Report of the Final Evaluation of the Kenya Market-led Horticulture Project

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By
Pol De Greve, ISConsulting, Mechelen, Belgium
Thomas Obiero Were, Agile Consulting, Nairobi, Kenya
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<th>Description</th>
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<tr>
<td>AAER</td>
<td>Adapt, Adopt, Expand, Respond – tool developed by The Springfield Centre</td>
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<td>AAK</td>
<td>Agrochemicals Associations of Kenya</td>
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<td>ASDS</td>
<td>Agriculture Sector Development Strategy</td>
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<tr>
<td>B&amp;B</td>
<td>Burton &amp; Bamber</td>
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<tr>
<td>B&amp;B</td>
<td>Burton &amp; Bamber (BC6)</td>
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<tr>
<td>BC</td>
<td>Business Case</td>
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<tr>
<td>CBO</td>
<td>Community Based Organisation</td>
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<td>EAMDA</td>
<td>East Africa Market Development Associates</td>
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<td>EKN</td>
<td>Embassy of the Kingdom of the Netherlands</td>
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<td>FPC</td>
<td>Fresh Produce Council</td>
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<td>FPEAK</td>
<td>Fresh Produce Export Association of Kenya</td>
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<td>GoK</td>
<td>Government of Kenya</td>
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<tr>
<td>HCD</td>
<td>Horticulture Crop Directorate</td>
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<tr>
<td>IBMA</td>
<td>International Biocontrol Manufacturers Association</td>
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<td>IPM</td>
<td>Integrated pest management</td>
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<tr>
<td>KALRO</td>
<td>Kenya Agriculture and Livestock Research Organisation</td>
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<td>KCDMS</td>
<td>Kenya Crop &amp; Dairy Market System Development Programme (USAID)</td>
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<td>KEBS</td>
<td>Kenya Bureau of Standards</td>
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<td>KEPHIS</td>
<td>Kenya Plant Health Inspectorate Service</td>
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<td>KES</td>
<td>Kenya Shilling</td>
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<tr>
<td>KMHP</td>
<td>Kenya Market-led Horticulture Project also known as HortIMPACT</td>
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<td>MASP</td>
<td>Multi Annual Strategic Plan (of EKN)</td>
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<td>MOALF</td>
<td>Ministry of Agriculture, Livestock and Fisheries</td>
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<td>MSME</td>
<td>Micro, Small and Medium Establishment</td>
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<td>MTR</td>
<td>Mid-Term Review</td>
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<td>NHTWG</td>
<td>National Horticulture Technical Working Group</td>
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<td>NPCK</td>
<td>National Potato Council of Kenya</td>
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<td>PCPB</td>
<td>Pest Control Products Board</td>
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<tr>
<td>PPE</td>
<td>Personal Protective Equipment</td>
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<tr>
<td>PPPLab</td>
<td>Public Private Partnership Lab (supported by Netherlands Ministry Foreign Affairs)</td>
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<tr>
<td>SD4All</td>
<td>Sustainable Diets for All (HIVOS, IIED, Article 19)</td>
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<td>SME Farmers</td>
<td>Small- and Medium-Scale Farmers</td>
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<td>ToC</td>
<td>Theory of Change</td>
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<td>ToT</td>
<td>Training of Trainers</td>
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<td>V4CP</td>
<td>Voice for Change Partnership (SNV – IFPRI)</td>
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Executive Summary

The goal of the Kenya Market-led Horticulture Project (KMHP) – also known as HortIMPACT – was to contribute to increased food security, increased incomes and a dynamic and sustainable horticulture sector in Kenya. KMHP was funded by the Embassy of the Kingdom of the Netherlands (EKN) in Kenya and implemented by a consortium consisting of SNV (as lead agency), Delphy, HIVOS and Solidaridad East and Central Africa. KMHP focussed on private sector development to (1) strengthen entrepreneurial capacities and performance of small and medium sized farmers and companies, and (2) address systemic challenges related to food safety and food losses in the horticulture sector as well as inclusion of small and medium sized farmers in market-oriented supply chains.

The project closely cooperated with Dutch and Kenyan entrepreneurs and made use of their advanced technologies, products and market linkages in business cases and through specific innovations. KMHP also addressed policy- and market-related systemic issues at different levels.

As project funding by the EKN is ending in 2019, this final evaluation was expected to reflect on its achievements at the two key outcome levels with specific (but not exclusive) focus on aspects of effectiveness, sustainability, relevance and feasibility of upscaling of successful innovations. The evaluation was expected to contribute to reflections among key stakeholders and to organisational learning within the consortium and beyond, with a view to contribute to sector-wide innovation and development in and outside Kenya.

Data collection and analysis was done using a mixed-methods approach. At the level of business cases, the assessment was mainly qualitative in nature. Through FGDs and semi-structured with project stakeholders interviews, complemented with secondary material and M&E data, light-touch process tracing was applied on 4 selected Business Cases to capture dynamics of change that may have created opportunities for scaling up of good practices and eventually resulted in broader, more systemic change.

Subsequently at project level the evaluators used the existing quantitative data from the M&E system to perform outcome mapping which they complemented with qualitative assessment based on project documents and semi-structured interviews. In this process, there was a specific focus on the relevance and applicability of the project’s design features and intended approach. In addition, attention was paid to organisational issues, governance and the perceived added value of the consortium.

The design of the project was based on a robust Theory of Change that has a dual focus of private sector development next to establishment of an enabling policy and institutional environment. The evaluation established proof of concept for this approach. Private sector initiative was central to the project’s design, notably by its focus on business cases and innovations as the core features of its approach, in fact more strongly so than its institutional or policy focus. Offering support to innovations was also a strong feature in project design as it created – otherwise often rare - space for private sector actors for pilots and experiments with new innovative and often as yet untested technologies or services. Establishing proof of concept of such innovative solutions indeed opened the gateway to a more widespread adoption by market actors and may eventually lead to systemic change. A weakness in design was the fact that selection of cases was not based on a comprehensive assessment of the opportunities and systemic challenges in a specific sector or value chain. As a result, the focus in selection was often on opportunities for realising technological solutions offered by Dutch-Kenyan companies.

The choice to work along the three thematic areas of (1) inclusion of small and medium sized farmers in market-oriented supply chains, (2) food safety and integrated crop protection, and (3) food losses and efficiency in supply chains was found to be very relevant to the sector. It can
therefore be concluded that the business case project model can indeed be an effective way to connect private businesses with SME farmers and companies for inclusive value chain development in horticulture as well as to resolve challenges in areas of food safety and food losses.

Confirming the logic behind the ToC, challenges in upscaling of business cases showed that indeed, business cases must be complemented and balanced with interventions that aim to create an enabling environment with institutions, organisations, policies, and regulations whereby public, private and civic actors collaborate towards realisation of the shared goals.

It was found that the implementation phase was too short really to establish robust evidence of systemic change in the sector. However, in the four cases that were studied in more detail, there was anecdotal evidence pointing towards a potential contribution to systemic change with time. Stronger linkages to other (complementary) projects of SNV and other agencies, and more resources to catalyse processes and other supporting functions within the market system would as well have aided KMHP’s contribution to sector development. The importance to address these aspects was implicit in the KHMP 2019 ambition to “lift from project to sector-wide multi-partner business models” but, as indicated, time was then too short to effectively realise this excellent ambition.

The evaluation team concluded that some of the project’s most prominent achievements were realised in areas such as:

- reaching-out to over 40,000 SME farmers linking them with private sector businesses and offering exposure to improved technologies, service provision and innovative applications;
- training and linking over 20,000 SME farmers on new practices and technologies related to improving food safety;
- training and linking between 15,000 and 20,000 SME farmers on new production technologies such as hybrid seed, greenhouses, drip irrigation etc.;
- awareness raising and training of SMEs farmers and companies on issues related to food safety and food losses;
- engaging with over 200 Dutch and Kenyan companies in good practices for SME farmers including food safety and food losses;
- engaging with over 40 Dutch and Kenyan companies in the provision integrated services and technologies to SME farmers in 16 Business Cases and 7 innovations;
- bringing technological solutions that effectively address challenges SME farmers were facing;
- collaborating with government and competent authorities (such as HCD) in introducing commodity-specific KS 1758 standards and increasing knowledge on the standards among stakeholders in different value chains;
- supporting service provision to SME farmers combined with the introduction and promotion of IPM and biological controls;
- use of PPPLab Scaling Scan for strategic design and steering of business cases (even though this should have been used from the onset).

In some areas, the project did achieve promising to good results in a fair number of business cases but on the whole, it encountered more challenges in realising its ambitions. These include:

- connecting SME farmers to markets which, in some of the cases, was receiving less attention in the early phase of implementation but in most cases, this was adjusted later in the project;
- easing constraints for SME farmers in accessing finance for working capital as well as for asset financing which proved to be a critical obstacle in quite a number of cases. In the last part of the project, more attention was paid to this aspect e.g. through support to the launch and upscaling of Agri-Wallet and by piloting other finance mechanisms;
• strengthening producer organisations on governance, enterprise development and marketing as these organisations can play a catalyst role in spreading and upscaling good practice and successful technologies as well as ease specific constraints that individual farmers face in inputs, sales or finance. Again, this was taken up more intensively towards the end of the project;
• establishing policy dialogue with national and county governments to back-up promising developments e.g. with regulations pertaining to food safety or food losses. This proved to be difficult partly because of problems with and delays in connecting with public sector actors or because of resource constraints at county government levels;
• collaboration with central competent authorities (like KEPHIS, HCD, etc.) which could have been done in a more systematic way than through ad-hoc support to specific events;
• engaging more pro-actively with sector associations and taking initiatives in multi-stakeholder platforms as a catalyst for leveraging sector-wide innovations and developments. A notable exception was the Agrochemicals Association of Kenya with whom the project established a quite successful collaboration in the business case 3 (spray service providers).

Good results were obtained in inclusion of SME farmers in general terms, less so in gender and inclusion of youth. An ex-ante assessment of gender- and youth-related challenges in sub-sectors could have served as an entry point to developing an effective strategy for inclusion with clear objectives aiming at equality and economic empowerment. Nevertheless, evidence on inclusion provided by the project, indicate fair outcomes for inclusion and participation of women in project interventions, tallying at around 30-40% in most cases. There is less data available on youth inclusion. Only in a few business cases data have been generated like in the case where a BC is focusing specifically on the youth only. Feedback received points at many challenges that youth face in participating in horticulture value chain development. Key constraints faced by youth are access to land and finance.

In terms of design of the project and of business cases, it was felt that the project could have been more effective if a result chain had been developed for each business case including a description of the envisaged pathway towards systemic change. Such result chains could have informed project design; brought more focus in strategic monitoring and steering; and allowed for flexible hands-on management and implementation with timely adjustments in business model or strategy.

Furthermore, the evaluation team is of the opinion that it would have been more effective to focus on fewer cases with a comprehensive approach involving multiple actors, rather than trying to cover many sub-sectors with a wide variety of commodities as was the case in the project. However, other factors such as the intention to reach out and engage with a fair number of Kenyan-Dutch companies understandably played a role in decision making on the number and nature of business cases. Strategically there was thus an issue of choice here - if not a trade-off - between a strong focus on systemic change versus having a wide range of BCs and companies benefitting from the project.

