

HortIMPACT: The Story

2015 – 2019

NOVEMBER
2019



Kingdom of the Netherlands



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Acronyms and abbreviations

AAER	Adopt, Adapt, Expand, Respond
AAK	Agrochemicals Association of Kenya
B&B	Burton & Bamber
BC	Business Case
B2B	Business to Business
B2C	Business to Consumers
CBO	Community Based Organisation
EAMDA	East African Market Development Associates
EKN	Embassy of the Kingdom of the Netherlands
EPZ	Export Processing Zone
FAO	Food and Agriculture Organization
FAW	Fall Army Worms
FPEAK	Fresh Produce Exporters Association of Kenya
FSK	Farm Systems Kenya
FSSC	Food Safety System Certification
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GFSI	Global Food Safety Initiative
HCD	Horticultural Crops Directorate
HGT	Holland Green Tech
HIVOS	Humanist Institute for Cooperation with Developing Countries
IBMA	International Biological Manufacturers Association
IPM	Integrated Pest Management
IPSEA	International Partnerships Services East Africa Limited
ISFM	Integrated Soil Fertility Management
ISO	International Organization for Standardization
KALRO	Kenya Agricultural & Livestock Research Organization
KCB	Kenya Commercial Bank
KCSEED	Keringet Community Social Economic and Environmental Development
KEPHIS	Kenya Plant Health Inspectorate Service
KES	Kenya Shilling
KHS	Kenya Highland Seed
KMHP	Kenya Market-led Horticulture Project
MASP	Multi-Annual Strategic Plan
MOALF	Ministry of Agriculture Livestock and Fisheries
MoU	Memorandum of Understanding
NFL	Neighbourhood Freshmart Limited
NFSCC	National Food Safety Coordination Committee
NHTTWG	National Horticulture Transformation Technical Working Group
NIB	National Irrigation Board
NPCK	National Potato Council of Kenya
PCPB	Pest Control Products Board
PHL	Post-harvest Losses
PPP	Public-Private Partnership
PUM	Netherlands Senior Experts
RETRAK	Retail Trade Association of Kenya
SACCO	Savings and Credit Co-Operative
SME	Small and Medium sized Entrepreneurial
SNV	Netherlands Development Organisation
SOCOA	Society of Crop Agribusiness Advisors of Kenya
SSP	Spray Service Provider
SWA	Smart Water for Agriculture
TOT	Training of Trainers
VR	Vijana Reloaded



Foreword: Country Director of SNV in Kenya

By Jeen Kootstra



We have come to the end of the Kenya Market-led Horticulture Project. This 5-year project had the ambitious objective to achieve 'systemic changes and improved performance at supply chain level' in order to achieve sector impact.

Systemic or systems change is often confused with horizontal (increased numbers and business growth) and/or vertical (improved enabling environment and institutions) scaling. Systems change is more. To understand this, we need to get to the basics: a system is described as a set of relationships, actors, mindsets and factors that determine the prevailing way of working or operating in a certain domain. Take for example the avocado sector. The world market in avocado is growing and Kenyan avocado would be a good supplement to the popular South American avocados during the latter's off-season. Avocado is growing in popularity in Kenya, but farmers still have difficulty reaching the market, they lack certification to link to the highly profitable export market, and transition is a challenge due to the 4-year fruiting period. By bringing in an avocado expert and lead farmer, an organisation that supports farmers gradually moving into avocado, an organisation that supports farmers with rainwater harvesting and water management to sustain supply to the young trees, an international purchaser, certification support and support from the county the existing system is changed. And systems need to change where they trap people into poverty. System change is defined as changing structural dynamics to such an extent that the domain improves performance. And this is what is occurring at small scale in the avocado sector. For SNV systems change is important as it supports sustainability in development and facilitates meeting ever-increasing project targets. The process of systems change in project design and implementation also helps us to sharpen our professional approach and our quality.

In SNV's Strategic Plan 2019-2022, we strive to systems change through kick-starting markets, supporting government service delivery and improving government and market accountability. We measure systems change along 4 different parameters, being 1) Additional financial resources leveraged, 2) Kick-starting markets that sustain themselves, 3) Government and others adopt our approaches, 4) When we define rules/norms or the new normal.

HortIMPACT dealt successfully with a number of structural issues within the Kenyan horticulture sector. Several business cases addressed food safety through traceability, food losses through better agricultural practices, storage, packaging, transport and processing, increased production through introduction of greenhouse farming and irrigation, improved quality through extension services and certification support leading to international market access. Also institutional support has been an important component of HortIMPACT. Several organisations in horticulture in Kenya were supported, in particular the Horticultural Crops Directorate (HCD), rolling out the KS1758 Code of Practice for the Horticulture Industry. Systems change requires more, however: more focus given the size of the horticulture sector in Kenya, stronger commitment, a more strategic and consistent approach from the Kenyan government and its institutions and more funding and time. Kenyan farmers deserve this and require this to move out of and stay out of poverty and stay ahead of countries in the region with rapidly developing horticulture sectors like Rwanda and Uganda.

Word from the Dutch Embassy: First Secretary of Food Security and Water

By Sanne Willems



For many years, the Netherlands has been an important partner in the Kenya horticulture sector, especially for vegetables and cut flowers. This has resulted in the Netherlands being the second export destination for Kenyan goods.

The Netherlands is one of the world's largest exporters of agricultural and food products, thanks to its innovative agrifood technology. The Dutch agrifood sector is a sustainable source of healthy, safe food produced with respect for nature and the environment. In our approach to agricultural development, there has always been a strong cooperation between businesses, knowledge institutes, development partners and government. This enables us to share practical knowledge, innovations and good practices between the Netherlands and Kenya.

In Kenya, the agricultural sector is of crucial importance for food security and the general economy. Kenyan agriculture accounts for 65 per cent of the country's export earnings and 33 per cent of the Gross Domestic Product. The sector employs more than 40% of the total population and 70% of the rural population. The horticultural industry in Kenya has been very successful in the last three decades. Among the existing agricultural enterprises, horticulture offers the best alternative for increased food self-sufficiency, food security, improved nutrition, foreign exchange earnings and ensuring the generation of increased incomes and employment.

In this context, the Netherlands has supported HortIMPACT, implemented by SNV in cooperation with Delphy, HIVOS and Solidaridad. The project combined private sector expertise with social impact solutions to build sustainable, inclusive domestic and export horticulture markets in Kenya. Poor food safety, high food losses and the exclusion of small and medium size farmers from value chains limit the economic growth and social benefits of fruit and vegetable markets in Kenya. HortIMPACT worked across horticulture value chains to change this.

The project managed to bring new technologies in the field of traceability, green house farming, food processing and services related to more sustainable agricultural practices to medium and small-scale farmers. It was successful in linking groups of farmers to new markets for export and local food production. Moreover, the project contributed to place food safety higher on the national agenda and show how private sector initiatives can contribute to this.

HortIMPACT was successful encouraging private sector companies to work differently, take certain risks and do more in terms of reaching out to SME farmers, specifically those active in horticulture, willing to go for quality and get better access to markets. The project did not subsidise the new services carried out by its private sector partners, but the development of these services, a crucial element to the sustainability of businesses.

Looking at the future, there is still a need for more systemic change in food safety, market access and the reduction of food losses. Moreover, changes in the climate and water availability will continue to influence the production of safe food. The Netherlands, therefore, commits to continue working in the horticulture sector, be it through our trade support, research, policy-influencing programmes and climate-focused development programmes.

Introduction: Project Manager of HortIMPACT

By Sigrid Meijer



HortIMPACT (January 2015-December 2019, EUR 6.7 million) was implemented by a consortium of Delphy, HIVOS and Solidaridad, led by SNV and funded by the Embassy of the Kingdom of the Netherlands (EKN).

The project contributed to increased food security, increased incomes, and a dynamic and sustainable horticulture sector in Kenya: fruits and vegetables, including potatoes. Three themes, crucial for further development of the horticulture sector, were addressed by the project:

- Inclusion of small and medium sized entrepreneurial (SME) farmers in supply chains;
- Improvement of food safety
- Reduction of food losses

HortIMPACT focused on private sector development to reach the following two outcomes in a sustainable way, benefitting farmers and Dutch and Kenyan companies:
Enhancing the entrepreneurial capacities and performance of SME farmers and companies, for improved market access to domestic and international markets.

Effectively addressing systemic challenges faced by farmer, industry and government related organisations in relation to the project's three themes.

The project cooperated closely with Dutch and Kenyan entrepreneurs and made use of their advanced technologies, products and market linkages in so-called innovation or business cases. In total 10 innovation cases and 16 business cases implemented by partners were supported during these 5 years with technical advice and grants. The focus of the project was on SME farmers and farming as a 'family unit'. A total of 44,342 farmers were reached through the different interventions. Simultaneously, HortIMPACT addressed policy and market-related, systemic issues at service provision, industry/value chain and government level; supported by results from the innovative and market-oriented business cases and at the same time to make the business cases more sustainable and scalable.

In this booklet a short description is given in the first chapters of the project and the Kenyan horticulture sector, its context and bottlenecks. Then an overview follows of the different interventions related to the three focus areas of HortIMPACT with a map indicating the area of implementation. Eight of the most mature innovation and business cases are presented in more detail in terms of their rationale, the activities undertaken, their contribution to results and the systemic change potential at the sector level.

The overall results of the project are shown and special attention is given to the lessons learnt during the implementation of HortIMPACT. Together with the analysis of the potential for systemic change, these lessons and examples can be taken up by other actors in the sector: public sector in relation to rules and regulations that might stimulate new practices; other businesses crowding in using similar successful business models; service providers responding with supporting functions like adapted financial products, traceability systems, digital information and extension; public and private investors, including other development programs, to support scaling of the best innovations; and farmer organizations copying good agricultural practices. Finally, an overview of project partners, farmers' groups and project staff involved in HortIMPACT during the years can be found, as well as an overview of studies and publications on the SNV website: www.snv.org/project/hortimpact

We hope the booklet is of use for you.



HortIMPACT at a glance

The project's main features

Time frame	2015-2019
Budget	EUR 6,727,299
Coordination	SNV Kenya
Core partners	Delphy, HIVOS and Solidaridad East and Central Africa
Target beneficiaries	<p>Organised small and medium sized entrepreneurial farmers and their organisations.</p> <p>International (Dutch) and Kenyan agricultural companies, including processors, traders, brokers, exporters, importers, retailers, input suppliers and their organisations, as well as other support service providers such as financial institutions.</p> <p>Government of Kenya organisations and institutions, training institutes and industry and consumers' organisations.</p>
Anticipated outcomes	<p>Increase in sustainable food production</p> <p>Improved access to food with sufficient quality</p> <p>More efficient markets</p> <p>Improved business environment</p>
Key targets	<p>15 business cases conducted, directly involving 50,000 farmers / households</p> <p>Small and medium sized farmers, participating in the business cases realising an average increase in income of 10 — 15 %.</p> <p>Joint agendas developed and implementation started by public and private partners on three critical sector issues.</p> <p>25,000 farmers reached by HortIMPACT upscaling activities through cooperation with industry and Government organisations, including Counties.</p> <p>20 Dutch companies direct or indirectly involved in HortIMPACT.</p> <p>Two trade missions conducted and a National Conference co-organised.</p>
Main donor	Embassy of the Kingdom of the Netherlands



The Kenya horticulture sector

Horticulture is the largest sub-sector in Kenya's agriculture sector, accounting for 33% of agricultural GDP and 38% of the sector's export earnings. Production is mainly rain-fed with two planting seasons a year except for very high altitude areas. The area under horticultural production is about 585,000 Ha; 4% of this area is under flowers and 96% under fruits, herbs and vegetables. 40% of the value of horticultural production, however, comes from flowers and 60% from fruits herbs and vegetables. On export, 71% of the value of Kenya's horticultural exports is from flowers and 29% from fruits and vegetables. Only 5% of fruits and vegetables produced is for export, 95% is sold in the domestic market. Small scale farmers (0.2 — 3ha) are the main producers of fruits and vegetables for the domestic and export markets (about 80%).

