and opportunities</th>
<th>Weaknesses and threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enabling regulatory framework</td>
<td>Slow implementation of policies that govern the horticultural sector</td>
</tr>
<tr>
<td>Well-developed institutional frameworks</td>
<td>Harmonising the functions of the state and county mandates</td>
</tr>
<tr>
<td>Enhanced traceability mechanism</td>
<td>Weak human resource and technological capacity</td>
</tr>
<tr>
<td>Better value chain governance</td>
<td>Inadequate financial support for domestic market</td>
</tr>
<tr>
<td>Enhanced collaboration between stakeholders in horticulture</td>
<td>Inconsistencies in interventions between the government and development partners</td>
</tr>
<tr>
<td>Enforcement of quality standards in the expanding supermarket value chain</td>
<td>Weak monitoring of good agricultural practices (GAPs)</td>
</tr>
<tr>
<td>Institutional and programme support</td>
<td>Multiplicity of taxes (escalation of value added taxes)</td>
</tr>
<tr>
<td>Available lessons on governance and traceability</td>
<td>Weak regional regulations</td>
</tr>
<tr>
<td>Financial and social inclusion</td>
<td>Weak quality regulation for domestic markets</td>
</tr>
<tr>
<td>Opportunities to expand capacity building</td>
<td></td>
</tr>
</tbody>
</table>

Strengths and opportunities

- **Enabling regulatory frameworks**: the horticulture sector is covered by policies that provide frameworks for the development of the sector. Such policy frameworks include but are not limited to: the National Horticultural Policy, the AFA Act and the 2011 Food and Nutrition Security Policy (FNSP). These policies provide guidance for the development of the horticultural sector.

- **Well-developed institutional frameworks**: The Horticulture Competent Authority Structure, which includes members from the Ministry of Agriculture, KEPLAN, KCD, KALRO and PCPB, and which is represented by the private sector through by FPEAK and KFC, presents the sector with an encompassing institutional network that facilitates the implementation of the policy frameworks. These institutions also address cross-cutting issues and have a common mandate. This to some extent overlaps with the existing regulatory system that promotes knowledge sharing, learning, co-innovation and a common purpose.

- **Enhanced traceability mechanism**: a renewed effort is underway to address value chain governance issues such traceability. The development and launch of the KS 1758 for flowers and fresh produce standardisation was a much-needed intervention, especially in the mass market for fresh produce, upon which other initiatives can build to increase product differentiation.

- **Better value chain governance**: Value chain governance systems and investments in the export market mean that former facilities in Kenya are no longer relevant to the domestic market.

- **Enhanced collaboration between stakeholders in horticulture**: there is increasing collaboration with the private sector. For instance, KALRO and private breeders are collaborating on potato breeding. The devolution of agricultural extension allows county governments to prioritize and allocate funds for agricultural purposes and to design suitable sector interventions that encourage participation and integrate the needs of local communities.

- **Enforcement of quality standards in the expanding supermarket value chains**: Evidence indicates that the implementation of the supermarket value chains is occurring through single sourcing, contracting and employing quality-monitoring units.

- **Institutional and programme support**: There are programmes, such as KAVES, that aim to strengthen institutional governance. By collaborating with key stakeholders, this programme is coming up with innovative solutions in areas of concern, such as traceability.

- **Available lessons on governance and traceability**: Kenya’s export value chain for vegetables and fruits is relatively well developed. Lessons learnt from international markets can be harnessed to improve the domestic vegetable value chains. For instance, lessons could be learnt regarding traceability issues, which would benefit the domestic market.

- **Financial and social inclusion**: inclusion has been the focus of an increasing number of programmes, rolled out with varying success. A typical example is the Equity Group Foundation, which goes beyond just providing money but instead builds capacity and provides mentorship to put farmers on the path to entrepreneurship. Though in its inception phase, the SNV HortiMPACT project aims to build business cases by bringing actors together and visualizing the application of different innovations and novel ideas side by side with the actors who can judge for themselves what works and what does not.

- **Opportunities to expand capacity building**: While building the capacity of public institutions is important, there is also need to build the capacity of farm workers and commercial farmers who have the courage to take steps towards change (Babah Daouda, Ingenbleek and Trijp, 2016). LATIA initiatives and specifically the telephone farming project are trying to fill these neglected gaps.