In its external communication the project was branded consistently as a consortium of four partners. In practice, however, the project is generally perceived as an SNV project. The fact that the project team was based at SNV and - rightfully so - featured itself as one single team, was an effective set-up. In terms of implementation, the KMHP team was highly qualified and managed the project in a flexible yet focused manner, whereby the team showed high commitment in ensuring inclusion of small- and medium-scale farmers in the respective value chains. Team members seconded by the consortium member organisations brought in specific knowledge and expertise, so did the members of the Steering Committee in their deliberations. On the whole, however, the evaluation team is of the opinion potential opportunities for creating added value, realising synergy with existing projects in the respect institutions, as well as mutual learning within the consortium were hardly exploited.
As far as governance is concerned, the arrangements that were in place have proven to be effective and efficient, even though there was a shared feeling among the consortium members that overall, the Steering Committee could have played a stronger role in terms of strategic steering and guidance of the project.

The evaluation concluded with a look forward into the future. While a number of conditions for assuring sustainability of the achievements of KMHP have been met at the level of SME farmers as well as among industry players, in many cases gaps remain to ensure sustainability. Further incentives will be needed especially with a view to scale-up successful technologies or services and to continue working towards systemic change at sector level. The report lists ongoing development projects that contribute to horticulture sector development in Kenya that might hold opportunities to fill in gaps left after closure of KMHP.

In addition, the evaluation team has suggested a few concrete actions that can be taken by existing projects or new initiatives to ensure sustainability of business cases or to take further steps towards systemic change. One issue we raised in the assessment and which could still be rectified in the short term is the lack of exit strategies for promising business cases. Preferably, this can be accomplished in the last months of the project or otherwise in a short-term separate assignment depending on the number and nature of cases. Other short-term actions could be high-level strategic consultations on good practices in inclusive value chain development, introducing the concept of sustainable trade, capacity strengthening among stakeholders, supporting market convening and multi-stakeholder initiatives in the sector and continued support to out-of-the-box thinking and piloting around innovative financial packages that serve the needs of the SME farmers and companies in the sector.
1. Background, Purpose and Scope of the Final evaluation

1.1. The Kenya Market-led Horticulture Project (KMHP)

KMHP – also known as HortIMPACT - is a project financed by the Embassy of the Kingdom of the Netherlands in Kenya (EKN) that is aimed at food security and aid-to-trade related objectives of its 2014-2017 Multi Annual Strategic Plan (MASP). KMHP is also aligned with the main policies of the Government of Kenya, such as the “Big Four” agenda, of which food security is a pillar, and the Agricultural Sector Development Strategy (ASDS) 2010-2020. The project started in 2015 and is now in its last year of implementation. The project is implemented by a consortium consisting of SNV (as lead agency), Delphy, HIVOS and Solidaridad East and Central Africa ('Solidaridad'). KMHP contributes to increased food security, increased incomes and a dynamic and sustainable horticulture sector in Kenya.

The project focuses on private sector development to reach the following outcomes in a sustainable way, benefiting farmers as well as Dutch and Kenyan companies:

1. Strengthening the entrepreneurial capacities and performance of small and medium sized farmers and companies enhanced for improved market access to domestic and international markets (business cases - BCs).
2. Addressing systemic challenges related to food safety and food losses in the horticulture sector.

Three themes, crucial for the further development of the horticulture sector are being addressed by the project:

1. inclusion of small and medium sized entrepreneurial farmers in supply chains;
2. improving food safety and integrated crop protection; and
3. reducing food losses and efficiency in supply chains.

The project closely cooperates with Dutch and Kenyan entrepreneurs and makes use of their advanced technologies, products and market linkages in business cases (BCs). The focus of the project is on small and medium sized entrepreneurial farmers and farming as a ‘family unit’. Simultaneously, KMHP addresses policy- and market-related systemic issues at service provision, industry, value chain and government levels, supported by results from innovative and market-oriented business cases.

The project works with the following target groups:

- Organised small and medium sized entrepreneurial farmers and their organisations.
- 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 financing institutions.
- Government of Kenya organisations and institutions, training institutes and industry and consumers’ organisations.

1.2. The 2017 Mid-term Evaluation

The project had its Mid-Term Review (MTR) in November 2017, in which it was concluded that overall the project is well designed and the implementation good on track, however major points for improvement were the scaling-up of the business cases and the link of objective 1 and 2 of the project. More specifically, it was advised to:

- Start planning for scale earlier and put more attention to challenges for scale.
- Link BCs more with overall systemic change.
• Promote more strategic sharing and learning.
• Think better about outreach strategy and communication.
• More qualitative use of monitoring and evaluation (M&E) data (to understand bottlenecks for uptake of innovations).
• Plan more strategically the inclusion of women and youth.
• Establish more links with financial services institutions to address the problem of access to finance for farmers and SMEs.

In the present (final) evaluation, the team has integrated the above issues in its research matrix with a view to assess to what extent the MTR recommendations have indeed been given follow-up e.g. in terms of project approach and interventions as well as what results can be perceived of these (possible) adjustments.

1.3. Final Evaluation - Scope and Objectives

With programme funding by the EKN ending in 2019, this final evaluation is expected to reflect on its achievements at the two key outcome levels and three themes mentioned above, with specific (but not exclusive) focus on aspects of effectiveness, sustainability (and exit-related risks), relevance of the project to sector change and feasibility of upscaling successful innovations.

The evaluation is expected to contribute to reflections among key stakeholders (farmers, Kenyan and Dutch agribusinesses, and policy makers) and organisational learning within the consortium and beyond, not only in function of a possible follow-up, but with a view to contribute to sector-wide innovation and development; in and outside Kenya.

Research questions are formulated in four principle areas:

1. (Contribution to) systemic change;
2. Sustainable results;
3. Scaling; and
4. Organisational and institutional set-up.

Social and economic inclusion, climate change and environmental sustainability were cross-cutting areas of concern.

1.4. Methodology and approach of the evaluation

Preliminary note¹: The intended approach for the evaluation was adapted in order to accommodate the parallel assignment by EAMDA and avoid overlap and duplication. For this reason, the methodology presented here deviates in a number of aspects from the initially proposed approach on the basis of which the evaluation was assigned to our team.

The evaluation assessed the ‘proof of concept’ of the project’s strategy and approach with a view to inform (and possibly accelerate) the scaling of successful interventions and/or business cases. In terms of evaluation approach, the prime concern was to explore with the project’s stakeholders, informed by the available quantitative data, to what changes the project has contributed in terms of strengthening technical and entrepreneurial capacities of SME farmers (men, women, youth), and whether this resulted in improved farm performance and stronger involvement and participation of these farmers in food supply chains. A second core focus of research was the extent to which the

¹ See 1.5 Limitations for details
project has contributed to systemic changes in the sector, notably (but not exclusively) with respect to inclusiveness, food safety and reducing food losses (supply chain efficiency).

The assessment started with an in-depth analysis of four business cases. These cases were selected at the inception phase in consultation with the project team. The selection was based on the following criteria:

- All 3 project themes were to be covered;
- Different value chains;
- Different levels / stages in the value chains;
- Mature cases with availability of base-line and end-line data;
- At least 1 case that has outcomes available of PPPLab scaling scan and/or AAER scan.

The following four cases were selected:

1. Business Case 1 and upscale: Promoting the use of innovative technologies in vegetable production.
2. Business Case 3: Improvement of food safety through adoption of Integrated Pest Management (IPM) and training of professional spray service providers.

Data collection and analysis was done using a mixed-methods approach. At the level of business cases, the assessment was mainly qualitative in nature. Through Focus Group Discussions (FGDs) and semi-structured interviews (complemented with secondary material and M&E data) with project stakeholders, a (light-touch) form of process tracing was applied on the 4 selected business cases to capture the dynamics of change in each case that may or may not have created opportunities for scaling up of good practices and eventually resulted in broader, more systemic change. If and when indication of scaling up and/or systemic change where pointed out by the informants, the evaluators would further explore and assess the plausibility of the project’s contribution to such assumed results. Brief reports were produced for each business case providing background information, a quick assessment of direct results of the case and an assessment of likely indications as well as challenges as far as scaling up and systemic change was concerned.

Subsequently, at project-level, the evaluators used the existing quantitative data from the M&E system to establish an outcome mapping complemented with qualitative assessment on the basis of project documents and through semi-structured interviews. In this process, there was a specific focus on the relevance and applicability of the project’s design features and intended approach based on the generic Theory of Change (ToC). In addition, in line with the Terms of reference (ToR), attention was paid to organisational issues, governance and the perceived added value of the consortium. This was done through skype meetings with members of the Steering Committee and individual interviews with consortium members. A few lead companies were interviewed as well, and explorative questions were asked about their perception of the organisational set-up and quality of governance.

At the end of the field assignment a sense-making workshop was organised, attended by project staff, steering committee members, representatives of some companies and innovations, government officials, and a representative of the Embassy of the Kingdom of the Netherlands (EKN).
1.5. **Limitations of the evaluation**

During the inception phase, the evaluation team was informed of a parallel assignment\(^2\) to do the final impact assessment or pending end-lines of some of the business cases and likewise look at lessons learned and challenges to be incorporated in the end-of-project booklet. The assignment was (surprisingly to us evaluators) also expected to seek evidence of scaling up and systemic change and comment on ways to accelerate these in the short term. Because of the overlap in both assignments and given the fact that the parallel assignment had already started, the evaluators had to adjust their intended approach especially as far as the business case assessment was concerned. As the EAMDA team would look specifically at impact for beneficiaries (which was objective 1 of the final evaluation according to the ToR), the emphasis in our research shifted towards the 2\(^{nd}\) objective of assessing: to what extent the project was able to address and resolve systemic issues in the horticulture sector. Content of the interviews with stakeholders and FGDs with farmers had to be adjusted to avoid duplication of work. For one business case (BC6 B&B), out of the 4 selected for in-depth assessment, it was decided not to approach the farmers as they had just been engaged in FGDs and interviews with the EAMDA team. For another case (BC3), it was decided to have a FGD with Spraying Services Providers (SSPs) and farmers together because the EAMDA team had consulted SSPs but not farmers.

The evaluation team could make use of draft reports by EAMDA for BC3 and BC6 as well as on Agri-Wallet. For the other business cases we studied (the second phase of BC1 and BC9) there were no draft impact reports available yet. The assessment of these 2 cases was thus based on older reports and primary data collected by the evaluators in interviews and FGDs.

Few business cases are already mature enough to be able to draw evidence on longer-term effects and sustainability. As a matter of fact, BC10 to BC16 have been established only in 2018. It is therefore too early to draw evidence-based conclusions, especially so on issues related to scaling or systemic change. Outcomes of these cases are not yet tangible but as far as possible, the evaluation has tried to get an indicative picture of progress largely based on perceptions and information provided by the project advisers. Time was too short for the evaluators to cover all business cases in depth.