In domestic horticulture, potato, cabbage and kales accounted for 84% of the value of vegetables produced and consumed in 2017. Vegetable and fruit production faces challenges of inadequate quality seed, limited extension support, high pest and disease pressure, inefficient marketing systems and high post-harvest losses. Potato, which accounts for about 40% of the value of domestic horticultural production, has significant shortages in seed. Its productivity is also low at 14 tonnes/Ha, against a potential 40 tonnes/Ha. Tomato, cabbage, kale and other vegetables have seen an increased adoption in high-yield hybrid seeds. Pest and disease challenges are significant, leading to misuse of pesticides, raising food safety concerns for Kenyan consumers. Conversations on food safety standards preceded the release of the KS1758 standard, whose implementation is yet to start. Biological pest control options are developing, but are still nascent; they may offer options for safer management of pest and diseases. Soil degradation, stemmed from un-informed use of chemical fertilisers, bears on the industry as well. This has, fortunately, triggered campaigns and uptake of soil testing and informed use of fertilisers. Besides issues with regard to production and inputs, limited availability of support services such as extension, mechanisation and finance stifle the sector's potential.

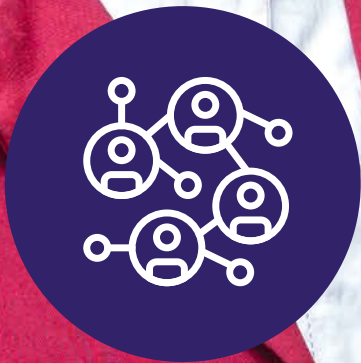
Most farmers get their information from input companies through market events (field days, agricultural shows and exhibitions), and few farmers from companies buying produce mainly for export. Objectivity of information received by farmers is compromised because knowledge is often skewed towards commercial interests of the private sector providing information. Mechanisation is still limited to bed preparation, mainly ploughing and harrowing. Productivity gains from mechanisation of planting and harvesting, in potato for example, are generally underdeveloped. Furthermore, farmers' limited transaction history constrains financing through banks and SACCOs. Emerging mobile money solutions like 'Agri-Wallet', try to address this challenge, but the value of credit does not meet the needs of most farmers.

Marketing of horticultural produce in domestic markets has inefficiencies due to their largely informal systems. Coordination between market (demand) and farmers (supply) is weak, limiting income gains for farmers despite increased productivity from adoption of high-yield crop varieties. Formal market structures are starting to develop, especially for urban markets via formal aggregation businesses. They, however, market a small portion of horticultural produce. Market gluts, poor road and post-harvest handling infrastructure compound marketing challenges. Significant post-harvest losses are therefore present in the sector. The efforts of buying companies, county governments and development programs to support farmer associations in horticulture are working to address these produce marketing challenges.

The agriculture sector transformation and growth strategy of 2019 recognises these characteristics in the sector; it aims to increase incomes of 1 million SME farmers. The focus is on providing farmers with inputs, markets, post-harvest and storage services, and equipment services. These are foreseen to drive growth of the industry. A National Horticulture Technical Transformation Working Group, formed in July 2019 by the Ministry of Agriculture, drawing membership from all stakeholders, leads the sector's coordination towards improvement.







**Inclusion of SME
Farmers**



**Improvement of
Food Safety**



**Reduction of
Food losses**

Business cases and innovations

During HortIMPACT's implementation, the project co-financed 16 business cases and 10 innovations. Beyond partially financing each intervention, the project staff supported the partners involved with professional advice. We are proud of how each one contributed to strengthen Kenya's horticulture sector and provided important lessons on how private sector-led development can improve food safety, reduce food losses and improve SME farmer inclusion. Below, you will find a brief summary of the business cases and innovations HortIMPACT helped develop.



INCLUSION OF SME FARMERS

BC1: Innovation promotion in greenhouse vegetable promotion

Promotion of uptake of technologies while facilitating access to markets and access to finance for working capital and acquisition of assets.

BC2: Linking SME Potato Producers to Markets

Promote uptake by potato producers of Dutch-certified potato seed varieties and increase linkages with potential local markets for these varieties.

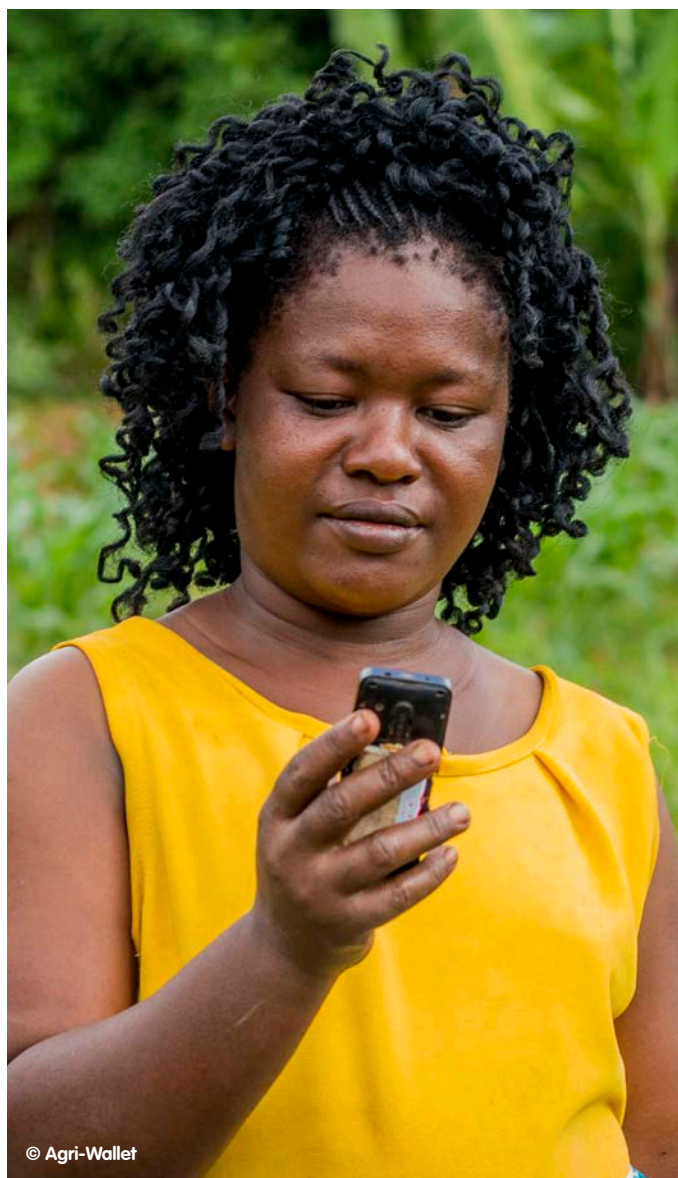
BC4: Promotion of Conservation Agriculture and Canola Oil Production.

Promotion of rapeseed cultivation among farmers for the production and selling of canola oil. Introduction of this crop to SME farmers allows for conservation agriculture elements and benefits, especially rotation with potato and pulses.

BC10: Youth Managed Service Provision

Promotion of youth-managed extension services to farmers and last mile distribution of products and services to clients by youth on behalf of companies.





© Agri-Wallet



IMPROVEMENT OF FOOD SAFETY

BC3: Extension Service Training Provision

Training of service providers on proper pesticide spraying techniques and IPM, as well as agricultural service skills.

BC5: Latia Greenhouse Teaching Support

Strengthening of Latia Training Centre's capacity to delivery Farm Operator Training and business services for greenhouse farming.

BC7: Leafy Vegetables Safety Enhancement

Improving production techniques to accelerate the provision of safe produce. Techniques involve production in net-houses.

BC13: Eprod Compliance System

Promotion of the Eprod management system for the compliance with KS1758.

BC15: Domestic Food Traceability

Setting up of a pioneering traceability system for safe vegetables in the Kenyan domestic market.

BC16: Green Rhino Healthy Green Choice

Establishment of a compliance and sustainability management tool for food safety standards, the "Healthy Green Choice" label in the retail sector as a brand for safe food.



REDUCTION OF FOOD LOSSES

BC6: Value Addition in Mango Chain

Value addition in the mango supply chain by training farmers with Global GAP certification, improving the drying process and selling/marketing of a dry mango snack for Kenyan and international markets.

BC8: Potato Chain Mechanisation

Introduction of mechanised planting and harvesting to potato farmers.

BC9: Cold Storage Introduction in Green Bean Chain

Introduction of cold storage in the production area and marketing of second-grade produce rejects.

BC11: Introduction of Storage System for the Potato Industry

Development and promotion of a sustainable business model for potato production that involves optimal operation and especially storage models.

BC12: Engelesha Avocado Project

Support in the development of an organic avocado nursery with an out-grower's scheme with SME farmers in Laikipia County.

BC14: Avocado Tree Nursery

Improvement of tree nursery practices, with the aim of increasing seedlings' health. Activities involve training for nursery operators.



INNOVATIONS

Agri-Wallet

Digital finance system for farmers and agri-buyers. The product enables farmers to save and lock money especially for agri-inputs, allowing them as well to get those on credit. Agri-buyers get in turn a convenient system pay farmers in one go and can access credit for working capital.

Fertiplus

Supporting IPSEA Ltd with the development of demo sites throughout Kenya for Fertiplus 4-3-3, an organic fertiliser of Dutch company Ferm-o-Feed. Fertiplus promotes sustainability and improvement of soil health, whilst improving yields.

IBMA

Supporting the establishment of the International Biological Manufacturers Association Kenya Chapter (IBMA). Activities included supporting the creation of the website and developing training material.

Ketchup Project

Introduction of a drying technology for tomato produce, accompanied by the provision of Global GAP certification for farmers. Supported as well the food safety certification of the drying facility. Dried tomatoes are exported to The Netherlands to be made and sold as ketchup.

Koppert Bacteria Wilt

Setting up an experiment to test the efficacy of different treatments against bacterial wilt in tomato. This involved the use of a safe disinfectant/biocide (VeniShine) in combination with a bio-stimulant (NoPath) and soil bio-fertilizers (NatuGro system).

Livatty

Introducing innovative crop nutrition technology of controlled release fertilizers to medium scale farmers so as to improve productivity per unit area in an environmentally friendly manner.

Mtela

Management app for agrodealers and farmers that allows for improved inventory management and product information.

Project Madaraka

Piloting an in-house financing system of an input supplier for farm inputs for SME farmers.

Soilcares

Supporting the pilot of a handheld soil scanner for farmers to make use of. In addition to a soil analysis, appropriate and personal fertiliser and lime use recommendations are sent to the user's smartphone.

Yielder

Open source, digital agricultural engagement platform for smartphones that allows different players along value chains to share and access information.