Weaknesses and threats

- **Slow implementation of policies that govern the horticultural sector**: actually implementing drafted policies is a challenge. This could be attributable to a lack of funding, insufficient capacity and the domestication of national horticulture policies to county-related policies. For instance, rapid successive changes have
taken place, including the drafting of horticulture policy, which was shortly followed by the devolution of agriculture and the creation of AFFA, all which may pose a challenge in getting policy implemented within a short period.

- **Harmonizing the functions of the state and county mandates**: There is a need to harmonize the functions of the state and county mandates. This can be achieved by developing an effective framework that enables all stakeholders to benefit from this mutual engagement and benefits.

- **Weak human resource and technological capacity**: Both human and technological capacity, especially for the public mandate, will need to be strengthened. It is also imperative to explore innovative ways of dealing with capacity gaps i.e. sub-contracting.

- **Inadequate financial support for domestic market**: Although the market potential for horticulture products is high, to the extent that they can create incentives for investment, there is still a need for support from the government because of the high cost of production. Unlike some of the other sectors, such as maize, which has fertilizer subsidies, there are no plans to subsidize horticulture production. By comparison, there are more incentives and economic transfers in the agricultural export market than there are in the domestic market. Where the priority lies is a subject of discussion.

- **Inconsistencies in interventions between the government and development partners**: In several cases, especially in broad national development policies, the objectives of the government and development organizations differ. There is a need to deliberately challenge programmes to build on previous experiences or programmes. The proposed dialogue platforms in the 3R projects are therefore more timely than ever.

- **Weak monitoring of good agricultural practices (GAPs)**: Despite the existence of GAPs in the horticultural sector, their implementation and monitoring by farmers, the government and development partners is weak, resulting in reduced market access, especially to the export market. Targeting by input suppliers is also poor. For instance, it is not surprising that an input stockist in a predominantly horticulture area, e.g. Kirinyaga and the Central Province of Kenya, would be stock cotton-specific pesticide.

- **Multiplicity of taxes (escalation of value added taxes)**: Issues of multiple taxation, especially cross-border taxation, and the structure of the cess system are not transparent enough about tax rates on fresh produce. And that is not taking into account informal taxes, such as corrupt police, which have to be added to multiple taxation.

- **Weak regional regulations**: Weak regional regulations allow for badly regulated cross-border trade and poor quality of produce in the regional markets. For instance, the stringent quality standards for fresh produce in European markets are not replicated in the regional market.

- **Weak quality regulation for domestic markets**: There is either no regulation on the maximum level of residue permitted in domestic fresh produce or what regulation there is, is not enforced. Without strict post-harvest intervals, farmers can spray as many times as they want because traders pay a premium price for attractive produce, especially watermelon.

### Resilient - innovation support system

Resilient refers to dynamic adaptive capacities that enable agents (research, extension and projects) and systems to adequately respond to changing circumstances. In this brief, we focus on how these agents and systems support technical, institutional, and social innovations (the enabling conditions) or remove barriers that prevent these innovations from happening.

#### Table 3: Strengths and opportunities vs. weaknesses and threats in terms of the innovation support system

<table>
<thead>
<tr>
<th>Strengths and opportunities</th>
<th>Weaknesses and threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programmes to enhance actor interactions</td>
<td>Collapsed extension system</td>
</tr>
<tr>
<td>Increasing promotion of lead farmers</td>
<td>Weak agro dealer capacity</td>
</tr>
<tr>
<td>Weak regional regulations</td>
<td>Slow or delayed response of regulatory environment to new markets and new requirements</td>
</tr>
</tbody>
</table>

### Strengths and opportunities

- **Increasing competition**: The vegetable value chain is witnessing increasing competition between actors. This competition is driven, in part, by the demand for quality, which has resulted in investment along the value chain. This investment has introduced some degree of innovation, especially in production input.

- **Programmes to enhance actor interactions**: The SNV HortIMPACT project brings actors together to interact and learn from each other. The SNV project is a good example of a learning project that builds capabilities as opposed to the traditional facilitator-led trainings.

- **Increasing promotion of lead farmers**: Efforts to focus more on lead farmers are on the rise, in order to provide them with an environment that is more conducive to innovation. Ideally the resulting innovations would create a trickle-down effect in terms of production and processing technologies among smallholder farmers. The Equity Group Foundation is provid-
ing support to lead farmers and creating knowledge portals where best practices can be harvested and shared.