On the request of the evaluation team, the identification of resource persons was done by the project staff, which may carry a risk of biased selection. The group of informants (see annex J), however, is large (eventually we met or spoke over 80 people), and with good representation of a wide range of stakeholder categories (staff, consortium partners, farmers, service providers, companies, government and sector associations).

Outcomes in terms of scaling and systemic change are quite difficult to capture as they occur in an often complex setting with many actors and at different institutional levels. Contribution of perceived changes to the project is often very difficult to accomplish. PPPLab scans and (to a lesser extent) AAER assessments are very informing, but they were available only for a limited number of cases (5 PPPLab scans and 6 AAER). Nevertheless, these scans offered interesting insights in sector dynamics (positive changes as well as challenges), and some general trends could be discerned based on perceived commonalities in outcomes of different scans.

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\(^2\) Assessment of impact and lessons learned of the KMHP – assigned to EAMDA
2. Findings

2.1. Effectiveness

2.1.1. Business Case Studies: summary of findings

More detailed reports for each case are presented in annexes C, D, E and F

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<tr>
<th>Business Case name:</th>
<th>BC1 and Up-scale - Promoting the use of innovative technologies in vegetable production</th>
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<tr>
<td>Value Chain(s) Involved:</td>
<td>Vegetables &amp; potatoes</td>
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<tr>
<td>Number of beneficiaries</td>
<td>BC1: reached 4,309 SME farmers</td>
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<td></td>
<td>Upscale: 220 farmers (target)</td>
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<tr>
<td>Stakeholders</td>
<td>BC1: Rijk Zwaan Export B.V., Kenya Highland Seeds Ltd, Real-IPM, Koppert, Cropnuts, Hortipro, Yara, Syngenta, Livatty, SoilCares</td>
</tr>
<tr>
<td></td>
<td>Upscale: Neighbourhood Freshmart Limited (NFL), Rijk Zwaan, Holland-Greentech, Rabobank Foundation, Dodore (Agri-Wallet), Koppert Biologicals</td>
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Background

KHS (distributor of Rijk Zwaan in phase 1 of BC1), along with other companies, introduced a combination of innovative technologies that included hybrid vegetable seeds, greenhouses and drip irrigation systems. In the first phase of BC1, 12 demonstration sites were set up in 9 counties. Greenhouse technology was introduced as a controlled environment for pests and diseases and as a way to increase productivity on a small area of land. An endline evaluation was done on the business case. This evaluation revealed many farmers faced challenges in adopting the innovative technologies such as lack of water during the dry season, access to sustainable markets or lack of working capital and asset financing. A scale-up of BC1 was launched to address these challenges. Neighbourhood Freshmart Limited (NFL) came on board with a view to link farmers to markets. NFL connects to the input supplier Holland Greentech (distributor of Rijk Zwaan in phase 2) and Koppert to distribute the inputs to the farmers. Holland Greentech's role is to provide certified seeds directly to the farmers and offer agronomic advice. Koppert provides integrated pest management solutions to farmers minimizing the use of artificial pesticides and promoting biological agents in pest control. Through Agri-Wallet and with financing from Rabobank Foundation, these two input suppliers offer input loans to farmers as well as loans to NFL to pay farmers in time. In partnership with the Smart Water for Agriculture (SWA) programme, two trainings were conducted with a farmer group that experienced problems with access to water. Two demonstrations of a below ground and above ground water pond were set up in Limuru.

Direct results of phase 1:

An end-evaluation (2017) concluded the business case was a success because farmers were introduced to productivity enhancing technologies, food safety enhancing technologies and loss reduction enhancing technologies. Farmers embraced food safety through adoption of IPM and reported increased yield and quality of produce after adopting the new techniques. Based on a sample of 156 farmers, the evaluation concluded that 78% of farmers adopted new technologies. Of these 70% reported improved quality of produce and 28% reported improved yield/quantity.

Results of the upscale:

The up-scale has just started, so it is too early to comment on results. A new farmer group in Kirinyaga was engaged and a total of 176 farmers were trained on the use of open field tomato
production using certified seed. 25 farmers were trained on farm economics and 18 farmers were trained on becoming installation technicians for water ponds.

**Scalability and systemic change**

Indications of (potential for) scaling:
- Demos, trainings and field days attracting large numbers of farmers.
- Farmers indicating genuine interest in demonstrated technologies.
- Farmer groups established and operational.
- Well tested business models (for seed especially).
- Companies willing to provide embedded extension services to SME farmers.
- Diversification of produce supplied to NFL outlets.
- Input providers using existing service providers such as seed raisers as extension agents.
- NFL putting up cold storeroom at their go down in Nairobi.
- Expansion of NFL's supply chain to include informal trader.
- Agri-Wallet effectively introduced and in integrated in the business case (inputs, credit, sales).

Challenges in scaling:
- Access to and affordability of finance (working credit, asset finance, high interest rate,...).
- Access to and linkages with rewarding markets for SME farmers (still many rely on brokers).
- Conditions for loans by Agri-Wallet not fully aligned with alternating crop schedules.
- Capacity limitations with NFL (transport, cold storage, quality control).
- Feasibility of retailing model of NFL not yet fully established.
- Little / poor quality extension provided by public sector.
- Lack of resources in public sector.

Indications of systemic change (see also under challenges for scaling):
- County governments showing interest.
- Input providers willing to continue using the demonstration sites as learning centres.
- Input providers using existing service providers such as seed raisers as extension agents and marketers of their products leading to an expansion of advisory agents for farmers.
- Knowledge transfer taking place via peer-to-peer learning and chain-embedded extension service delivery.
- Other farmers adopting certified seeds and IPM solutions (copying the trained farmers).
- Project-induced crowding-in of other services e.g. financial and irrigation (Agri-Wallet, SMEPT, SWA).
- Koppert and HGT working with other buyers using a similar approach.
- Financial service providers and asset providers developing viable model for asset acquisitions e.g. buy-back plans by Hortipro.
- Crowding in by communication service providers for advocacy and marketing e.g. mass media coverage highlighting issues of food safety to consumer.
- Government regulations on food safety such as KS 1758 approved and being introduced across the value chains.

Challenges on systemic change (some overlap with scaling):
- Policy backing missing to establish enabling environment to support the technology adoption and upscaling e.g. recurrent and investment budget allocation for horticulture
development, support to research and extension (and their upgrading to master new technologies), to promote IPM through regulatory frameworks, etc.

- Government extension services not at par with business case / value chain developments (but peer-to-peer or embedded services are alternative – see above).
- Farmers groups still lack knowledge and capacities to establish effective collective business operations.
- No sector platforms in place.
- No leadership for inclusive value chain development.
**Business Case name:** BC3: Improvement of food safety through adoption of IPM and training of professional spray service providers

**Value Chain(s) Involved:** Horticulture & other crops

**Businesses**
Agrochemical Association of Kenya (AAK) / Croplife Kenya³

**Number of beneficiaries**
ToTs: 121  
SSPs trained: 363  
Farmers serviced: 7,481 (Source AAK) or 8,853 (source KMHP)

**Regions or Counties Covered:** Makueni, Nakuru, Narok, Nyandarua, Kajiado (Loitoktok), Bungoma

**Stakeholders**
SNV, PCPB, County Governments, CBO

See Annex D for a more detailed presentation

**Background**
AAK introduced a system of spray service providers (SSPs) trained and certified to handle pesticides and remove the burden of handling pesticides from the farmer. SSPs ensure farmers effectively control pests and diseases through Integrated Pest Management (IPM) methods. AAK as the implementer has two main goals: (1) reducing food losses brought about by ineffective pest and disease management, and (2) improving food safety by reducing pesticide residue in marketed produce. AAK partnered with the Pest Control Product Board (PCPB) whereby the regulator’s role in this business case was to certify SSPs as a way to confirm the SSPs’ competence in proper use of pesticides and integrated pest management. AAK also partnered with the 6 county governments and Community Based Organisations (CBOs) to support the recruitment process of SSPs and to identify priority value chains in various counties. Input suppliers were brought on board as they have primary contact with farmers during the purchase of agrochemicals and would therefore serve as effective channel through which farmers are linked to SSPs.

**Direct results**
Under the project, 121 trainers of trainers (ToTs) were recruited and trained as trainers of the SSPs. A total of 481, men (474) and women (7), were trained as SSPs. SSPs were introduced to farmers through 69 field days conducted by AAK. The EAMDA draft endline report indicated that some SSPs reported an average annual net profit of up to KES 400,000 from spray services only⁴. AAK estimated that for around 45% of the SSPs, the spray services make up a sizeable contribution to their livelihood. SSPs complement this with other sources of income e.g. farming or by expanding the range of service provision like soil fertility management advice, sales of pest control products to farmers, public health pest control (fumigation), or other operational services. SSPs typically face challenges in financing Personal Protective Equipment (PPE), spraying equipment and transport facilities (motorbikes). A total of 7,418 farmers have accessed spray services. A large number of them are repeated users.

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⁴ Quoted income figure is from EAMDA’s draft report 2019
Scalability and systemic change

Indications of scaling:
- AAK maintains a core force of ToTs and SSPs.
- SSPs having partnerships with county government departments of agriculture, farmer cooperatives and agro-chemical companies.
- Keitt exporters is using SSPs as their field agents.
- The inception of the mango fruit fly campaign supported by different stakeholders led by RTI’s KCDMS, which will be implemented by SSPs in Makueni.

Challenges in scaling:
- Resource constraints at AAK to maintain a critical mass of SSPs and ensure quality of service provision by a larger number of SSPs than those presently operational.
- County governments not allocating resources to promote the SSP initiative.
- A need to link SSPs to other value chain actors like exporters, soil testing providers, etc. in order to occupy their schedules for most parts of the year.
- Poor access to financial products that help SSPs acquire better tools of work or expand their coverage.

Indications of systemic change:
- Curriculum on IPM was developed and used in training SSPs.
- Development of a competence-based curriculum for IPM integrating the SSP concept in collaboration with PCPB and Wageningen University. (curriculum approved by TVET and awaiting piloting)
- Issues of food safety are increasingly on public and political agenda.
- Development of proposal for RTI to scale into 10 more counties by AAK.
- Recognition and support of SSPs by county governments i.e. Bungoma, Nakuru and Makueni.