Map of intervention



Inclusion of SME Farmers

Name	County
BC1	Kiambu, Nakuru, Nyeri, Nyandarua, Laikipia, Narok, Uasin Gishu, Meru
BC1	Kiambu, Kirinyaga
BC2	Bomet, Narok, Meru, Laikipia, Nyandarua
BC4	Nakuru, Uasin Gishu, Narok, Trans Nzoia
BC10	Nakuru
BC14	Muranga, Nakuru



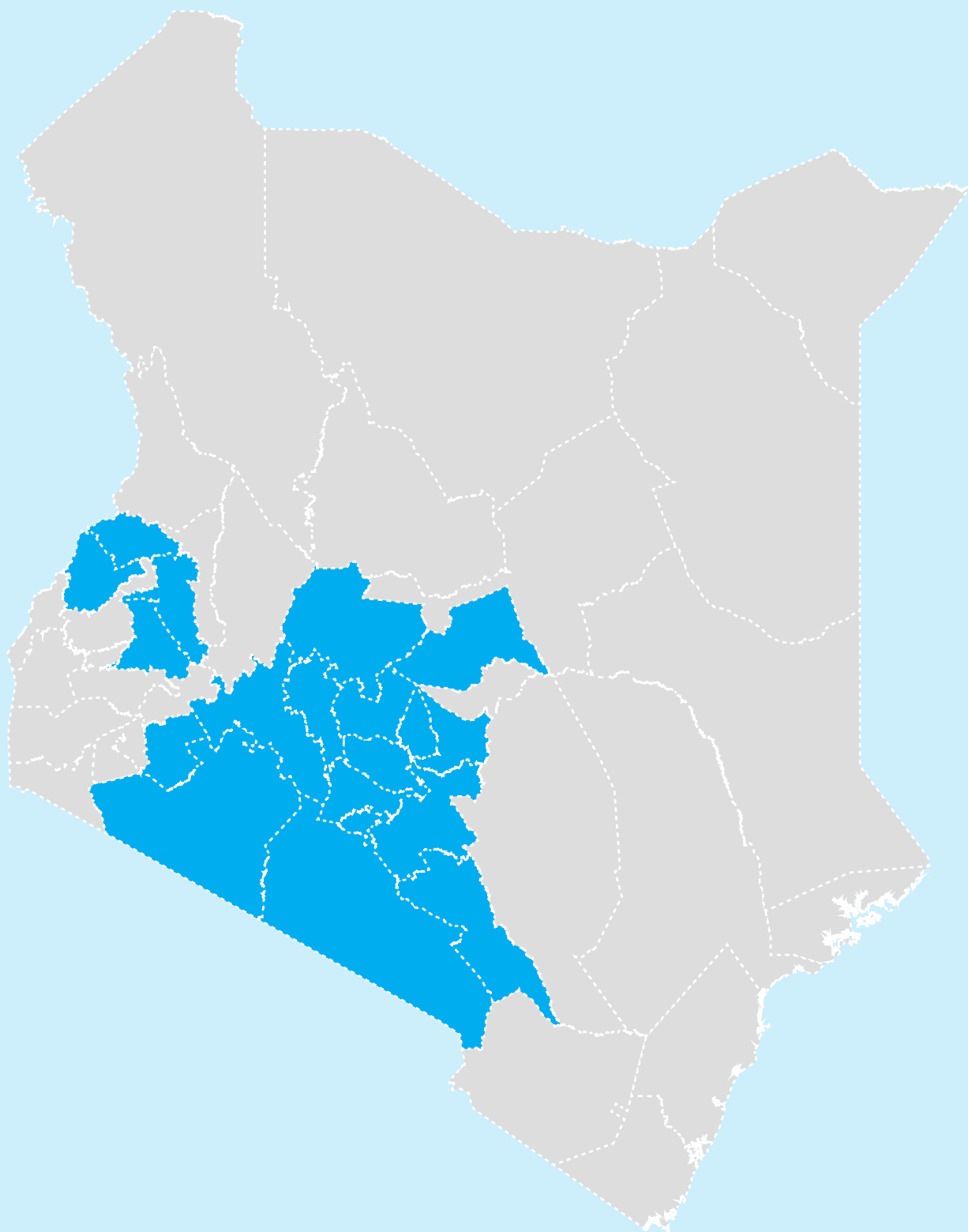
Improvement of Food Safety

Name	County
BC3	Bungoma, Nyeri, Makueni, Nakuru, Nyandarua, Kajiado
BC5	Machakos, Kajiado, Muranga, Kiambu, Nakuru, Embu
BC7	Meru, Machakos, Nakuru, Makueni, Kiambu, Nyeri, Nyandarua, Kajiado, Trans Nzoia, Narok
BC12	Laikipia
BC13	Nairobi
BC15	Kirinyaga, Nyeri, Embu
BC16	Kirinyaga



Reduction of Food losses

Name	County
BC6	Machakos
BC 8	Meru, Nyandarua
BC9	Meru, Nandi
BC11	Nakuru, Nyandarua





Inclusion of SME Farmers



Promoting the use of innovative technologies in vegetable production

Phase 1

Partner List	Rijk Zwaan Export B.V. and Kenya Highland Seed Ltd (KHS).
Number of beneficiaries involved	4,225 farmers (2,761 male and 1,464 female)
Co-Investment	Contribution by Rijk Zwaan — € 141,716 Contribution by SNV — € 110,143 Total budget – € 251,859
Date	November 2015 to December 2016

Rationale for the business case

Kenya's horticultural sector, which contributes significantly to the livelihoods of over a million small-scale farmers, records low productivity owing to poor agricultural practices due to farmers' limited access to agronomic information and extension support. In addition, limited use of quality inputs such as seeds and agrochemicals by farmers as well as limited access to finance for working capital and investment in assets hamper the sub-sector's growth. The sub-sector is also plagued by high on-farm losses attributed to pests and diseases.

Given the aforementioned, Rijk Zwaan and Kenya Highland Seed Limited (KHS) partnered with HortIMPACT

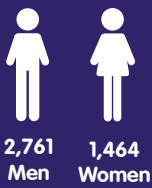
to promote the use of innovative technologies in vegetable production across 9 counties. These technologies included greenhouse-based production, integrated pest management, irrigation and use of hybrid seeds with complementary extension services offered to smallholder farmers. The adoption of greenhouse-based production and the use of hybrid seeds was anticipated to result in higher yields than those of home-saved open-pollinated varieties while recording fewer incidences of diseases. The intervention would ultimately result in enhanced farmer incomes with Rijk Zwaan and KHS benefitting from increased revenues through the sale of hybrid seeds.

Intervention process

Rijk Zwaan, a Netherlands-based producer of greenhouse vegetable seeds, supplied hybrid tomato, carrot, cucumbers and lettuce seeds to Kenya Highland Seed Limited (KHS) for local distribution. This was coupled with provision of agronomic support to farmers in green-house crop production. Key input suppliers in the horticultural value chain were incorporated in the intervention to showcase and create awareness of their products and services to the farmer groups. These included Koppert Biological Systems and Real IPM who advised farmers on the use of Integrated Pest Management solutions; Bayer, Syngenta and Livatty who

trained on safe use of pesticides; CropNuts and Soil Cares who provided soil testing services and Hortipro and Irrico who installed the greenhouse and irrigation system. Yara and MEA fertiliser Ltd trained farmers on their respective fertiliser products composition and application for optimal productivity. KHS, also established demonstration plots and conducted farmer training on good agricultural practices. A mobile-based seed purchasing system was developed by KHS with an in-built verification function for inputs purchased by farmers as well as an Mpesa-based payment system.

Results



4,225

Farmers trained by KHS



12 sites set up in 9 counties.

Demonstration sites established. Each site included an 8x15m greenhouse with drip irrigation equipment



61%

Farmers who adopted use of appropriate agrochemicals: 61% of 4,225 farmers trained used the right agrochemicals and application method.



15%

15% of 4,225 farmers utilized soil testing services



4

Farmers out of the 4,225 trained, bought green houses



Participating input suppliers reported increased sales as well as linkages with potential buyers.



There was a notable change in tomato productivity which is expected to eventually result in increased farmer incomes.



Phase 2

Partner List	Rijk Zwaan Export B.V., Holland Greentech-East Africa (HGT), Koppert Biological Systems (K) Ltd., Rabobank Foundation, Dodore and Neighborhood Freshmart Ltd. (NFL).
Number of beneficiaries involved	255 farmers (157 women, 98 men and 53 youth)
Co-Investment	Contribution by NFL+SME farmers — € 14,626 Contribution by SNV — € 14,167 Total budget – € 28,793
Date	May 2018 to November 2019

Rationale for the business case

Phase I was successful in demonstrating innovative vegetable production technologies to participating farmers. However, the lack of sustainable markets, accessible finance and consistent water availability to enable year-round production, limited the uptake of this technologies by farmers. Financial partners were also needed in the second phase to support the sustenance of technologies adopted. In order to reduce incidences of pests and diseases as well as ascertain food safety, integrated pest management (IPM) products were promoted to the participating farmers while commercial propagators were brought on board to propagate seeds prior to distribution to farmers. The commercial seed production model was envisioned to result in higher propagation rates estimated at 96 to 98 per cent

compared to 60 to 80 per cent in a farmer-based model.

To further entrench good agronomic practices and traceable production of vegetables promoted, a private extension service provider was engaged with compensation undertaken by the off-taker. These activities were envisioned to collectively result in improved yields, reduced post-harvest losses and enhanced food safety. Participating farmers would also benefit from the intervention's market linkages and thereby realize increased incomes. The engaged business partners would benefit from revenues emanating from the sales of their products, services and technologies with the off-taker profiting from a consistent supply of quality produce in sufficient volumes.

Intervention process

In phase 2, HortIMPACT and partners worked with smallholder farmers in 5 counties namely Kiambu, Kirinyaga, Nyeri, Meru and Laikipia. Neighborhood Freshmart Ltd. (NFL), a medium-sized horticulture trading company, served as the intervention's anchor partner providing a ready market for the fruits and vegetables produced by the participating farmers. Rijk Zwaan, through its East African region distributor Holland Greentech-East Africa (HGT), provided hybrid seeds either directly to farmers or through commercial propagators namely Gracerockplant Raiser and KIM planters. Farmers

paid for these seeds either through cash or credit provided by Dodore through the Agri-Wallet platform. Rabobank provided bulk credit for onward lending to farmers by Dodore while Crop Care Kenya Ltd. provided extensive support to farmers at a fee that was borne by NFL. Koppert Biological Systems Ltd. supplied integrated pest management products to participating farmers who paid through cash or Agri-Wallet credit. Farmers were also supported to establish water harvesting methods such as water pans in collaboration with SNV's Smart Water for Agriculture project.

"I am putting more hard work in my farming activities. NFL has given us predictability and reliability of market and prices unlike brokers while Agri-Wallet has allowed us to purchase certified seeds and we have an officer visiting our farms every two weeks."

Mr. Joseph Gatheru Kinyua: NFL contracted Nyeri County



Results



338

Farmers trained on good agricultural practices



93

Farmers who adopted the use of hybrid seeds, Koppert's IPM solutions and/or use of commercial propagators



218

Farmers contracted to supply produce to NFL



125

Contracted NFL farmers utilising Agri-Wallet

Value of input credit accessed per farmer through Agri-Wallet



67%

67% of sampled farmers reported accessing Agri-wallet loans that averaged KES 12,570 payable over a 6 month-period. The loan amounts ranged from KES 2,700 to KES 39,000.

Total value of input credit accessed by farmers through Agri-Wallet



KES 128,800

Advanced to farmers in a single season.