Weaknesses and threats

- **Collapsed extension system:** The extension system has collapsed or otherwise been privatized in horticulture growing areas. Privatization has made extension expensive and difficult for farmers to access. In areas where extension has collapsed, horticulture farmers have been left at the mercy of agro dealers who are largely untrained and likely to be unscrupulous when it comes to input adulteration.

- **Weak agro dealer capacity:** Most agro dealers are barely trained, making it difficult for them to observe any kind of code of conduct when advising farmers what they should or should not buy.

- **Weak/poor targeting of projects:** Whereas support institutions such as NGOs, who perform needs assessments to prioritize community needs, frequently promote participatory projects, the targeting of projects is sometimes inadequate, which lead to the creation of unwanted projects. For instance, stakeholder interviews revealed that the SHOMAP roadside markets constructed to improve market infrastructure for roadside traders (most of whom deal in fresh produce) were abandoned and unused years after construction. The problem may be the result of having failed to consider these traders’ market dynamics when intervening.

- **Slow or delayed response of regulatory environment to new markets and new requirements:** Creating an enabling environment to do business in is a function of the state in an open market system. The government in Kenya has tried to establish a regulatory framework that captures the reality on the ground. As markets open and new entrepreneurs enter them, there is a possibility that regulators might have to catch up to the markets. In essence, regulatory mandates will need to be supported to accelerate their response to regulatory gaps to avoid the creation of a vacuum that slows down growth. For instance, actors in the value chain promoting bio-control regretted the absence of regulations on bio-control. They also were also frustrated by the long procedure of registering active ingredients and the outdated methods used by regulators to test these ingredients.

**Conclusion**

The demand for vegetables that are fresh and high quality and safe for consumption is increasing at a faster rate than income growth in Kenya in the domestic market. Actors in the horticultural value chains, the market of which is 95% domestic, are adjusting to this reality. The reliability of the horticulture value chain, especially in terms of vegetable production, hinges on several technological innovations that enhance productivity and is driven by a demand for fresh produce that is high quality and safe. However, these technological developments are limited in their power to ensure the good quality and safety that emerging supermarket trends demand.

There are production, investment and marketing costs associated with adopting these technologies, which ensure a high yield, high-quality and safety. As such, many smallholder farmers, because of the small-scale nature of their production, find it difficult to comply with the good agricultural practices that prescribe quality standards for fresh produce. Those farmers that have established groups or invested in these quality assurance production technologies, have ensured a channel for their produce as a result of contracts with supermarkets and other outlets. These farmers reap better profit margins than those who have not invested in quality standards.

Although national policies and strategies have redefined support by redrafting policy frameworks and resolving institutional conflicts, harmonizing policy requirements, including SPS standards and streamlining import permits will benefit market linkages and sector development. At the institutional level, the state has put in place relevant regulations and has signed international treaties and protocols. Many of these regulations remain dormant, and their enforcement and operation still faces challenges. Devolution as a result of enactment of the 2010 new constitution is one such step; however, harmonizing national and county functions is progressing at a slow pace.

While market channels are forming, commission agents (brokers) still play a key role in the dominant channels. The power in the existing channels is therefore centrally concentrated, where the flow of information is carefully controlled by cartels that are powerful enough to watch over their own interests throughout the value chain. Innovations, such as contract farming, standardization and market information systems that ensure that this power is distributed are a potential answer to this problem. A lot can be learned from the export chain governance structures in the domestic market.

Better interactive collaborations, such as several projects funded by the Netherlands – for example, the hortIMPACT project, the Equity Group Foundation and LATIA – goes further, not only in the way they encourage partnerships but also in how they provide knowledge, coaching and cumulative learning. Institutional support structures need to link their objectives to that of the national government and
that of the specific county they wish to operate in. Therefore, the county integrated development plans need to not only be accessible but also professionally designed to capture local realities. Market infrastructure facilitates trade and reduces entry barriers. Support in this area should be well targeted taking into account the horticulture sector’s local resources, capabilities, trends, culture and diversity of growth.

This brief provided an overview of the sustainability, institutional governance and innovation support system in the horticulture sector. Findings will be validated and fed into the next phase of the programme to provide and share solid, evidence-based knowledge that supports the transition from aid to sustainable trade.

References