Challenges on systemic change (see also under scaling):
- Policy backing needed: Pest Control Act (national), County Regulations urging for IPM (preferably via SSPs), support for adoption revised curricula by TVETs (national and county).
- Documented economic case of spray services provision is missing (to establish the net return for farmers, for companies and for society as a whole).
- The case of SSPs not yet used for evidence-based lobby and advocacy, e.g. to include SSPs in the Pest Control Act or to convince county governments to support the introduction and adoption of SSPs.
- Many AAK members not pro-actively engaged in actual support to the SSP system e.g. through a cost-sharing model.
- Low consumer awareness and/or demand for safe food does not incentivise responsible actors in private and public domain to actively pursue and promote the SSP concept.
Business Case Name | BC6: Reduction of post-harvest losses through value addition for mango value chain in local and export markets

Companies | Burton and Bamber (B&B)\(^5\)

Value Chain(s) involved | Primarily Mangoes but B&B also processes other fruits and vegetables (or intends to do so)

Number SME Farmers | 22 Global GAP certified – but sourcing from around 1,000 SME farmers (in principle only sourcing from farmer groups)

See also Annex E for a more detailed presentation

Background

The Burton and Bamber (B&B) case is about reducing post-harvest losses in the mango value chain by drying fresh mango into dried mango slices and through improved quality of raw material and processing. B&B is a Kenyan company that has been in operation since May 2015 and that produces a range of dried fruit snacks marketed under the Sweetunda brand. The firm sources its fruits from smallholder farmers and markets its processed fruit both domestically and internationally. As at mid-2019, the company reported a reach of 1,000 farmers, 200 of whom are contracted. Out of these, 22 farmers in Ithanga have been certified under Global GAP with support of B&B and the KMHP project. In order to boost sales in the domestic market, B&B invested in in-store promotions to accelerate demand of domestic supermarkets and grocers. In the second phase of the BC, KMHP co-invested with B&B in a new processing facility in Yatta constituency, Machakos County, to be able to include more smallholder farmers in the supply chain. The project also supported B&B in hiring a consultant who assists in improving the quality of the cuts, as well as the process. Furthermore, KMHP carried out studies for the Kenyan fresh and dried mango industry. An EU market study was done in July-September 2018 and presented in a mango value chain stakeholder workshop organised with other development partners (Initiative for Global Development, IGD and Technoserve).

Direct results

The business case is deemed a success because it facilitated access to markets for SME farmers while introducing them to technologies that enhanced their productivity, food safety, as well as reduced food losses. Key results of the business case have been an improved business (farm) performance of mango growers who have effectively been linked to markets. The entrepreneurial orientation of farmers and their groups have been strengthened. The certification of farmers in Global GAP has resulted in improved quality and quantity reducing the amount of rejected product e.g. due to fruit fly infestation, as well as an enhancement of food safety. The capacity building and Global GAP certification has resulted in reduced rejection rates amounting to an estimated 3 to 4 percent for mangoes sourced from certified groups, compared to 35 percent rejection rates from new uncertified farmer groups. Global GAP certified farmers earn significantly higher incomes due to the reduced post-harvest losses and premium pricing which is set at KES 17 per kilo as opposed to KES 14 for uncertified farmers. With KMHP’s support, B&B’s newly leased processing facility in Yatta has increased the firm’s processing capacity from 3.5 to 7.5 tonnes per day with both facilities.

**Scalability and systemic change**

**Indications of scaling:**

- A strong business case that is making use of technology solutions considered relevant and applicable for SME farmers and for the business itself.
- Growing interest among small farmers in Global GAP certification practices.
- Farmer certification gives the company an edge given the potential for enhanced quality of supplied mangoes, improved productivity and reduced post-harvest losses.
- Farmers benefit from higher revenue due to improved quality and enhanced productivity.
- Slowly growing demand for dried fruits in domestic markets.
- Different companies that have ventured into mango drying i.e. Goshen, Azuri etc.

**Challenges in scaling:**

- Concern about the willingness and ability of farmers and their organisations to cover initial and annual recurrent costs for Global GAP certification.
- Apparent lack of willingness of public sector actors especially at county levels to proactively support the mango producers and industry.
- Public sector agents could (but fail to) support mango growers e.g. inadequate extension services, weak support to farmer organisations or lack of support to appropriate financing mechanisms for small- and medium-scale farmers.
- The domestic market has not readily adopted dried mango as they can access the fresh fruit and will purchase other fresh fruits in off-season.
- Expand the number of farmers engaged across the country to mitigate against challenges associated with different varieties and seasonal supply fluctuations.
- Need to expand range of products and customer base both domestically and internationally.
- Need to explore the potential of bringing on board strategic partners to support farmer recruitment, training and certification.

**Indications of systemic change** (see also above under scaling):

- From our observations, the evaluation team can support the claim that this business case may be exemplary, offering opportunities and showing the way forward to systemic change in the sector.
- Interest among small farmers in Global GAP certification practices.
- Evidence of investments in processing facilities by others (crowding in)

**Challenges for systemic change:**

- Market research in domestic and foreign markets to capture consumer demand in terms of mango varieties and other products.
- Lack of diversification of product range to deal with seasonal supplies.
- Need for appropriate and affordable financial products for asset financing and working capital for SME farmers (and their groups).
- Need for support in the establishment and functioning of farmers organisations.
- Need for more pro-active and supportive role of (county) governments.
- The cost of farmer certification requires significant investment for the business.
- Farmers are not inclined to pay for the certification, which requires annual renewals.
Business Case name: **BC9: Managing post-harvest losses in green beans through efficient cold chain and alternative utilisation of rejects**

<table>
<thead>
<tr>
<th><strong>Lead company</strong></th>
<th>MERU GREENS HORTICULTURE EPZ LTD.(^6)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value Chain(s) Involved:</strong></td>
<td>Horticulture crops- French Beans</td>
</tr>
<tr>
<td><strong>Duration:</strong></td>
<td>1.5 years from Q4 2017 till Q1 2019</td>
</tr>
<tr>
<td><strong>Number of beneficiaries</strong></td>
<td>50 field extension officers trained; 20 factory workers trained; 1,366 (35% women, and 37% below 35 years) farmers using the cold storage and collection centre facilities</td>
</tr>
<tr>
<td><strong>Regions or Counties Covered:</strong></td>
<td>Coolers - Nandi (Lessos), Meru. Collection centers for Meru, Tharaka Nithi, Isiolo, Murang’a, Kirinyaga, and Nakuru (Naivasha) ()</td>
</tr>
</tbody>
</table>

*See also annex F for a more detailed presentation*

**Background**

Meru Greens Horticulture is a private service provider company established in the year 1996. It has contracted small holder farmers producing fruits for the high-end markets and vegetables for industrial processing for more than 25 years. The main product lines include fruits (pawpaw, bananas, avocados, oranges, mangoes); root crops (cassava, arrowroots, sweet potatoes); and vegetables mainly green beans. Its production is currently spread in nine counties and has linked over 10,000 out-growers to domestic and export outlets. The problem of post-harvest loss is especially acute for horticultural crops. Loss estimates for these crops range from over 20% to 35%, while post-harvest losses in fruits and vegetables are much higher than in cereal crops (5% to 20%).\(^7\) Such losses disproportionately affect the incomes of farmers in rural areas. Efforts to reduce post-harvest losses (PHL) can improve producers’ income and build more resilient value chains, able to withstand the effects of climate-related shocks and stressors. In addition, reducing PHL will alleviate the need to bring additional land under cultivation, thereby mitigating negative environmental impacts from agriculture. Cold chains are recommended globally for post-harvest management of fresh fruits and vegetables to minimize post-harvest losses and improve the shelf life of horticultural fruits and vegetables. This business case aimed at improving the product quality, cold chain regime, and incorporating alternative utilization of rejected beans in the company’s supply chains to reduce post-harvest losses.

**Direct results**

Under the project, 2 cold stores and grading shades were established close to areas of production and one was established at the company’s processing plant. The cold storage facilities were bought from and installed by Geerlofs Limited. The project facilitated training of farmers on post-harvest management. In total 50 field extension officers and 20 factory workers of Meru Greens were trained on post-harvest management. As at the end of 2018, 1,366 (35% women, and 37% below 35 years) farmers were trained by extension officers of Meru Greens on harvesting and post-harvest management of green beans. The farmers from Nandi were able to supply 258 tonnes of beans.

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\(^6\) Resource documents used: Intake form for Steering Committee, annual report KMHP 2018, Internal KMHP documents on AAER scan and PPPLab scan, Impact Assessment Report (June 2019)

\(^7\) Ridolfi C., Hoffmann V. Bara S. (March 2019) POST-HARVEST LOSSES IN FRUITS AND VEGETABLES. The Kenyan Context. IFPRI Review for V4CP programme
valued at KES 10 million within 6 months of installation. During the evaluation, it was established that the number of farmers supplying the centre had increased to about 900, and in FGDs, farmers indicated that rejections at the collection centre dropped from 50% to less than 5%.

** Scalability and systemic change **

Crowding in of other buyers is challenged by the fact that the cold storage technology is expensive. There is a high threshold for other exporters to invest and there are not enough stakeholders involved in promoting cold storage as a solution. Through the PPPLab scan, the team identified finance, monitoring and evaluation, public sector governance, and leadership and management as the key weaknesses in the business case. The observations of the team are presented below together our own observations.

** Indications of scaling:**
- Use of cold storage infrastructure is increasing exponentially every year, with some of the farmers travelling over 9Kms to access the services.
- There is demonstrated interest of Meru Greens to expand to other regions.
- Meru Greens expressed interest to set up more cold stores in Nandi and Nakuru.
- The company has adopted a continuous planting and harvesting schedule that allows flexibility for farmers to plan their harvesting. This is relevant especially for women.
- Financial institutions such as KCB bank offering Mobigrow input loans to Meru Greens farmers.
- Increasingly youth and women engage in beans production.

** Challenges in scaling:**
- Resource constraints for Meru Greens to go for PPPs into other counties.
- Some farmers practicing rain-fed farming which limits year-round production and sourcing by the company (observations in Nandi).
- Occasionally farmers come across counterfeit pesticides and fungicides.
- Limited training on farming as a business / entrepreneurship.

** Indications of systemic change:**
- Sharing of the emerging business model has the potential to trigger investment and financing mechanisms in the industry.
- The PPP arrangements with the county also have potential to trigger other counties to embrace similar arrangements.
- Nandi County is considering setting up a canning facility to process horticulture from the region.
- Nandi County indicated intention to set up basic infrastructure such as land, shades and water infrastructure in other locations. In addition, the county is exploring the possibility of putting up 5 cold rooms, one in each sub county.
- Maersk shipping company has expressed interest in setting up similar infrastructure in avocado and mango producing areas.