Increased farm yields



93%

93% of sampled farmers reported an average of 109% increase in crop yields. Highest yield increases reported were 344%, 300% and 80% in potatoes, broccoli and tomatoes respectively from similar sized pieces of land ranging from 0.5 to 2.5 acres. This was attributed to adoption of hybrid seeds, quality inputs and extension support provided by Crop Care Kenya Ltd.

Adoption of furrow crop irrigation



57%

57% of contracted and interviewed farmers reported undertaking furrow crop irrigation while 37% relied on rainfall. Only 7% grew horticultural products in greenhouses owing to huge capital investment requirements.

Volumes supplied



98.7 Tonnes

A total of 98.7 tonnes of various horticultural produce was supplied by 161 farmers in one harvesting period.

Systemic change and scaling potential

The use of hybrid seeds gained traction due to increased productivity in both greenhouse-based production and open field farming. Adoption of greenhouse-based agriculture and irrigation systems was however limited with most farmers practising open field agriculture due to the costs associated with the former with relatively marginal benefits. In response to this, NFL continues to work with Crop Care Kenya, as an embedded extension support service provider, to enhance optimal open field production. The firm also intends to promote affordable climate-smart agriculture technologies and practices that can further enhance productivity and reduce on-farm losses. Food safety continues to be a concern in the domestic market and as such NFL intends to use its seed-to-market production system to ensure that the vegetables and fruits the firm markets are grown, handled, stored and distributed under controlled, safe and hygienic conditions. The firm plans to double the

number of contracted farmers in order to enhance the supply volumes of traceably grown horticultural produce.

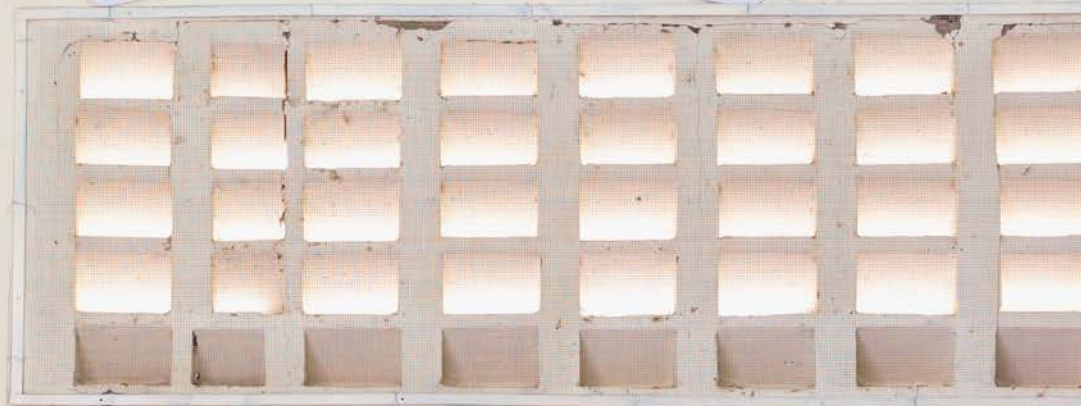
Input providers involved in the case expressed willingness to continue using the demonstration sites as learning centres for farmers. The value chain embedded extension service delivery resulted in knowledge transfer that led to the existing service providers such as seed propagators increasing their suite of services to include provision of extension services. Uptake of certified seed and IPM solutions was noted amongst farmers not directly engaged in the project with additional off-takers engaging Koppert and HGT to supply farmers with biological pest control products and hybrid seeds respectively. Irrigation service providers such as Hortipro that developed a check-off system for acquisition of irrigation assets by farmers as a result of this intervention, seek to expand their reach and offering.



Lessons learnt

- There is a higher probability of success in entrenching new production technologies in an intervention that incorporates an off-taker and access to finance. However, given the time lag between training, adoption of technologies and realization of the technology benefits, it is important to onboard multiple off-takers serving different markets in order to ensure that farmers have a ready market for the various produce grades that they supply.
- The Agri-Wallet credit line suffices for farm inputs. However, the platform has limited capacity to fund larger investments such as irrigation systems and greenhouses. Similar initiatives should therefore consider bringing onboard additional financiers to service participating farmers' various credit requirements.
- Climate change continues to affect horticultural production hence the need for enhanced promotion of climate-smart agriculture.





Partner List	ProPortion Foundation, AgroCares and Rabobank Foundation.
Number of beneficiaries involved	181 farmers 93 youth (42 male, 51 female) in 5 youth groups in Olenguruone, Kasambara, Mirangine, Molo and Keringet
Co-Investment	Contribution by ProPortion Foundation (incl. VR & 360 Degrees International) — € 22,912 Contribution by AgroCares — € 36,780 Contribution by Rabobank Foundation — € 45,000 Contribution by SNV — € 65,582 Total budget – € 170,274
Date	February 2018 to May 2019

Rationale for the business case

In Kenya, youth unemployment is higher than the overall national unemployment rate. While the latter is around 10 percent, it goes as high as 35 percent for youth, depending on the age group. Considering this high rate of youth unemployment and underemployment, the agricultural sector offers multiple livelihood and employment opportunities. The principal challenge in the agricultural sector is ensuring optimal utilization of youth potential in contributing to the sector goals of achieving food and nutrition security, income generation,

decent employment and wealth creation. It is against this background that in 2018 Vijana Reloaded (VR), a Kenyan social enterprise, was formed with a mission to eradicate youth unemployment by inspiring, empowering and nurturing youth to harvest market opportunities around them through creative entrepreneurship. AgriVijana is an agribusiness initiative developed by VR that allows youth entrepreneurs to adopt and replicate its business model, creating a network of rural youth who become a channel to offer innovative and digital services to farmers.

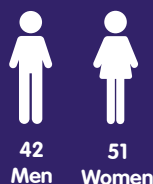
Intervention process

Vijana Reloaded partnered with ProPortion Foundation to develop the AgriVijana business activity. Vijana Reloaded was responsible for the selection of youth groups, training the youth on entrepreneurship and engaging businesses, farmer cooperatives and individual farmers on partnerships in order to sell soil testing services. AgriVijana entered into partnership with both Business to Business (B2B) clients and Business to Consumers (B2C) clients. Their B2B clients included Agventure, Commex, Farm Systems Kenya (FSK) and cooperatives while at the B2C level, they worked with individual smallholder farmers. AgroCares Foundation, a soil testing company, provided handheld soil testing scanners on lease as well

as technical training for the youth groups. HortIMPACT promoted AgriVijana services through its on-going programs and networks while 360 Degrees International, a marketing firm, supported Vijana Reloaded to develop a digital marketing strategy as well as a training of trainers' program. The financial support required for the purchase of the hand-held scanners was co-financed by Rabobank Foundation. Furthermore, Equity Bank was brought on board to train the participating youth on financial management while AAK trained the youth groups to become certified spray service providers. The Society of Crop Agribusiness Advisors of Kenya (SOCAA) also provided training for the youth on food safety.

Results

Youth trained



93 Youth

Trained on soil testing and financial management in 5 youth groups located in Olenguruone, Kasambara, Mirangine, Molo and Keringet

Jobs created



65 Youth

Actively engaged in provision of soil testing services, extension support and input supply.

Youth Income



KES 91,500

Youth revenues amounting KES 91,500 from soil testing services provided to farmers during the December-March season.

Increase in soil fertility and farm productivity



There was anecdotal evidence of improved productivity attributable to the adoption of appropriate fertilizers based on soil test results. For instance, a farmer in Molo reported harvesting 30 bags of potatoes per acre in 2018 following the adoption of soil test recommendations in comparison to the 18 bags harvested in 2017.

Systemic change and scaling potential

The existing AgriVijana 'business in a box' model offers low margins to youth service providers as a result of dependence on limited business lines, thus making it difficult to scale. The model however has the potential to create sustainable economic opportunities for youth in the agricultural sector if it increasingly incorporates an array of services that youth can offer to smallholder farmers. Vijana Reloaded therefore seeks to grow its services to include provision of spray services through certified SSPs. Several organizations such as KALRO, Agri-Wallet and county governments have responded positively to the AgriVijana 'business in a box' model. For instance, the county government of Bungoma has expressed interest in

having Vijana Reloaded train youth within the county on soil testing and equipping them with soil testing kits as an employment creation initiative. Agri-Wallet on the other hand plans to include soil testing and spray services onto its platform enabling farmers to access credit for Vijana Reloaded services. In addition, KALRO, as a research institution that undertakes soil analysis throughout the country has signed an MoU with VR to utilise the AgriVijana youth in undertaking soil tests. The expanded 'business in a box' while working in partnership with B2B clients such as off-takers and cooperatives therefore enhances value of Vijana Reloaded services to farmers and presents opportunities for scale and sustainability.

Lessons learnt

- Several government institutions at both national and county level as well as development agencies offer soil testing services free of charge or at subsidised rates which distorts the market. Future interventions should therefore take into consideration the gross margins and profitability potential of a diverse bundle of services offered prior to youth engagement and roll out while also undertaking a comprehensive risk assessment.
- In order to enhance the 'business in a box' model, AgriVijana should seek to offer a combination of agro-inputs coupled with extension services as a complete farmer support solution, potentially through partnership with agro-dealers for last-mile distribution.
- For cost-effectiveness, Vijana Reloaded should work with organised groups and cooperatives as opposed to individual farmers.



"I managed to harvest 30 bags of potatoes from one acre in 2018 following the adoption of soil test recommendations in comparison to 18 bags that I had harvested from the same plot in 2017"

Mr. James Muturi: Molo Based potato farmer and beneficiary of AgriVijana soil testing services.



Agri-Wallet

Partner List	Dodore, Rabobank Foundation, Wamu Investments Limited, KCSEED Foundation Trust
Number of beneficiaries involved	Out of Agri-Wallet's 24,426 farmers (12,780 male and 11,646 female), 11,352 (6,777 male, 4,575 female, 3,719 youth) were onboarded through the agent model with support from HortIMPACT; 3,903 (2,336 male, 1,567 female and 252 youth) were horticulture farmers.
Co-Investment	Dodore's Contribution: € 19,965 Wamu and KCSEED's combined contribution: € 4,791 HortIMPACT Contribution: € 19,843 Total investment: 44,599
Date	April 1st, 2018 - September 30th, 2019

Rationale for the innovation case

Kenya's horticulture sector is largely private-sector led with significant investment requirements for inputs that include certified seeds, agrochemicals and in some instance irrigation equipment. Unfortunately, the majority of smallholder producers who farm on small parcels of land are underserved by existing financial institutions due to lack of credit products in line with farmers' crop cycles. In order to enhance smallholder farmers' access to inputs, HortIMPACT partnered with Dodore to develop and roll out an agent recruitment model that targeted smallholder farmers with affordable input credit through the firm's e-wallet, Agri-Wallet. Agri-Wallet not only provides farmers with input credit, but serves as a convenient digital business account for savings and payment of

produce sold. Participating farmers would benefit from both enhanced access to input credit and markets, factors anticipated to contribute towards increased financial inclusion, improved productivity and revenues.

The process of farmer mobilisation and registration on Agri-Wallet is expensive and laborious, given the sub-sector's highly fragmented and informal nature. This innovation case was envisioned to link Agri-Wallet with at least 1,400 farmers through an engagement with two off-takers: Wamu Investments and KCSEED Foundation Trust. In addition, HortIMPACT developed marketing and training material and supported the pilot of a cost-effective performance-based agent model for farmer recruitment.