** Challenges on systemic change (see also under challenges for scaling):**
- Limited engagement of public agencies such as HCD and county governments.
- Limited engagement with other service providers i.e financial, input services providers, technology providers to enhance the sustainability of the farmers.
- Need to better document the viability of the cold storage model.
- The short time frame is not sufficient to observe systemic change at scale.
2.1.2. Project achievements

In this section we try to provide a succinct impression of the quantitative outcomes of the project based on data available as of end August 2019, but (unfortunately) not yet including or referring to the outcomes of the still ongoing impact study / endline research by EAMDA. This will serve to meet one of the stated objectives of the final evaluation being to assess to what extent the project achieved its formulated results (especially at outcome and systemic level) with smallholder farmers, companies and institutions benefiting from the project. This section thus covers the outcome level and can hopefully in due course be complemented and enriched with data provided by EAMDA.
### Table 1 – Overview of project achievements – quantitative indicators of impact, outcome and outputs – from the start 2015 till August 2019

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Impact:</strong> To contribute to increased food security and increased incomes through the development of a dynamic and sustainable horticulture sector in Kenya with inclusion of small and medium-sized farmers.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) 50,000 small and medium sized farmers earn increased income from the linkage with business cases with market-oriented value chains (increases of 10-15%)</td>
<td>50,000</td>
<td>44,341</td>
<td>-5,659</td>
</tr>
<tr>
<td>b) Through industry level organisations &amp; government, 250 companies engaged with the programme with regard to good practices in small and medium size farmer inclusion and food losses.</td>
<td>250</td>
<td>244</td>
<td>-6</td>
</tr>
<tr>
<td>c) 50% of targeted farmers in business cases able to articulate how they have better access to markets, contribute to food safety and reduce food/post-harvest losses. <strong>Anecdotal evidence:</strong> for 2016 realised: 24% mostly from BC1 and for 2018 23% from BC2, BC6, Ketchup innovation</td>
<td>50%</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>d) 50% of successful business cases presented by women and youth led business.</td>
<td>50%</td>
<td>25%</td>
<td>-13%</td>
</tr>
<tr>
<td><strong>Outcome 1: Entrepreneurial capacities and performance of small and medium sized farmers and companies enhanced for improved market access to domestic and international markets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) 50,000 small &amp; medium sized farmers with improved market access, meeting domestic and / or international market demands.</td>
<td>50,000</td>
<td>44,341</td>
<td>-5,659</td>
</tr>
<tr>
<td>b) 15 business cases with market-oriented supply chains, including small and medium sized farmers implemented.</td>
<td>15</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>c) 10 Kenyan-Dutch companies with increased sales of technologies related to farm productivity, food safety and reduced food losses engaged with programme.</td>
<td>10</td>
<td>18</td>
<td>8</td>
</tr>
<tr>
<td><strong>Output 1: Business Cases in which small &amp; medium sized farmers have improved performance and effectively linked to markets.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1 Implement 15 business cases linking 50,000 farmers to market oriented supply chains.</td>
<td>15</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Engage with 10 Kenyan-Dutch companies to provide integrated services &amp; technologies to small and medium sized farmers.</td>
<td>10</td>
<td>45</td>
<td>35</td>
</tr>
<tr>
<td>1.3 Organise 2 trade missions for Dutch horticulture companies.</td>
<td>2</td>
<td>0</td>
<td>-2</td>
</tr>
<tr>
<td><strong>Output 2: Business Cases which contribute to strengthened entrepreneurial orientation of small &amp; medium sized farmers &amp; farmer organisations.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1 Coach management of producer organisation on governance, enterprise development, marketing &amp; production planning.</td>
<td>100</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>2.2 Organise exchange visits to/for exemplary entrepreneurial producer organisations</td>
<td>30</td>
<td>29</td>
<td>-1</td>
</tr>
<tr>
<td><strong>Output 3: Small &amp; medium sized farmers involved in business cases adopting best practices and new technologies to increase productivity, reduce food losses and increase food safety.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1 Organise demonstration to train 20,000 farmers on new production technologies e.g hybrid varieties, greenhouse technology etc</td>
<td>20,000</td>
<td>16,375</td>
<td>-3,625</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>--------------------------</td>
<td>------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>3.2 Involve other service providers to train 20,000 farmers on new technologies &amp; practices of improving food safety &amp; crop protection.</td>
<td>20,000</td>
<td>21,167</td>
<td>1,167</td>
</tr>
<tr>
<td>3.3 Train &amp; link 20,000 farmers to post-harvest losses reduction solutions e.g cold storage, collection centre etc</td>
<td>20,001</td>
<td>8,587</td>
<td>-11,413</td>
</tr>
<tr>
<td><strong>Outcome 2:</strong> Systemic challenges related to inclusion of small and medium sized farmers in market-oriented supply chains, food safety and reducing food losses in the horticulture sector effectively addressed by farmer, industry and government level organisations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) KMHP programme and institutions have reached 250 horticulture companies on effective measures to enhance food safety and improved crop protection.</td>
<td>250</td>
<td>70</td>
<td>-180</td>
</tr>
<tr>
<td>b) At least 10 market infrastructure e.g collection centres, upgraded with facilities to improved hygiene, storage and marketing of produce.</td>
<td>10</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>c) FFV Food safety standards established for Kenya.</td>
<td>1</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td><strong>Output 4:</strong> Effective business models for small and medium sized farmer inclusion into market-oriented horticulture supply chains documented and promoted by farmer, industry level organisations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1 Carry out preparatory study to increase understanding of small &amp; medium sized farmers inclusion in horticulture supply chains.</td>
<td>1</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>4.2 Facilitate 5 county-level farmer organisations to implement good practices strengthening linkages with markets.</td>
<td>5</td>
<td>50</td>
<td>45</td>
</tr>
<tr>
<td>4.3 Support 5 industry-level associations to promote good practices in small and medium sized farmers inclusive business models.</td>
<td>5</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td><strong>Output 5 : Effective measures to enhance food safety and integrated crop protection adopted and promoted by farmer, industry &amp; government level organisations.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.1 Carryout a study on food safety issues in FFV</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5.2 Organise stakeholder foras at county level to share study findings and develop action plans.</td>
<td>10</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>5.3 Support 10 county governments to improve on food safety and promoted solutions demonstrated by the programme.</td>
<td>10</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>5.4 Facilitate 5 county-level farmer organisations to improve on food safety and integrated crop protection</td>
<td>5</td>
<td>44</td>
<td>39</td>
</tr>
<tr>
<td><strong>Output 6.0 : Improved practices to reduce food losses adopted, documented and promoted by farmer, industry &amp; government level organisations.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.1 Carry out a study to evaluate food losses in selected FFV.</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>6.2 Organise 10 stakeholder fora’s at county level to share study findings and develop joint action plans.</td>
<td>10</td>
<td>7</td>
<td>-3</td>
</tr>
<tr>
<td>6.3 Support 10 county governments to take measures to reduce food losses and promoted solutions from the programme</td>
<td>10</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>6.4 Support 5 industry-level associations activities towards reduction of post-harvest losses and to promote solutions</td>
<td>5</td>
<td>4</td>
<td>-1</td>
</tr>
<tr>
<td>6.5 5 county-level farmer organisations facilitated to take measures to reduce food losses.</td>
<td>5</td>
<td>21</td>
<td>16</td>
</tr>
</tbody>
</table>
The table shows that in terms of realising the envisaged quantitative outputs and outcomes, the project has realised good results that in some cases even exceeded its ambitions. Some detailed background information on the realisations for each outcome or output indicator is presented in Annex H (Quantitative Programme Impact, Outcomes and Outputs – 2015 till August 2019). In this section we confine the narrative reflection on selected aspects of the project’s outcome. As we will argue later on, the M&E system is robust but highly focussed on quantitative indicators. It lacks indicators related to the underlying processes. These processes will be the key substance of subsequent chapters.

**Impact a:** Out of a total of 44,341 farmers, 8,174 were commercially engaged in the BCs or innovations. The final outreach number will still increase as the figures for a few BCs are not yet complete. The emphasis however is not just hitting the target but also looking at sustainability of the innovations and business cases and good farming practices promoted between companies and farmers.

**Impact b:** The total number of companies that KMHP interacted with stands at 244. Interactions include the lead of or contribution to BCs and innovation, attendance of workshops or conferences through the different BCs and innovations and with the help of industry players like FPEAK, HCD, SOCAA, NPCK, Avocado Society of Kenya etc.

**Impact indicator c** is the most interesting one as it is expected to reflect more than just an interaction with the project (as for indicators a and b), but rather offers a proxy for behavioural change by farmers or at least a necessary condition for such a change. Unfortunately, there is at this moment no consolidated figure available as the end-line study by EAMDA is currently still going on. This indicator will be reflected in the report KMHP team will prepare at the end of the project. In all cases that the evaluation team studied in more detail, however, there certainly was evidence of adoption by farmers of improved technologies or other innovative changes as a result of the business initiatives. In BC1 vegetable production for instance, a case-specific end-line assessment (with a survey among a sample of 156 farmers) showed that 78% of the farmers who had visited the demonstration plots, indicated that they have adopted (elements of) the showcased technologies for example IPM pest and disease control methods, hybrid seeds, etc.

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8 % of targeted farmers in business cases able to articulate how they have better access to markets, contribute to food safety and reduce food/post-harvest losses.
Impact d concerns aspect of inclusion and is discussed in a separate section of this report. In annex G a complete list is presented of all business cases, innovations and studies implemented by the project. Readers are referred to annex H for a complete overview of consolidated figures of impact, outcomes and results indicators for the period January 2015 till August 2019. In the sections below, we briefly touch upon some outcomes and outputs as presented in the results table. Note this is only a limited selection and not a comprehensive overview of achievements. For an overview of all activities and achievements, reference is made to the annual project reports for the last 5 years.

**Outcome 1: Entrepreneurial capacities and performance of small and medium sized farmers and companies enhanced for improved market access to domestic and international markets**

The PPPLab Scan was used for more mature cases to assess the key challenges in sustainability and scaling and to address these accordingly in project implementation. In many cases, access to finance for SME farmers was identified as an important bottleneck for farmers in adopting new technologies. Consequently, a part-time finance officer was recruited under a Mastercard programme funding. The project supported Agri-Wallet and Amiran input financing pilot to improve farmers’ access to finance. The project also attempted to link project partners with other financiers, with mixed results. In collaboration with the SWA programme, an introduction was made to Juhudi Kilomo but these farmers later opted to work with SMEP microfinance. BC8 was linked with a financier, Equity bank, to finance purchase of tractors, but that did not work out. The project also linked some BC1 farmers to SMEP and this partnership did work out. Other contacts with Kenya Women Finance Trust, SwissContact and Equity bank foundation, however, did not yield any results.

**SME Farmers**

As stated above (impact a & c), the project mobilised farmers in various of its initiatives. Over 16,000 farmers visited demonstrations sites where companies showcased innovative technologies, such as greenhouses, hybrid seeds, biological pest controls, controlled release fertilisers, organic fertiliser etc. Over 20,000 farmers were trained on various advanced technologies and practices of food safety, e.g. in Global Gap certification or access to spray service provision introducing IPM on their farms. Other business cases focused on reducing food losses and engaged over 5,000 farmers in initiatives such as cold storage of fresh beans, fruit fly management in mangoes, drying of tomatoes for processing into ketchup, production of dried mango and other dried fruits, and so on.

**Farmers organisations**

Part of the implementation of BCs involved strengthening of farmer producer groups to access markets. Most farmer producer groups are indeed fairly weak in their approach to farming, sourcing for inputs or supplying to markets. Therefore, strengthening of producer organisations was an activity that was undertaken with more rigour in 2019. Of the approximately 100 producer groups KMHP has worked with, 12 were chosen for a training project that started with capacity assessment. Thereafter, groups were taken through an intense business support training that covered various aspects such as business planning using a business model canvas, operational management, supply management, financial management, marketing and so on. As farmers often lack skills in planning, budgeting and sales management, the project empowered and coached farmers’ groups so that they may continue with their activities even after the project support comes to an end. Farmer groups

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9 Section 2.4 Inclusion
were also given the opportunity to conduct exchange visits to demonstration plots or attend field days in other areas.

**Companies**

The project has established 16 business cases, one of which (BC7) was an upscale / extension of another case (BC1). A total of around 45 Kenya-Dutch companies participated in the 16 business cases. The focus was not only for the companies to provide services and increase sales thanks to the project, but as the project drew to an end, focus shifted to ensuring sustained operations and collaboration with the SME farmers.

**Outcome 2: Systemic challenges related to inclusion of small and medium sized farmers in market-oriented supply chains, food safety and reducing food losses in the horticulture sector effectively addressed by farmer, industry and government level organisations**

**Food safety standards**

A core conceptual characteristic of KMHP was to have business cases provide leverage and establish focal points for working comprehensively towards systemic change in the horticulture sector and its sub-sectors or value chains. An example of the multi-tier approach were initiatives taken to support HCD and others in promoting the KS1758 by supporting review of 15 commodity-specific standards, development of guidelines, sensitisation of hotels and restaurants, influencing county governments to support implementation and have business cases integrate the standard in its value chain operations.

**Industry associations and platforms**

The project engaged with SOCAA in advocacy on good horticulture practice, with AAK to promote judicious handling of agrochemicals through SSPs, with FPEAK in hosting its annual conference and exhibition, with National Potato Council of Kenya in convening conferences and trade fairs – thus not only allowing these associations to strengthen their network functions but also to instigate exchange and initiatives among stakeholders in the sector. This created space for multi-stakeholder action addressing key issues (bottlenecks) in horticulture development in the country.

**Studies**

Various studies were commissioned by the project with the aim to provide evidence for strengthening the performance of the sector such as to improve access of farmers and companies to markets, to scope the application of food safety standards, to inform the policy discussion on issues of food safety and food losses, to scope the magnitude of food losses in fresh fruits and vegetables, to identify food loss reduction strategies, to assess opportunities for upscaling of commercial warehousing for ware potatoes, to identify buyers who may source fruits and vegetables for the domestic market, or to study the EU market for fresh and dried mango from Kenya. Outcomes of the studies were shared broadly, often with a launch of the publication in workshop-like settings with open invitation for various actors in the sector and from government departments.

**Influencing national and county government and the policy environment**

The project tried to inform and influence county governments to support the adoption by SME farmers of improved technologies and innovations and to support the industry actors through

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10 The KS1578 Code of Practice aims at providing rules for safe and sustainable production and supply of fruits and vegetables in Kenya. It applies to all actors involved in the primary production, processing and marketing of fruits and vegetables in Kenya. The objectives of KS1758 are to promote good agricultural practices, to protect consumers, to promote social welfare and to conserve the environment.
policies and regulatory frameworks. Service provision by SSPs was promoted and supported by 5 (or more) county governments. Food safety workshops (KS1758) were held at county level with the support of the local government.

Events
The project organised or supported events to create awareness, share knowledge and develop action plans to address horticultural development issues in Kenya. Examples of such events (other than already mentioned above) included the 1st All-Africa Post Harvest Congress with University of Nairobi, participation in the Naivasha Horticultural Fair, or organisation of a Partner Day in collaboration with SWA (SNV) and Agriprofocus.

Knowledge development and dissemination
Finally, the project invested in knowledge development (e.g. studies mentioned above) but also in dissemination of knowledge as to support and facilitate scaling of innovations and technologies. Brochures were produced on Agri-Wallet as well as on canola and conservation agriculture; booklets on KS1578 were made and distributed at awareness raising sessions with different stakeholders; videos and other communication materials were made and released about the SSPs; magazines were developed and distributed with NPCK on mechanisation in potato production and on promotion of potato production for food security and agribusiness, to name a few. A communication intern was engaged as well, and in 2019 taken on board as a part-time team-member to support engagements with the media. Therefore, articles have been published in sector magazines, such as Hortifresh Journal and Hortinews, and in local newspapers like The Standard’s Smart Harvest. Stories on KMHP’s interventions have also been shown on Kenyan television.

2.2. Scaling

2.2.1. Introduction
In the assessment of scaling, we have followed the conceptual framework and scan developed by the PPPLab Food & Water.\(^{11}\) This framework was adopted by KMHP (in a later stage) to strategically monitor progress and bottlenecks in upscaling of specific business cases.\(^{12}\)

The basic conceptual model for scaling is often replication or rolling-out: copying a successful solution or model for new clients and geographies. Scale in this horizontal perspective is measured by sheer numbers. Achieving significant scale usually also requires dealing with other system levels: not just delivering the solution or practice, but also altering the ways in which organisations and institutions function to allow that solution to be sustained. This is called vertical scaling and involves changing ways of working and the rules of the game in the sector.

In our approach to assess whether, to what extent and in which sense the project may have contributed to systemic change in the sector, we used the DCED definition of systemic change in our assessment. This definition has three perspectives, one of which is indeed scaling.\(^{13}\)

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\(^{11}\) The PPPLab was a four-year action research and joint learning & support initiative (2014-2018) to learn about the relevance, effectiveness and quality of Dutch supported public-private partnerships (PPPs). Its mission was to extract and co-create knowledge and methodological lessons from and on PPPs that can be used to improve both implementation and policy.

\(^{12}\) See also section 2.6 where we will discuss the use and relevance of the PPPLab Scan for assessing levels of scaling of the programme

\(^{13}\) The other two being sustainability and resilience (see 2.5 systemic change)
Quoting the PPPLab scan\textsuperscript{14}: ‘We talk of systemic change when new ways of working become ‘the new normal’; this requires both adoption in sheer numbers (horizontal scaling) and the institutionalization of these ways on different levels (vertical scaling). In this way, scaling barriers are addressed at all levels and an innovation can become a real breakthrough.’ Hence, our primary focus on the combination of horizontal and vertical scaling as a critical condition to achieve systemic change.

2.2.2. Horizontal scaling

Generally speaking, there is ample evidence of the project’s contribution to demand-creation, awareness-raising, and producer and customer engagement, all considered to be key aspects of horizontal scaling. In almost all cases, the technical qualities and competitiveness of the solution or practices offered has been proven and farmers’ interest in the solutions was evidence of attractiveness and efficiency of the business models.

At the level of SME farmers, the quantitative progress M&E indicators show substantial achievements in terms of number of farmers within business cases and other KMHP initiatives that have been exposed to new technologies and solutions (>40,000 farmers), trained in new technologies (>21,000 farmers) and eventually adopted innovative technologies (firm anecdotal evidence in most business cases - study ongoing to establish consolidated outcome figure). The latter (adoption) obviously can be considered as a decisive outcome in terms of ‘proof of concept’ of the approach adopted by the project.

Achieving horizontal scaling is proof of reaching out to an increasingly large number of farmers who presumably will benefit from the adoption of new technologies and will see their return and income from farming improve. This constitutes a main contribution to realising KMHP’s first (of two) key objectives: i.e. to reach out to and improve livelihoods of SME farmers (and companies) through solutions that address food safety and reduction of food losses. In the cases that we studied in more depth, we also found (anecdotal) evidence of scaling up beyond the project boundaries, i.e. proof of wide-spread interest among other farmers in project-induced technologies or services by non-project farmers e.g. with mango growers (Burton & Bamber) or fresh bean producers (Meru Green).

Nevertheless, scaling was not always straightforward. Based on the PPPlab scans done by the KMHP team and from our own observations, it was found that quite often access to finance is a critical obstacle for SME farmers to adopt new technologies or buy-in new services. This was observed, among others, in the BC1 end-evaluation where only 4% of the farmers (from a sample of 156) indicated they installed greenhouses. The reason for this was the high cost of greenhouses at KES 100,000 as compared to the farmers’ average income range which for over 70% of farmers is below KES 40,000 per year (based on 2017 impact study). Constraints in access to finance not only concerns asset financing as in cited BC1 case, but also for working capital. This was mentioned in a number of cases, e.g. BC1 for inputs (for buying hybrid seeds from Holland Greentech or biocontrol products from Koppert), BC3 for SSPs to acquire Personal Protection Equipment (PPE) or sprayers, BC6 for covering the cost of Global Gap certification by mango growers, BC8 for potato production & use of mechanisation services, BC14 for buying improved (high health) avocado seedlings, or for buying organic fertiliser (Fertiplus), to name a few. The project’s response to the observed challenge in access to finance was in supporting and promoting Agri-Wallet (in some BCs especially BC7) and

\textsuperscript{14} PPPLab Food and Water (2017) Insights Series 06: Scaling through PPPs. The partnerships Resource Centre, Aqua for All, SNV and Wageningen University and Research
supporting the innovation of the Amiran credit facility in collaboration with SWA. Agri-Wallet so far has proven its business case and is growing.15

A second obstacle to horizontal scaling that was often cited, is access to markets. Admittedly a number of cases have – from the very start- had a strong market orientation, such as BC6 mango (B&B), BC9 French beans (Meru Greens), BC16 Green Rhino, BC11 potato (Sereni fries). Other cases however, (initially) had a stronger focus on technology and/or inputs and were (at least initially) not sufficiently oriented towards supporting farmers (and their groups & organisations) in identifying and capturing rewarding (niche) markets for their products. This was revealed for instance, in the end-line assessment of the first phase of BC1 where access to market was found to be a key challenge. The project’s response was to extend the case with a much stronger emphasis on the market. After a search for market opportunities, this eventually resulted in engagement with Neighbourhood Freshmart Ltd. as aggregator and grocery outlet for vegetables produced by (two of) the farmers’ groups that were actively involved in the second phase of BC1.

Some business cases faced specific challenges in realising horizontal scaling among farmers and/or clientele, such as access to water in BC1 (vegetables), access to mechanisation in BC4 (canola) and in BC11 (potato), consumer preference (BC6 dried fruit), willingness to pay by farmers for accessing information services (Yielder), and reluctance among retailers to factor in cost of product traceability (Green Rhino). While the project’s concept – rightfully so - allows for experimentation and piloting, in a number of cases there are indeed barriers to overcome if (horizontal) scaling is to be realised. Nevertheless, it can be concluded that in many business cases and for a number of innovations, there is robust evidence that horizontal scaling has taken place (among SME farmers and service providers).

At the level of companies, horizontal scaling by crowding-in of businesses was observed in a few cases. Sometimes scaling was not realised by design, e.g. when companies are reluctant to open up markets to competitors or to share technological innovations that they have invested in (despite the 50% funding match by the project). Similarly, crowding in of companies especially in supporting functions / service provision in the market system has often not been given much attention while these could be true drivers of scaling. Also strengthening of farmers organisations was introduced quite late in the project (2018-2019) while in our view, this could have been a catalyst for horizontal scaling. Finally, it is observed that in some sectors, there is an issue of leadership. Ideally, scaling in a specific sector needs a champion who is soliciting interest among multiple actors and seeking to explore win-win incentives through scaling and crowding-in. The champion could be a sector association (such AAK in spray service provision) or a lead company (Meru Greens could play such a role for processed fresh beans for the export market but appears to be somewhat reluctant to do so possibly by fear of passing on lucrative technology-related business information or losing market share).