Intervention process

HortIMPACT partnered with Dodore to develop a commission-based farmer recruitment model that would fast-track the company's farmer engagement process at a marginal cost, while promoting the use of Agri-Wallet among other project partners. In addition, Wamu Investments Limited, a fruits and vegetables producer and exporter, as well as KCSEED Foundation Trust, a potato aggregator and marketer came on board as off-takers; Agriwallet established a partnership that would result in 1,400 potato and horticulture farmers in Nakuru county access credit. Rabobank Foundation, which had an existing lending partnership with Dodore, was also part of the intervention as a provider of bulk credit to Dodore for onward lending to farmers.

HortIMPACT's investment in Dodore's innovation case was used as an in-kind contribution to a US\$ 1 million Mastercard Foundation-funded project Dodore and SNV will implement over the next 2 years with a target to enrol 37,500 smallholder farmers on Agri-Wallet. HortIMPACT also supported the development of communication materials such as flyers, roll-up banners and local advertisements to generate traffic towards Agri-Wallet's use. The intervention also trained farmers on financial literacy prior to availing credit in order to support farmers to prudently plan for repayment. This last activity was done through a Training of Trainers (ToT) model with agents serving as master trainers.

"HortIMPACT's support has seen the AgriWallet initiative enable farmers to adopt the innovative technology that allow farmers to save and purchase inputs in a much easier and affordable manner".

Faith Mulwa: Chief Finance Officer, Agri-Wallet

Results



KES 100

Reduction in cost of farmer recruitment per farmer, from KES 2,000 to KES 3,000 in the previous employee-based recruitment model



56% Men



44% Women



20% Youth

2,057

2,057 farmers utilising Agri-Wallet for saving, 1,149 of whom were male (56%), 908 female (44%) and 411 youth (20%) accounting for an estimated KES 5.8 million in savings.



1,400 Farmers

Farmers accessed KES 12.36 million worth of inputs through Agri-Wallet

Systemic change and scaling potential

Dodore adopted the use of agents not only in recruiting farmers at a fee, but promoting farmers' savings, borrowing and timely repayment. Given the significant savings realized, Dodore scaled up the model to include other value chains such as sorghum. The business partner plans to venture into financing of agricultural assets such as cold storage facilities, greenhouse infrastructure and agricultural equipment; assets that can be leased or owned by farmers. This strategy aims to enhance the company's value proposition and sustainability by increasing its revenue base and profitability, while reducing its overall operational costs. Through the partnership between Mastercard Foundation and HortIMPACT, Agri-Wallet established working relationships with: BC1 with Koppert, Rabobank and Rijk Zwaan; BC3 with AAK to enlist spray service providers

(SSPs) as merchants; BC4 with Agventure; BC9 to provide value chain finance for Homefresh and Aberdare Bloom; BC11 with Sereni Fries; BC 14 with Olivado and BC15 with Instaveg. These collaborations will enable Agri-Wallet to effectively expand its farmer reach and attain requisite scale for sustainability. It is, however, noteworthy to mention that Rabobank's bulk credit line to Dodore was offered at a rate lower than the prevailing commercial rates, contributing to the firm's impressive performance in farmer recruitment and lending during the project period. This implies that in order for Agri-Wallet to sustain its growth and expansion, Dodore needs to engage more impact investors to provide bulk funds at competitive rates for onward lending to farmers.

Lessons learnt

- The majority of smallholder farmers use Agri-Wallet just before the planting season, hence there is a need to carry out recruitment around this period. This not only ensures training provided on Agri-Wallet's use is still fresh on the farmers' minds, but that farmers plant the crops Dodore has insured and planned to provide input credit on.
- In order to ensure farmers' access to certified inputs, Dodore carries out rigorous verification of all agro-dealers engaged. To reduce stock-outs, however, Dodore is exploring partnerships with reputable bulk input suppliers through whom agro-dealers can have access to supplier credit for enhanced stock volumes.
- Even though the agency model resulted in significant savings in farmer recruitment, the approach resulted in unanticipated costs associated with data clean up and verification of farmer details. In order to reduce these costs, Dodore trains agents on accurate data collection and pays out agent commissions after verification of farmer details. The firm started working with lead agents who counter-check the data before onward submission to Dodore.





Improvement of Food Safety



Agrochemical Association of Kenya/Croplife Kenya

Partner List	Agrochemical Association of Kenya/Croplife Kenya, Koppert Biological Systems, County Governments (Makueni, Nakuru, Narok, Nyandarua, Kajiado, Bungoma) and Pest Control Products Board (PCPB)
No. of beneficiaries involved	At least 8853 farmers (5032 males, 3821 females) reached by SSPs (2097 farmers reached in 2016, 1708 farmers in 2017, 5048 farmers in 2018). 1374 farmers adopted SSP services (654 adopted in 2016, 536 in 2017, 184 in 2018). 483 SSPs engaged (477 males, 6 females)
Co-Investment	Contribution by SNV — € 128,903 Contribution by AAK — € 119,674 Total budget — € 248,577
Date	August 2016 — March 2019

Rationale for the business case

Agrochemical Association of Kenya/Croplife Kenya (AAK), the umbrella organisation for manufacturers, importers and distributors of pest control products, works on the frontlines of the pesticide industry by facilitating responsible management of pest control solutions for improved agricultural production, public health and environmental protection. Despite the fact that AAK has been training farmers on responsible use of pesticides and Integrated Pest Management (IPM) as part of its stewardship programs, many farmers still do not understand the concept of IPM and the dynamics around safe use of agrochemicals. Consequently, AAK introduced the Spray Service Providers (SSPs) model in order to address food safety concerns associated with potential agrochemical misuse. AAK's roll out of spray services through youth trained on proper agrochemical application and Integrated Pest Management (IPM) was envisioned to safeguard farmers and consumers of horticultural produce against chemical residues in food and pollution

to the environment. Working with the Pest Control Products Board (PCPB), the business case aimed to reach 9,000 farmers across 6 counties.

It was expected that 480 spray service provision jobs would be created for youth as a result of the intervention, with target farmers subsequently adopting responsible agrochemical use and Integrated Pest Management (IPM). This would then result in increased yields and farmer incomes as well as a reduction of on-farm losses due to pest infestation. At the market level, consumers would benefit from enhanced access to safe food commodities free of chemical residues. The network of spray service providers established was envisioned to enhance AAK's cost-effective reach to farmers while enhancing the organisation's role as an industry association through its active participation in farmer field days and other public fora. This would also position AAK as a system change agent.

Intervention process

SNV supported AAK by facilitating technical capacity building of SSPs through a Training of Trainers (ToT) model. PCPB's role in this business case was to certify SSPs in order to affirm their competence in proper use of pesticides and IPM. AAK partnered with the target County governments and CBOs to support the recruitment process of spray service providers, identify priority value chains in various counties as well as support adoption of SSPs among by farmers. AAK trained SSPs on IPM, Integrated Soil Fertility Management (ISFM), safe use of

pesticides and entrepreneurship while Koppert provided biological control options during the IPM training. AAK conducted 71 field days through which SSPs established contact with farmers to whom they provided spraying services. HortIMPACT also supported AAK in the development of a documentary that was used to sensitize farmers and other industry players on the safe use of agrochemicals. As part of the intervention, AAK was also supported to set up collection points for responsible disposal of pesticide containers by the SSPs.

Results



477 Men
6 Women

483 SSP's trained

483 SSPs (477 male and 6 female) — 75% actively offering services



8,853 Farmers

Farmers sensitized on safe use of agrochemicals, between 2016 and 2018



1,374 Farmers

Adoption of IPM and judicious use of chemical pesticides by farmers: 1,374 farmers procured SSP services (16% of farmers sensitized)



KES 10,000

SSPs reported earning an average annual minimum gross profit of KES 10,000 to a maximum of KES 400,000 from spraying service provision.

Systemic change and scaling potential

Notable adaptation in this business case has been the incorporation of other services by SSPs such as linking farmers to markets and providing fumigation services. A few exporters such as Keitt Exporters, Freshken Agro Producers, Alfa Springs Trading and MoFarm Exporters also reported utilising SSPs in agronomy support and produce aggregation. It is however noted that in order to expand the model to additional geographical areas, significant financial resources would be required for the identification, onboarding and training of SSPs, a cost that is currently beyond AAK's financial capacity. The organisation however has the potential to leverage its private-sector membership to fund and formalise the SSP model throughout the country. Prior to scaling, it

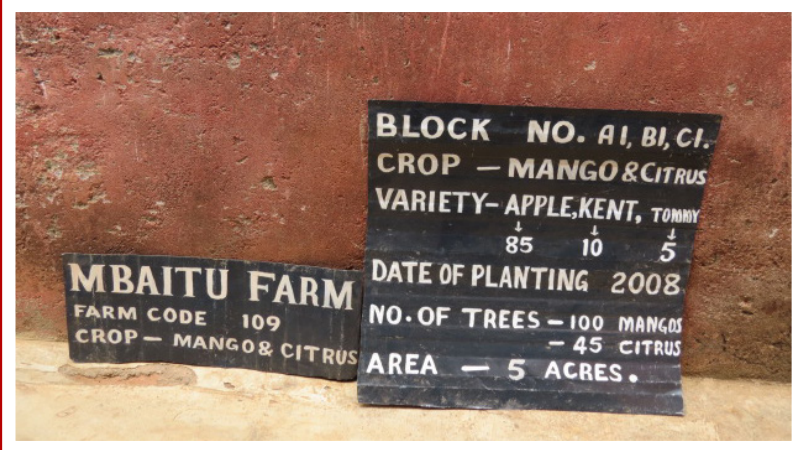
is however critical that the revenue model for SSPs as well as incremental benefits accruing to the farmers are analysed in order to ascertain incentives for both SSPs and farmers to engage. Presently, the sector has responded positively to the model, with some county governments supporting SSPs by incorporating them under the Ministry of Agriculture offices, utilising them to spray agrochemicals that were donated by county governments to fight Fall Army Worms (FAW) as well as promoting their services through agricultural shows. In addition, PCPB's participation in certifying SSPs creates an enabling environment for increased adoption by other market players.

Lessons learnt

- The viability of the professional SSP model is predicated upon a robust revenue model for participating youth.
- National roll out of the SSP model requires significant investment hence the need to sustainably anchor it within a public-private partnership prior to expansion.
- Given the perceived risk and unpredictability of agricultural production due to the effects of climate change, most farmers shy away from incurring additional costs including spray services. The SSP model should therefore be incorporated in a robust package that avails incremental benefits to farmers.

"Since I started using the services of Makueni Agricultural Service Providers Association, I noted an increase in my harvest last year and their marketing helped me earn more"

- Isabell Mbuya, Makueni farmer



Partner List	International Partnerships Services East Africa Limited (IPSEA), and Ferm-O-Feed BV.
No. of farmers involved	1,570 farmers (1056 males, 515 females) in 25 counties
Co-Investment	Contribution by Ferm-O-Feed - € 13,000 Contribution by IPSEA - € 15,000 Contribution by HortIMPACT - € 20,000 Total budget - € 48,000
Date	May 2018 to April 2019

Rationale for the business case

Kenya's agricultural areas are increasingly characterised by soils deficient in crucial plant nutrients and organic matter necessary for optimum productivity. Farmers' overuse of inorganic fertilizers has shown deterioration of soil quality. Continuous use of manure on the other hand carries risks of increase in nematodes which negatively affect plants. Ferm-O-Feed, a Dutch manufacturer of organic fertilizer, sought to address these challenges through their Fertiplus 4-3-3-65 fertilizer; a granular organic fertilizer that contains macronutrients, secondary and trace elements. The company partnered with IPSEA to distribute the product in the Kenyan market as a better alternative for farmers to increase their yields and incomes. Given that IPSEA operates as a bulk supplier of Fertiplus to large-scale commercial farms, the intervention was designed to enhance smallholder farmers' awareness and access to Fertiplus.