2.2.3. Vertical scaling

As far as vertical scaling is concerned, the PPPLab guidelines distinguish some focus areas such as:

- Sector or industry platforms, including self-regulation and voluntary standards;
- Public sector policies, regulations, and standards;
- Coordination and governance of the value chain or subsector; and

15 as matter of fact: according to some sources, Agri-Wallet has been growing too rapidly, which led to a constrained capital base that hampers further expansion of the portfolio unless new investors are found.
- Tertiary chain and sector functions, such as education and knowledge institutes such as universities, VET institutes, research centres, etc.

Hereunder, we use PPPLab’s *scaling ingredients* in a quick scan to assess the extent to which KMHP has been able to realise vertical scaling through a variety of interventions (business cases, innovations, studies, events, policy influencing, and so on).

*Figure 1 – PPPLab Scan of Scale: 10 scaling ingredients*

In almost all cases, the technology is well established and has proven its soundness (even though other factors may hamper adoption). Through various studies commissioned by the project, relevant knowledge was gathered that informed the fine-tuning of business models e.g. by offering insight in market opportunities or establishing capacity development needs of actors in the value chains.

Most business cases are at a nascent stage and economic feasibility of the business propositions may yet to be proven. This is certainly the case for cases and innovations that were established in 2018 or later (BC11 to BC16 and 4 new innovations).

As for awareness and demand for solutions is concerned, the previous section on horizontal scaling argued that in most cases, there is evidence of both awareness and demand among farmers and other stakeholders. Access to finance for stakeholders (mainly farmers but also service providers and companies) on the other hand, is a challenge in quite a number of cases (if not all). Following the MTR, the project has taken steps to resolve this challenge, but these initiatives started late in the project cycle and are often still in an early stage of their commercial life cycle. Agri-Wallet has taken off well but is facing some growing pains due to rapid growth in demand that cannot be met with the still limited capital base.

In terms of value chain development and linkages between different actors in the value chains, most cases needed some time to let synergies and linkages develop. Some cases had a strong chain-concept from the very start, such as the business model for dried mango (BC6) that covered production (global gap), sourcing, processing, traceability as well as sales to domestic and export markets, thus spanning the entire value chain. But such synchronised business modelling was not present in all cases and in some cases (like BC1) initiatives were taken at a later stage to ‘address’ the gaps in chain linkages. The project engaged with a number of (multi-stakeholder) platforms and other collaborative settings. The collaboration with and engagement of AAK in supporting and promoting spray service providers was a strong case that created benefits for farmers but also drew the interest and (occasionally) even gathered support from government authorities (such as from the Director Horticulture at MoALF as well as by a number of county governments). The project engaged with a few other associations or similar network organisations such as the Kenya Horticulture Council, NPCK, FPEAK, and IBMA. Often this collaboration was not very systematic but rather ad-hoc in one-off support for events, conferences, studies or field days.

16 KHC was dissolved in December 2018
Traction on lobby & advocacy is always a slow process as it involves catalysing systemic change that eventually affects production, marketing and/or consumption practices of actors. In the first two years, the project actively pursued engagement with government and related competent authorities. Results were not easily forthcoming, often due to the inertia from government side. The observation in the 2018 annual report is exemplary by stating that ‘as the progress on food safety issues with government bodies through policy enforcement is quite slow, KMHP opted for support to concrete market-based initiatives with private sector ...’. This is why – in our perception – after the inception phase, the project focussed more strongly on the engagement with private sector actors and much less (or less systematically so) on ‘dialogue and dissent’ with government authorities. In later years, however, the project did engage in policy interventions in collaboration with the V4CP (SNV-IFPRI) and SD4All (Hivos et.al.), two programmes that strongly focus on evidence-based policy influencing on issues of food safety and food security respectively. Addressing matters of public sector governance in the horticulture sector may not have been addressed systematically and the project has had relatively few contact points. National level engagement with public sector actors took place with HCD on the KS1758 standard and with KEPHIS on IPM.

2.2.4. Conclusions
KMHP was successful in terms of scaling especially so at the level of SME farmers by:
- bringing sound technological solutions (and services) to farmers;
- reaching-out to numerous farmers through demonstration plots and field days;
- awareness raising and training of SME farmers on issues of food safety and food losses,
- supporting SME farmers in Global Gap certification;
- engaging with Dutch and Kenyan companies in good practices on food safety and food losses;
- supporting government actors and others in introducing the KS 1758 standard;
- supporting service provision to SME farmers combined with introduction IPM.

It encountered challenges or may not have realised as much results as envisaged in some areas like
- establishing linkages between different kind of actors in the value chains;
- easing constraints for SME farmers in accessing finance (working capital as well as asset financing);
- engaging producer organisations in the upscaling of cases;
- establishing policy dialogue with national and county governments;
- systematic collaboration with central competent authorities (like KEPHIS, HCD, etc.);
- pro-actively engaging with sector associations and in multi-stakeholder platforms,
- women and youth engagement

The overall impact of KMHP was certainly positive both in terms of numeric outreach as in terms of effectiveness and relevance of the solutions offered to SME farmers and other actors in business cases and innovations.

2.3. Sustainability of Results

2.3.1. Strengths and weaknesses in project design

A robust and comprehensive Theory of Change (see annex B) offered a good reference framework for developing the project strategy and approach. The ToC has a dual focus with two key objectives, i.e. collaboration at industry and government level leading to active engagement of institutions and
organisations and secondly facilitation at value chain level for market access and upgrading leading to private sector development in the horticulture sector. The combination of both was expected to contribute to a dynamic horticulture sector in Kenya and sustained growth, which in turn would contribute to increased income, employment and food security in the country. In order to achieve these objectives, the project was expected to work in seven different interventions areas, some of which were clearly situated in the private sector (like facilitation of market linkages) while others were situated in the public sphere (like policy dialogue).

Private sector initiative was central to the project’s design, notably by its focus on business cases and innovations as the core features of its approach – actually more strongly so than its institutional or policy focus. Offering support to innovations is also a strong feature in project design as it created – otherwise often rare - space for private sector actors for pilots and experiments with new innovative – and often as yet untested – technologies or services. Establishing proof of concept of such innovative solutions indeed opens the gateway to a more widespread adoption by market actors and may eventually lead to systemic change. In design, there was also a strong emphasis on linking farmers to companies as an entry point for sustained collaboration in win-win settings.

A weakness in design, was the fact that selection of cases was not based on a comprehensive assessment of the opportunities and (systemic) challenges in a specific sector or value chain. The focus in selection was often on opportunities for realising technological solutions offered by Dutch-Kenyan companies. While (if only by naming of the project) there was a clear intention to be market-led, a market-orientation or analysis was not consistently or systematically taken as entry point in selection of cases or development of business models, nor were opportunities to leverage systemic change (in the medium to long run). Admittedly, some cases were clearly market-led from their inception such as BC6 or BC9 but others were not (or at least not from the start) like BC1, BC3, BC4, BC5 or BC8.

Other factors had to be taken into account in the selection of cases. First, the Netherlands Embassy’s interest in and support to the project may have been inspired primarily by its intended positioning of the Netherlands acting as a ‘public investor rather than a donor,’ with a programme that ‘was meant to investing public funds with the aim of leveraging private investments in the food security sector’. In its Multi-Annual Strategic Plan 2014-2017, the Netherlands Embassy combined food security objectives with resolving bottlenecks encountered by Dutch companies willing to trade with and invest in the Kenyan agricultural and agro-processing sectors. It was thus a deliberate choice to accommodate Dutch businesses. Secondly, at the time of inception of the project, there was relatively less focus on scaling and systemic change within SNV compared to the present situation.

In our view, strategic steering of business cases towards scaling and systemic change could have been done more systematically if contextualised causal pathways or results chains had been developed for each case. This would also have enabled more effective follow-up and monitoring of business cases allowing for timely adjustments in implementation based on process-related indicators. On the other hand, it is acknowledged that given the project’s concept, it may not always be possible to assess beforehand if a certain business case will eventually have the potential for scaling up or systemic change. Much depends of course on whether a proposed solution turns out to be successful or not, and what effects and impact it generates. The key to success therefore is

18 ibid
19 As reflected in the new Corporate Strategy 2019-2022 – ‘Local know-how for lasting solution’ that explicitly states as core objective: Impact through direct results and systems change. ‘Our projects also drive systems change – strengthening institutions and kick-starting markets to help many more people work their way out of poverty, well beyond the scope of projects.’
adaptive management based on initial assumptions and projections combined with an adequate management information system based on case-specific causal pathways to follow-up and (if necessary) adjust business models and strategies.

While the diversity of the horticultural sector is acknowledged, the project did not necessarily have to embrace this diversity itself by initiating a relatively large (16) number of business cases in a variety of sub-sectors. In our view it would have been better to pick fewer cases (in a limited number of sectors) and develop these cases more comprehensively, with a larger number of more diversified actors and with broader interventions beyond the single business case. On the other hand, it was argued that restricting the case selection to fewer value chains or sections of value chains could have locked out opportunities to build synergies with otherwise promising cases on cooperation between Kenyan and Dutch businesses. While this may be true, focusing more comprehensively on a limited number of cases would have held better opportunities for instigating systemic change.

2.3.2. Strengths and challenges in project implementation

Once the project started, implementation went smoothly with (2 subsequent) experienced project managers and a diverse but professionally strong team of project advisers. The team was strongly committed towards the interests of SME farmers. Based on our exchanges with various stakeholders, we also conclude that the team established excellent rapport with different business leaders and other actors engaged in business cases or innovations.

The team is working from SNV offices which allows for synergy, easy and regular mutual exchange of ideas and sharing of experiences. Project advisers manage specific business cases assigned to them but as they have diverse professional backgrounds, there is a good deal of informal communications and advising going on in the team. The project manager is an experienced market and business development professional with a strong expertise in gender which has helped to strengthen the project in this respect (see section 2.4).

The team showed proof of the necessary flexibility and responsiveness to emerging market developments as demonstrated in the upscaling of BC1 whereby observed gaps in connecting farmers to markets were duly recognised and addressed. Similarly, after the MTR came with a number of recommendations, these were taken up pro-actively by the project team, even though some ‘corrective’ actions (including new business cases and innovations) were initiated late in the project cycle and may not have had sufficient time to generate the desired results.

Especially in the beginning, quite some efforts were put into exploring linkages with public sector actors through policy influencing or for soliciting support from governments in creating an enabling environment for cases to grow and scale. This was not an easy thing to do among others because of the devolvement of public sector responsibilities to county level which necessitated geographic dispersal of lobby and advocacy efforts, but also because of a certain level of inertia among (some) stakeholders in the public sector.

Despite some flaws in the selection procedure (see above 2.3.1), the cases that were selected did make good sense from a business perspective and nearly all held interesting features in offering innovative solutions to SME farmers. Some of the more interesting or successful cases deviated from the one-company-one-commodity model such as the BC3 Spray Service Providers or the BC1 & BC7 cases of vegetable production with an alliance of companies spanning the entire value chain. Some of the company-based cases also had a similar farm-to-fork model, such as the dried mango case with Burton & Bamber.