The intervention was intended to reach 700 farmers through participation in 24 training demonstration sites located across 12 counties. It was to promote usage of Fertiplus to restore soil health leading to enhanced climate adaptation as well as stable and increased yields. Trials were conducted by IPSEA in collaboration with the Kenya Plant Health Inspectorate Service (KEPHIS) to establish the viability of Ferm-O-Feed's organic fertilizer as a safe alternative to conventional products and to build credence amongst SME farmers. The business was also to benefit from increased sales as a result of the services of youth trained to serve as Fertiplus ambassadors. This would increase the company's capacity to distribute Fertiplus to smallholder farmers.

Potential benefits for the beneficiaries

12 demonstration sites were set up in 12 counties and managed by county extension officers, IPSEA's agronomists and participating farmer groups. Selection of the counties achieved a good representation of various soils, crops, weather and economic profiles of farmers. Fruits and vegetables were the focus crops but some sites also had maize and rice. Farmers were recruited through IPSEA's network of agronomists, local farmer groups and county government officials. Ferm-O-Feed provided product knowledge and application guidelines to IPSEA while KEPHIS tracked the product's performance

and confirmed that the Fertiplus met its specifications. IPSEA collated and analysed data on the performance of the demo plots with results used to train farmers on the fertilizer's proper usage in regards to rates, timings, application and formulation. Following the implementation of the demonstrations, HortIMPACT facilitated a Netherlands Senior Experts (PUM) mission to IPSEA to support improvements in its business model for effective farmer reach and support, improved customer retention and sustainability.

Results

Demo plots Established



141

Counties Coverage



25

Farmers Outreach



1,570

IPSEA's cooperation with the government (MOALF, KEPHIS, NIB and county governments) helped to achieve a significantly wider outreach than was intended. This was possible because of shared objectives between state agencies and the business.

Actual volume of sales



85.75 tonnes

IPSEA had distributed 3,430 bags of 25 kg each to smallholder farmers over a 6-month period.

Actual value of sales



KES 4.6 million

At a selling price of KES 1,350 per bag, 3,430 bags generated more than KES 4 million.

Systemic change and scaling potential

Following the intervention, IPSEA invested in additional demo sites beyond the initial project's target areas. Further, it is establishing nine distributions outlets in 8 counties. IPSEA is improving its lead-farmer distribution model and packaging to avail small packs that are affordable to smallholder farmers. This success has inadvertently resulted in the emergence of other businesses marketing organic fertilizers. Partnership with

national government agencies and county governments in establishing and managing the demonstration plots enhanced impartiality of the trial results and improved sector goodwill and trust. With a growing demand for Fertiplus fertilizer, IPSEA has increased its warehouse capacity to consistently serve farmers and to leverage as a bank guarantee for favourable credit terms from Ferm-O-Feed.

Lessons learnt

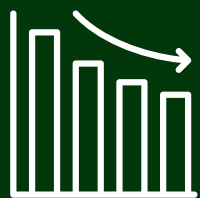
- Demonstrations were effective in introducing Fertiplus to new farmers but they are costly to operate and follow up with farmers is not consistent. Businesses such as IPSEA need regional hubs to foster lasting relationships with farmers. Such hubs could serve as consistent demonstration outlets.
- Cooperation with other initiatives promoting technologies such as seed and bio-pesticides to farmers could achieve wider outreach at a marginal cost. A single company operating demonstration farms may however be difficult to sustain hence the need for cooperation with complementary products in order to make the venture cost-effective.



"Partnering with HortIMPACT was crucial in accelerating our company's market penetration amongst horticultural small-scale farmers in Kenya. Without this partnership it would have taken years for IPSEA to showcase Fertiplus organic fertilizer's capabilities across 8 counties"

Mr. Hezron Arunga: Managing Director, IPSEA Ltd.





Reduction of Food Losses



Burton & Bamber

PHASE 1

Partner List	Burton and Bamber, Carrefour, Naivas and Chandarana supermarkets, Zucchini Green Grocers, Agrostep Limited and Ithanga farmers group.
No. of farmers involved	84 farmers trained on good agricultural practices and engaged in mango supply to B&B in Mbiuni (50) and Ithanga (34) areas of Machakos county. Out of the 34 farmers (23 Male, 11 Female) trained on Global GAP in Ithanga, Machakos, 21 farmers (16 Male and 5 Female) attained Global GAP Certification
Co-Investment	Contribution by SNV — € 39,544 Contribution by B&B — € 39,544 Total budget – € 79,088
Date	November 2016 to December 2017

Rationale for the business case

In most developing countries, food security amidst growing populations is an increasing challenge with post-harvest losses (PHL) resulting in the loss of one-third of all food that is produced for human consumption globally (FAO). This has consequently become a key priority for most governments and development agencies. In Kenya, an estimated 40 to 45 percent of mangoes harvested every year are lost due to limited value addition and poor access to markets which affects smallholder farmers' livelihoods through loss of revenue. In an effort to reduce PHL in the value chain, Burton and Bamber ventured into value addition of fresh mangoes into dried fruit in 2015. The firm however needed support in organizing farmers, training them on good agricultural practices and certifying them under Global GAP in order to improve the quality

of mangoes supplied. HortIMPACT therefore partnered with Burton and Bamber (B&B) in 2016 to train and certify farmers with the expectation that the firm's value addition would contribute significantly towards reducing PHL in the mango value chain while Global GAP certification would attract premium prices for certified smallholder farmers thereby resulting in increased incomes.

In addition, the intervention invested in a marketing campaign that was envisioned to enhance B&B's dried fruit sales marketed under the Sweetunda brand, in both the domestic and export markets. This activity was projected to grow the company's sales by at least 30 percent whilst enabling access to international markets such as Europe and the Middle East.

Intervention process

SNV supported B&B in undertaking a comprehensive marketing campaign that entailed promotion events and product sampling, development of free-standing units, website development, social media advertising, product development and participation at food expos in Berlin and Dubai. In-store promotions were also carried out

in Carrefour supermarket, Zucchini green grocers and Chandarana supermarket amongst others. The company was also supported to roll out new Sweetunda packages of 35g, 100g and 200g in addition to farmer trainings on good agricultural practices with a select number certified under Global GAP.

Results

Farmers trained



1,072 Farmers

In 2017 B&B trained 1,072 farmers and procured mangoes from 34 farmers in Ithanga and Mbiuni, both of which are located in Machakos County.

Increased farmer incomes



78 Tonnes

78 tons of mangoes were purchased from farmers, at an average price of KES 14 per kilo up from KES 10 per kilo offered by brokers. Surplus quantities of mangoes were sold to two juice processors, arrangements that B&B facilitated.

Farmers certified under Global GAP



21 Farmers

21 farmers (16 Male, 5 Female) out of the 34 that were trained in Ithanga, were certified under Global GAP.

Reduction of post-harvest losses



3-4% Reduced Rejection Rate

B&B reported that Global GAP trained farmers recorded a 3-4 percent rejection rate of mangoes supplied compared to uncertified or new farmers groups who typically record a 35 percent rejection rate.

Business sales

3^x

B&B sales tripled as a result of the marketing campaign and sales promotion.



PHASE 2

Partner List	Burton and Bamber and ProFound (Advisors in Development)
Number of farmers involved	Farmer numbers remained the same as in Phase 1. However, the 21 farmers certified under Global GAP in Ithanga were re-certified.
Co-Investment	Contribution by SNV — € 37,000 Contribution by B&B — € 37,000 Total budget – 74,000
Date	October 2017 to March 2019

Rationale for phase 2

Under phase 1 of the intervention, B&B significantly increased its fresh mango supply base amongst smallholder farmers which resulted in the supply of surplus volumes of fresh mangoes. The promotion of B&B's Sweetunda brand in the domestic market, albeit successful in tripling the firm's sales, faced limited growth potential locally. This necessitated entry into export

markets. Phase 2 was intended to contribute towards increased dried fruit sales volumes through entry into international markets and investment in increased processing capacity. This two-pronged intervention would result in enhanced uptake of fresh mangoes from smallholder farmers thereby increasing their incomes while B&B would benefit from increased sales.

Intervention process

HortiIMPACT supported B&B by engaging ProFound to undertake a market study on the dried fruit market in the European Union. Having established that there was demand for dried fruits in markets such as United Kingdom, Italy and Netherlands, HortiIMPACT contracted a consultant to support B&B in improving the dried fruit quality and in streamlining processing to meet

international buyer requirements. The intervention also supported B&B in acquiring an electric hot-air drying machine while contributing towards renovations of a newly-leased processing facility in Yatta constituency, Machakos County. The new facility has an installed capacity of 4 tonnes of dried mangoes every 14 hours up from 2.5 tonnes in the previous facility.

Systemic change and scaling potential

B&B adopted Global GAP certification for its smallholder farmer suppliers in order to bolster its dried fruit exports. At factory level, the business adopted new processing techniques to meet international buyer requirements. Given the high cost and laborious certification process, the business is yet to fully adapt the mandatory Global GAP certification for all its mango suppliers in order to grow

its export market. In addition, the business' limited scale and profitability inhibits B&B from investing its own funds in farmer certification. Even though the niche nature of the dried fruit market may present a challenge in scaling within the domestic market, the firm's performance has the potential to be significantly buttressed by export sales.

"This intervention has enabled farmers earn higher incomes due to reduced post-harvest losses after being certified with GAP ".

Mrs. Molly Akinyi: Production Manager, Burton & Bamber Company Ltd.,

Results

Conversion rate from fresh mangoes to dried mangoes

 **6.32%**

In July 2019, B&B recorded a conversion rate of 6.32% at the new Yatta facility compared to the previous 4%.

Increase in farmer incomes

 **KES 17/kg**


Farmers certified under Global GAP are offered KES 17 per kilogram of mangoes supplied up from KES 14 per kilogram.

Increased processing capacity

 **4 tonnes**

4 tonnes per day from the previous 2.5 tonnes per day.

Orders from international buyers

 Sweden, China, Netherlands and the United Kingdom.

Lessons learnt

- Realizing systemic change in a niche market such as the dried fruits industry that is nascent to Kenya presents a challenge, hence the need for investment aimed at penetrating export markets.
- Even though the Global GAP certification for farmers enables B&B to gain entry into international markets, lack of factory certification (ISO 22000 and GFSI FSSC 20000 certification) impedes effective reach.
- The incremental value realized by farmers certified under Global GAP is not significant enough to incentivise farmers' investment in their own certification, hence the need for B&B to factor in the associated fees in its cost structure.

Meru Greens EPZ Limited

Partner List	Meru Greens Horticulture EPZ, Aberdare Bloom, Geerlofs and Hygrotech Ltd.
Number of farmers involved	Farmers (35% women, 25% youth); 3,500 farmers in Nandi and 2,500 in Meru
Co-Investment	Contribution by Meru Greens: € 89,000 Contribution by Aberdare bloom: € 12,000 Contribution by SNV: € 90,000 Total budget: € 191,000
Date	October 2019 to March 2019

Rationale for the business case

The vegetable export sector in Kenya has fairly well-developed supply chains. The cold chain starts at the pack house of exporters, due to limited investment in cold stores located in production areas. This contributes to losses for farmers and exporters because of dehydration, rigid harvest times causing frequent overgrowth, like is the case with beans, and less than optimal transport volumes. These factors, common across the industry, have contributed to losses of up to 23 percent of French beans for Meru Greens Horticulture EPZ Limited, a French bean processor and exporter. The company sought HortIMPACT's support to set up cold storage facilities at

the firm's collections centres, complemented with training and certifying contracted farmers under Global GAP. This was expected to reduce the loss of produce supplied by farmers, while enabling them to harvest and supply daily, thereby reducing volumes of overgrown French beans and rejects. Dehydration of beans was expected to reduce as well, via quick cooling in the field prior to transport. French beans that would eventually be rejected for cosmetic reasons, were planned for distribution in the domestic market, packaged in stir-fry formulations sold by Aberdare Bloom Ltd in supermarkets.

Intervention process

Two 10 tonne cold storage units were set up at Meru Greens' collection centres in Meru and Nandi with HortIMPACT's support. The store in Meru was set up on land owned by Meru Greens; the one in Nandi with land and offices provided by the County Government. Geerlofs, a Dutch technology company, built the stores. To cater for increased volumes of produce from the field, Meru Greens set up additional storage capacity of 60 tonnes

at the factory in Nairobi. Meru Greens also involved the seed supplier, Hygrotech Ltd, to build the capacity of its extension staff on best practices in French beans management. This would achieve high product quality and consistently maintain high yields. The extension staff provided support to farmers on Good Agricultural Practices.



Results



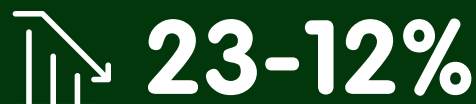
Farmers contracted to supply French beans: Meru Greens contracted 2,500 and 3,500 farmers in Meru and Nandi respectively; 35 percent were women and 25 percent were within the youth bracket.



Farmers trained and certified under Global GAP.



French beans' daily intake volumes increased by 25 percent (from 8 to 10 tonnes) in Meru and by 50 percent (8 to 12 tonnes) in Nandi.



Rejection of farmer produce at farm level reduced from 23 percent to 12 percent.

Systemic change and scaling potential

Farmers linked to Meru Greens are not only using the cold storage units for French beans, but also for other crops like cabbages, courgettes, capsicums and tomatoes. The Nandi County Government appreciated the impact of cold storage and identified other locations where similar infrastructure can be of benefit; they indicated intentions to set up basic infrastructure such as land, shades and water supply systems, making it easy for businesses like Meru Greens to set up storage. Vihiga County also offered land to Meru Greens for cold storage installation

in production areas, along with sourcing of French beans and other produce like baby corn from the county's farmers. Meru Greens is also exploring the potential leasing of an HCD cold storage facility in Mwea, to serve its Kirinyaga farmers. Financial service providers such as the Kenya Commercial Bank (KCB) through its Mobigrow program are also keen to provide credit services to farmers based on the contracts farmers have with Meru Greens.

Lessons learned

- Meru Greens investing in cold storage in the field has led to subsequent investment in extension support and input supply to farmers. Cold storage infrastructure is likely to lead to more investment by off-takers close to farmers and build better business relationships compared to the prevailing norm where exporters do not have physical presence.
- The industry norm where rejects resulting from inefficiencies in the cold chain are absorbed by farmers, provides limited incentives for off-takers to improve agricultural produce cold chains through investment in field cold stores. This, despite the investments' economic viability.
- There is potential to replicate the field-based cold storage model in other horticultural value chains, including those targeting the domestic market through public-private partnerships that incorporate off-takers.

"We are thankful to SNV and Meru Greens since they introduced us to a commercial horticultural crop that we had never planted before. Its returns are good and we can harvest almost daily and deliver to grading shades and the cold storage center. This has enabled us not to lose our harvests"

Mr. Barnabas Maru: Nandi County French beans Contracted farmer, Meru Greens.

Sereni Fries

Partner List	Sereni Fries, Geerlofs Limited and Kisima Farm.
Number of beneficiaries involved	524 farmers (277 male, 247 female and 210 youth) from 10 farmer groups in Nyandarua County.
Co-Investment	Contribution by SNV — € 140,000 Contribution by Sereni Fries — € 140,000 Total budget – € 280,000
Date	June 2018 — September 2019

Rationale for the business case

Potato is the second highest consumed staple crop in Kenya after maize. It is grown by an estimated 800,000 farmers and is crucial for the country's food security. The sector, however, faces challenges like limited access to quality seeds, weak farmer extension, limited value addition, poor post-harvest storage infrastructure and inadequate market linkages. In order to address the

challenge associated with limited post-harvest storage infrastructure, Sereni Fries partnered with HortIMPACT to implement a business case on potato cold storage. This would enable Sereni Fries to procure increased ware potato volumes from contracted farmers and demonstrate the need for increased investment in similar facilities to reduce post-harvest losses.

Intervention process

A feasibility study undertaken by Wageningen University prior to the intervention to assess the viability of ware potato cold storage in Kenya established that at least 500 tonnes storage capacity is required for a store to be cost-effective. These facilities would ideally target usage by processors, farmer organisations or large traders. HortIMPACT supported Sereni Fries, a French fries and crisps processor, with a matching grant and technical assistance to establish business systems necessary for ware potato cold storage with sourcing from SME farmers. Support provided included a business plan to set up and operate a ware potato cold store, improving the extension mechanisms to supplying farmers and capacity building for staff to coordinate and manage farmer support. Sereni

Fries trained farmers in Mau, Narok and Nyandarua on Good Agricultural Practices (GAP) for enhanced production of Dutch Robijn, Unica and Destiny potato varieties. The firm worked with organised farmer groups to enhance ease of aggregation and access to inputs like certified seed and pesticides. Geerlofs, a Dutch cold storage technology development company, constructed the 500-tonne cold storage unit in Naivasha to receive produce from farmers located in Nyandarua and Nakuru. Kisima Farm Ltd, a seed producer, supplied Dutch Robijn potato seeds to Sereni Fries for onward distribution to farmers, while Tower SACCO advanced credit to farmers for the purchase of seeds, fertiliser and pesticide.



Results



524 Farmers

Farmers trained on GAP and financial management: 524 farmers from 10 farmer groups in Nyandarua and Nakuru Counties.



94 Acres

Acreage under potato production: A total of 94 acres out of which 42 acres were put under Dutch Robijn variety and 52 acres under Unica and Destiny varieties.



126 Contracted Farmers

126 farmers were contracted to supply potatoes with the cold storage enabling Sereni Fries to serve as a guaranteed market offering a favourable price to farmers.



40% Reduction

Reduced cost of raw materials: The business is expected to progressively reduce the cost of raw materials by up to 40% due to the increased supply and storage capacity.

Systemic change and scaling potential

The cold storage facility enabled Sereni Fries to guarantee uptake of significant volumes of quality potato from contracted farmers. This further incentivised the firm to support farmers with training on GAP and facilitate their access to credit for inputs, resulting in improved coordination in the value chain. In addition to this, the firm pursues a partnership with 'Tinga', an agricultural mechanisation service provider to supply tilling services to farmers. Increased investment in storage infrastructure intends to catalyse further partnerships and coordination

in the value chain. Moreover, Nakuru County Government expressed interest in supporting investments in potato cold storage facilities through a PPP arrangement with Sereni Fries. Other public and private sector players like the County Governments of Narok and Nandi; processors including Norda Industries and Tropical Heat; service providers such as Tinga, Quipbank and farmer cooperatives (Mau Narok Farmers SACCO) have also shown interest in the potato cold storage business model.

Lessons learned

- Some of the contracted farmers were unable to produce potatoes meeting Sereni Fries' quality requirements, a factor that could limit private sector investment in cold storage. A large capacity cold store, therefore, requires a mix of both small-scale and medium-to-large scale farmers to secure adequate supply volumes of potatoes alongside increased investment in services aimed at improved yields and quality of produce.
- Owing to risks associated with erratic weather patterns, the adoption of crop insurance among other mitigation measures should be explored in order to ensure reliable supply of produce to the off-taker. This will enhance adherence to contractual obligations between farmers, the off-taker and providers of inputs and financial services.

"Sereni Fries, Tower Sacco and SNV's initiative has provided us with a reliable potato marketing system that reduces reliance on brokers while also giving us access to credit and allowing us to access quality inputs on time. I am very pleased with this and I am recruiting my relatives and friends 'tulime kisasa' (to adopt modern farming practices)."

Mr. Mary Wangui: Sereni Fries contracted potato farmer, Nyandarua County.







HortIMPACT in numbers

HortIMPACT worked with different value chain partners to contribute to the strengthening of the Kenya Horticulture Sector. Through these collaborations, tangible results were obtained that, in specific ways, benefit the sector, and improve the livelihoods of the people who make their living with horticulture.



16

Business Cases
Co-Financed



10

Innovations Co-
Financed



45

Dutch and Kenyan
companies
engaged



44,342

SME farmers
reached with
innovative fruits and
vegetable production
technologies



244

Number of horticulture
stakeholders engaged
with regard to
HortIMPACT's focus
themes



10

County Governments
supported with
solutions to improve
food safety

15 Studies done with regard to HortIMPACT's focus themes¹



5

Studies on inclusion of
SME farmers:



6

Studies on
improvement of food
safety



4

Studies on reduction
of post-harvest
losses

¹) All of HortIMPACT studies can be found in the library section of www.snv.org/project/hortimpact

Engagement with industry associations, government regulatory bodies and county governments



HortIMPACT worked with numerous national government agencies, County governments, regulatory bodies and industry associations during its project period to catalyze changes in the various horticulture value chains.

Especially around the theme of food safety, the project has worked closely with the Horticulture Crops Directorate (HCD), the Kenya Plant Health Inspectorate Service (KEPHIS), the Pest Control Products Board (PCPB) and the NFSCC (National Food Safety Coordination Committee) amongst others to promote the development and awareness on the Kenya Food Safety Standard 1758 Part 2 for Fruits and Vegetables. Awareness raising of the retail sector and hotels and restaurants has been supported. From July 2019 onwards, HortIMPACT participates actively in the newly established National Horticulture Technical Transformation Working Group.

Also at county level, with support of the Voice for Change Program and county governments, HortIMPACT shared the knowledge it has garnered from numerous studies commissioned.. In relation to reduction of food losses through storage, HortIMPACT has promoted PPPs, like the collaboration between Meru Greens and the county government of Nandi, as well as in Nakuru on potato storage.

HortIMPACT has also worked with industry associations like FPEAK with whom the project partnered in 2017 and 2018 to convene a Fruits and Vegetables conference focused on food safety in the domestic market. The project worked hand in hand with the Hoteliers' association and RETRAK to sensitize members on the Kenyan local standard on food safety and advocate for traceability at consumer level.

Lastly, the National Potato Council of Kenya (NPCK) was supported in the sharing of industry information by supporting conferences with stakeholders in the industry in 2017 and 2018.



Lessons learned and building blocks for follow-up interventions

The majority of HortIMPACT's initiatives were successful in demonstrating the potential of various productive technologies and management practices. The project garnered the following lessons over the 5-year implementation period:

1. It is critical to pre-select and focus on 3-5 value chains with the highest potential for inclusive growth and systemic change.
2. In-depth value chain analyses are a crucial step prior to project implementation as they enable the effective identification of underlying causes of market underperformance including social and financial exclusion. Furthermore, this process enables the identification of key bottlenecks and opportunities to focus on for evidence-based intervention design.
3. Market actor mapping is also important at the project outset to help identify and select potential partners that have the best fit to tackle identified bottlenecks across the market system. This would also allow for co-creation of interventions with selected partners based on market study findings.
4. In order to ensure rapid uptake and roll out of new technologies, it is imperative that established companies with proven track record in the target sectors are engaged in tripartite arrangements with other actors such as off-takers and financial service providers. Such market linkages will ensure that investment in Global GAP certification, produce storage, mechanization, traceability and extension support among other technologies and services delivers a win-win situation for farmers, off-taker and other service providers involved. However, the intervention should be guided by market needs and requirements.
5. To test different approaches and partners aimed at addressing main bottlenecks in the target value chains, it might be good to undertake short small pilots with various market actors.
6. The scaling scan¹ and AAER framework² are effective tools for analysing systemic change potential and should be utilised in guiding scaling plans from the project's outset.
7. To stimulate more systemic change and scaling, it is more effective to support the growth of market support functions through service providers as business partners. This will facilitate effective entrenchment of support services that can be utilised by more diverse value chain actors and in this way attain more scale and impact.
8. Given that access to finance is one of the major hurdles in scaling proven technologies including copying by farmers and crowding in of more enterprises, it is crucial to work from the start with financial service providers in promotion of special financial solutions such as leasing and demonstrating profitability of investments made. Some of the successful credit and finance-related interventions in HortIMPACT's activities included pre-financing of inputs and assets linked to contracts with financial service providers and off-takers through Agri-Wallet, as well as promoting value chain finance through input providers such as Madaraka with Amiran.
9. To support dissemination of key learnings from on-going interventions, investing in the communication function of the project and especially collaboration with the media proved to be very useful in reaching other market actors in the sector. This further stimulates crowding in and copying of piloted solutions which may be utilised by other industry players.
10. More attention from the start for support functions to strengthen farmer groups and cooperatives in linking farmers to markets and finance would have contributed to more sustainability and scaling.
11. In most agricultural systems, youth and women have limited ownership of productive assets such as land and are often excluded from making strategic decisions that impact on farming practices and investment. This has a direct impact on the adoption and scaling of would-be beneficial technologies among this population segment. Innovative agri-based ventures that have limited asset requirements are therefore more likely to attract more youth and women. In addition, women are usually more involved in the value addition or processing stage of the value chain and may access more opportunities there, while youth might be more attracted to service provision to farmers, making use of digital technology and offering last-mile distribution solutions for other agricultural inputs and services.

¹ An instrument developed by the PPP Lab Food & Water in the Netherlands, using 10 ingredients to assess scaling potential.



Conclusion

The 5-year HortIMPACT project was aimed at enhancing the entrepreneurial capacities and performance of SME farmers and companies in the horticulture sector and achieving systemic change related to the themes of SME farmers' inclusion, food losses and food safety. The project was to improve the horticultural sector performance in line with the EKN's Aid to Trade strategy, through interventions that targeted to catalyze markets, support government service delivery and improve public and private sector accountability. Through 16 business cases and 10 innovation cases, the initiative successfully addressed structural issues within the Kenyan horticulture sector which accounts for 65 per cent of the country's export earnings and 33 per cent of the Gross Domestic Product.

HortIMPACT was successful in linking over 44,000 farmers clustered in 39 farmer groups to new markets for export and local food markets working in partnership with 45 Dutch and Kenyan businesses. Furthermore, the project contributed towards positioning food safety as a key national agenda topic and demonstrating pathways through which private sector initiatives can contribute. HortIMPACT was successful in incentivizing private sector companies to reach out to SME farmers willing to co-invest in quality production through a pure market-led approach for enhanced sustainability. The project, which aimed at increasing food security, incomes, and developing a dynamic and sustainable horticulture sector in Kenya supported market actors with technical advice and grants.

A cross-section of 244 public and private sector stakeholders operating in the industry participated in the project in various capacities, with 10 county governments supporting solutions aimed at improving food safety. To elucidate the status of the project's three focus themes, 15 studies were undertaken: 5 on inclusion of SME farmers, 5 on food safety and 5 on reduction of post-harvest losses. The project and its partners implemented interventions that ranged from digital financial service provision, value addition and storage to capacity building of firms, service providers and farmers to meet market requirements in addition to the introduction of KS 1758 to market actors.

Despite HortIMPACT's impact, there is still need for greater systemic change in enhancing food safety and market access while reducing food losses, with climate change and limited water availability continuing to challenge food security. Therefore, it is hoped that the valuable building blocks and lessons learnt from HortIMPACT will be used and taken forward by other public and private actors to further improve the sector's performance, reduce poverty of men, women and youth and increase food security in Kenya.





Partners of HortIMPACT

HortIMPACT's approach involved working with private sector partners, government and research institutes and associations from Kenya and The Netherlands, bringing together different expertise to develop business cases and innovations. Every partner who collaborated with the project, contributed in different ways to the impact HortIMPACT achieved in the Kenya horticulture sector

Partners of HortIMPACT

3R

Aberdare Bloom

Africa Turnaround

Agrico East Africa

Agricultural Development Corporation

(ADC) Molo

AgriMech Africa

Agro Master Fertilizers

Agro Steps

Agrochemical Association of Kenya

Agventure

Amiran

Avocado Society of Kenya

Bayer East Africa Limited

Bosman Van Zaal

Bricken Green

Burton & Bamber

Carrefour

Chandarana Supermarket

CropCare Kenya

Croplife

CropNuts

Dodore

Dudutech

Eprod Solutions

Ferm-O-Feed

FPEAK

Gaea Foods Limited

Geerlofs

Giz - NuSePPP

Grace Rock Farms

Green Rhino

Growpact

Hanse Staalbouw

HCD

Holland Green Tech

Hortipro/Irrico

Hoteliers Association

Hygrotech Ltd

IBMA

IFDC

Illuminum Greenhouses

Initiative for Global Development

Innovare

Inspira Farms

Instaveg

IPSEA Ltd.

John Deere

JP Dekker

KALRO

KASKADE

Kenya Biologics

Kenya Bureau of Statistics

Kenya Highland Seeds

Kenya Horticulture Council

KEPHIS

Kim Planters

Kisima

Koppert Biological Systems

Kuwekeza BV

Laikipia Nature Conservancy

Latia

Livatty

Marcelissen Venlo BV

Mastercard Foundation

Mea

Mister Potato

Mivena Holding BV

Neighbourhood Freshmart Ltd

Novixa International

Ojay Greene

Olivado

Omnivent

PCPB

Permafarm Fresh

ProFound

ProPortion Foundation

PUM

Rabobank Foundation

Real IPM

RentCo

RETRAK

Rijk Zwaan

Rockefeller Foundation

RTI

Sauce with a Cause

Seed to Seed Foundation

Sereni Fries

SGS

SIB Sustainable Inclusive Business

SMEP Microfinance Bank

SOCOA

Soilcares/Agrocares

Syngenta East Africa Limited

Technoserve

Transglobal

Twiga Chemicals

Tymax Agribusiness Solutions

Unilever

University of Nairobi

Urban Coffee

Vijana Reloaded

Wageningen University

Wamu Investments

Yara

Yielder

Cooperatives and farmer groups

'Over the years, HortIMPACT worked with different farmer groups and cooperatives. We would like to thank each and every farmer who collaborated with us; their support, enthusiasm and trust was crucial for the project's development and the results obtained.' – Sigrid Meijer, Project Manager.

NO'S	FARMER GROUP/COOPERATIVES	LOCATION	VALUE CHAIN
1	AgriVijana Youth Groups	Nakuru	Service provision
2	Eor Enkitok F.F.S	Narok	Canola, maize, potatoes
3	George Wanganga Kamiti	Kirinyaga, Nyeri, Embu	Kales, tomatoes, broccoli, Chinese cabbage, red cabbage, leek
4	Isei Farmers Cooperative	Bomet	Avocadoes
5	Ithanga Farmers' SH Group	Machakos	Mango
6	Jambo Horticulture Self Help Group	Kirinyaga, Nyeri, Embu	Kales, tomatoes, broccoli, Chinese cabbage, red cabbage, leek
7	Kabnetuny Women in Coffee Cooperative	Kericho	Passion fruit
8	Kabubungi Farmers Group	Meru	Carrot
9	Kagochi Self Help Farmers Group	Kirinyaga, Nyeri, Embu	Kales, tomatoes, broccoli, Chinese cabbage, red cabbage, leek
10	Kanguyo Horticultural Farmers Group	Kirinyaga, Nyeri, Embu	Kales, tomatoes, broccoli, Chinese cabbage, red cabbage, leek
11	Kasambara Farmer Group	Nakuru	Potato
12	Kayatta Farmers Group	Machakos	Tomatoes, capsicum, pepper
13	KCSEED Farmer Cooperative	Nakuru	Potato and dairy
14	Keringet Community Social Economic and Environment Development Trust Foundation	Nakuru	Potatoes and dairy
15	Kiambogo Farmers Group	Meru	White onion
16	Kibirichia Farmers Group	Meru	Carrot
17	Kimuri Farmer Group	Kirinyaga	Tomato and watermelon
18	Kwa Kyai Farmers' Co-operative	Makueni - Kibwezi	Tomatoes, African leafy vegetables
19	Lessos Horticulture Growers Association	Nandi	Potatoes, French beans
20	Limuru Agribusiness Farmer Group	Limuru	Tomatoes, potatoes, peppers, herbs, cauliflower, African leafy vegetables, carrots
21	Majuni Farmers Group	Nyeri	Lettuce, spinach
22	Makueni Fruit Processors Cooperative	Makueni	Mangoes
23	Matunda Self Help Group	Nyandarua	Potatoes
24	Mau Narok Horticulture Farmers Coop	Nakuru	Potatoes, French beans
25	Miringaine Farmer Cooperative	Nyandarua	Potato and dairy
26	Mulot Farmers Cooperative	Bomet	Avocado
27	Mutarakwa Farmer Group	Meru	Kales
28	Mutige Horticulture Self Help Group	Kirinyaga, Nyeri, Embu	Kales, tomatoes, broccoli, Chinese cabbage, red cabbage, leek
29	Mwea Farmer's Group	Kirinyaga	Tomatoes, potatoes, peppers, herbs, cauliflower, African leafy vegetables, carrots
30	Naari Farmer Group	Meru	Courgette
31	Nchooro Community Based Organisation	Meru	Green leafy vegetables
32	New Molo Farmers Cooperative	Nakuru	Potatoes
33	Ngumbatha Horticultural Farmers Group	Kirinyaga, Nyeri, Embu	Kales, tomatoes, broccoli, Chinese cabbage, red cabbage, leek
34	Nzau Farmers Group	Makueni	Mango, citrus, service provision
35	Olenguruone Farmer Cooperative	Nakuru	Potato and dairy
36	Sapornica Farmer Group	Nyeri	Lettuce
37	Snow View	Nyeri	Lettuce, green capsicum
38	Tumaini Farmer Group	Nyeri	Tomatoes, potatoes, peppers, herbs, cauliflower, African leafy vegetables, carrots
39	Warumi Farmers	Nyeri	Courgette, green capsicum

The HortIMPACT team



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HortiIMPACT: The Story

2015 - 2019

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Solidaridad



Kingdom of the Netherlands