The project has had a strong emphasis on (inclusion of) small- and medium-scale farmers which indeed featured strongly in its design but was also duly reflected in implementation. The MTR
already pointed at the fact that the project did not perform as strongly in all (7) intended intervention areas. The MTR observed strong performance in areas of technology, good production methods and training as well as in awareness raising. This conclusion was again confirmed in the present assessment. At MTR it was observed that farmers as well as their organisations still required strengthening of capacities in areas of entrepreneurship and financial management. Consequently, the project has taken on these aspects during the last 18 months, especially at the level of farmers organisations and by supporting new initiatives such as Agri-Wallet that improve farmers’ access to finance and implicitly support financial literacy for farmers.

But implementation has had its challenges as well:

- Especially in its early years, the project was driven by a desire to showcase and promote technological solutions by Dutch (Kenyan) companies and less by an intention to work towards sustained systemic change in the horticulture sector that would benefit SME farmers and companies. Later in the project and especially following the MTR, more attention was paid to scaling and systemic change.
- There was also quite a drive to meet the numeric targets such as 15 business cases to be established, 50,000 SME farmers to be reached, 20,000 farmers to visit demos, 250 companies to be reached in relation to food safety issues, and so on. Even after the MTR pointed out that results (in impact on farmers, scaling, linking and systemic change) mattered more than numbers, more business cases were established, while one could have considered to remain with say 10 cases and rather strengthen arrangements of and around existing cases.
- The MTR pointed at the lack of linkages between business cases / innovations. Efforts were made during the last 2 years to connect existing BCs often through innovations such as Agri-Wallet, Yelder or Mtela. New BCs like Green Rhino, Instaveg and e-Prod had clear linkages with each other.
- As mentioned earlier, the MTR recommendations were duly picked up by management, but the response may have come too late in the project and the effects or results of most of the new interventions could not (yet) materialise.
- The introduction of PPPLab scaling scan and of AAER to assess systemic change was a very good initiative and made a lot of sense. Again, this came late in the project, too late to serve strategic purposes. Especially the PPPLab scaling scan is a strong tool and would have been extremely useful if it would have been applied from the very beginning to strategically monitor progress and achievements in the various dimensions (or ingredients) of scaling of business cases. The evaluation team found the AAER much more difficult to grasp and its use in strategic steering seems less straightforward than for the PPPLab scaling scan. In our perception, the AAER is most relevant and useful in strategic planning (e.g. based on an ex-ante assessment of a specific sector or value chain) but less useful during implementation in follow-up progress or strategic steering.
- Finally, the project did not develop specific exit strategies for individual business cases. It could have done so when it became clear (by late 2018) that the project would not be extended in its present format beyond mid-2019. Such strategies did not need to be very extensive or detailed but some succinct exit planning could have provided more concrete guidance on how to best organise project interventions during the last year of implementation with a view to ease transition to ex-post period without project support. Concise exit strategies might have contributed to ensuring sustainability of project achievements.
2.3.3. Sustainability of results and risks of pulling out by the end of 2019

Sustainability within the business cases was reviewed from both the farmer and the business perspective. This was informed by the fact that viability of the interventions at both levels enhances the probability of continued engagement amongst the actors beyond the intervention period.

2.3.3.1. At farmers level

The factors considered important in sustaining achievements by the farmers and their status are discussed in detail below:

**Knowledge**: Interviews with the farmer beneficiaries and other BC actors in select cases affirmed that generally the target farmers had acquired sufficient knowledge that they could make use of beyond the project period. There was evidence of this amongst the mature cases such as BC1, BC 3, BC4, and BC 6. In BC 6 farmers were making use of their knowledge acquired during the process of Global GAP certification contributing to reduction in rejection rates amounting to about 3 to 4 percent for mangoes sourced from certified groups, compared to 35 percent rejection rates from new uncertified farmer groups. The same applied to farmers contracted by Meru Greens who reduced their rejection rates by over 45%. Over 8,000 farmers were sensitized on Safe use of Pesticides through field days and 1,374 went ahead to acquire the services of SSPs. BC1 farmers were exposed to IPM practices and efficient use of fertilisers and chemicals contributing to better profit margins. Farmers in BC 4 introduced canola, peas, potato and cabbage as rotational crops to promote conservation agriculture. Whilst initially very few farmers have undertaken to pick up these crops (33 of the anticipated target of 500), more (>350 on over 5,000 acres) joined in a later stage as the project intensified its efforts. Those who are growing canola have adopted diverse Conservation Agriculture practices. These include the use of calibrated chisel to plough their land instead of the disc plough to allow better retention of water by reducing runoff, allow plant residue to rot on the land to increase the biomass rather than burning it, and also the use of terraces and cover crops as part of the farming system.

**Technical**: The business cases introduced new technologies to the farmers: BC 1 introduced IPM, water harvesting, greenhouse production and water irrigation technologies and BC 10 introduced soil testing to the farmers. Interaction with BC 1 farmers demonstrated a good understanding of the technologies. As at the time of the evaluation, 4 of the farmers supplying Neighbourhood Freshmart Ltd from BC 1 had greenhouses that introduce a controlled environment for pests and diseases and a way to increase productivity on a small area of land. Two other farmers had cost-shared the setting up of below-ground and above-ground water ponds and whilst other farmers would have liked to have similar structures, they were unable to access the finance. Generally, the findings from discussions with the farmers, project team and the private sector actors alluded to the fact that the uptake of these technologies was impeded by limited access to appropriate asset finance products in the market.

**Entrepreneurial capacity**: There was mixed evidence in this regard. From interaction with the BC actors and as clearly articulated in the 2018 annual report and highlighted within the KMHP Work Plan 2019, limited financial literacy, poor negotiation skills, poor management and lack of planning amongst the farmer groups and by extension to the farmers were key challenges in becoming competitive. Investments in strengthening and cultivating professionalism among the farmer groups
by the project came in early 2019. While the impact of the training is yet to be observed as they ended about a month before the evaluation, the farmers are very appreciative of the trainings that they found very practical and applicable at individual levels. “I found this knowledge acquired in developing business plan for the group to be very practical; I also apply it at individual capacity”- Peter Gakhuna Farmer BC 1 Limuru.

**Financial:** While access to financial services is a means to an end, it is important for farm investments to enhance productivity, improve post-harvest practices, enable better access to markets and promote better management of risks. Farmers’ access to finance can also play an important role in supporting the farmers to apply technology that would contribute to enhancing the resilience of agriculture to climate change. Evidently, the deliberate effort of the project to bring on board Dodore Kenya LTD with Agri-Wallet, an innovative mobile financial services solution, was to fill in this gap experienced in the initial phase of the project. Overall, 22,000 farmers have signed up to use the platform within the first 24 months of operation with 6,000 of these farmers actively using the platform to either save or borrow to purchase agri-inputs. In total 56 agribusiness SMEs, 20 of which were horticulture companies, have enrolled to use the platform to make payments to their farmers. Rabobank has partnered as a financier to Dodore to onward lend to farmers through Agri-Wallet. Loans of working capital range between 50,000 and 1,200,000 averaging around KES 300,000. However, access to asset financing, which is equally vital, has not materialized despite efforts by the project to facilitate linkages between the farmer groups and Micro Finance Institutions such as SMEP, and Equity bank; this has indeed limited effective financing options for users to adopt and/or apply the technology promoted by KMHP.

**Institutionally:** Structured institutional formal arrangements between the farmers groups and other actors within the value chains demonstrate interest of long-term engagement between the parties. This enables and encourages farmers to make long-term projections and investments in farming and enhances the aspects of sustainability of the engagement beyond the project period. The farmers in BC1, BC 6 and BC 9 had contracts with the buyers of their products namely: Neighbourhood Fresh Market, Burton and Bamber (B&B) and Meru Greens respectively. However, B&B was faced with side selling while there were reported delays in payments by farmers contracted by Meru Green. Thus, regulations to back enforcement of such arrangements is vital to ensure all actors meet their part of the contract. Notably, this would require investment beyond the specific BCs to specific nodes within the enabling environment to effect systemic change. These investments will be case-specific e.g. for (BC6) how to support HCD in enforcing the contractor relationships between producer and exporters, (for BC1) similarly for contract enforcement between farmer groups and NFL, or (for BC3 on IPM) to establish linkages between extension services and input providers and upgrade technical capabilities and reliability of extension services.

**Social:** Farmers’ groups are important for the empowerment of farmers. Politically, they strengthen their power by increasing the likelihood that policy makers hear their opinions. Economically, they can help farmers advance their skills, access inputs, process and market their products more effectively as well as jointly explore innovations through peer-to-peer learning. Through the effectiveness of such groups, the farmers can access production information, market their produce and develop effective linkages with inputs and financial service providers, as well as output markets. Emphasis on strengthening the farmer groups within the social and business context was

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20 Source: narrative of the Agri-Wallet AAER scan exercise
acknowledged and addressed albeit late within the project; hence the evaluation team was not able to establish their cohesive existence to sustain the linkages and innovations way into the future.

**Climate change:** KMHP interventions were tuned in to the reality of smallholder farmers’ high vulnerability to climate change because most depend on rain-fed agriculture. Besides adverse variabilities in weather also contribute to increased pest incidences. Climate smart practices promoted by KMHP include integrated pest management, drip irrigation, fertilizer advice based on soil testing, conservation agriculture, net and greenhouses through BC1, BC3, BC4, BC7 and BC10. All were aimed at enhancing smallholder farmers’ resilience against potential effects of climate change. Undoubtedly, most business players are conscious about the challenges of climate change and how their technologies may contribute to introducing climate smart agricultural practices. The latter may, however, not have been a primary focus in many business cases but as argued above, many of the new technologies may indeed contribute to realising this goal.

2.3.3.2 At Business level

The evaluation explored the strengths posed to sustain the emerging outcomes and achievements for the businesses identified and supported through the project and challenges that would limit them. The strengths expected to sustain emerging outcomes and achievements include:

**The focus business going concern:** The majority of the businesses supported in the project were going-concern at the time of joining the project; except for a few who were start-ups i.e BC 6 – Burton and Bamber, BC -13 Eprod, BC-16 Green Rhino and those under the innovation category: Yielder, Agri-Wallet, Fertiplus and Mtela. Building upon going-concern has an advantage because it leverages on existing business experience, expertise and operations to respond to new opportunities presented through the business cases and to sustain outcomes.

**Business value proposition:** A good number of the products and services provided by companies through the project was addressing existing needs amongst the value chain actors including farmers. This is important because it ascertains the demand of services beyond the project intervention. To mention a few, Yielder is an innovation that seeks to develop a digital platform and an easy-to-use application, which allows the players in agricultural value chains to share and communicate knowledge and news. More farmers are registering with B&B to access Global GAP training to enable them to supply quality mangoes. Agri-Wallet has grown to have a customer base of about 22,000 farmers, 26 buyers and 127 input suppliers as at Mid-2019, an exponential growth from the 21 potato farmers the firm started with in 2017. Some companies repackaged their products and services in order to be more affordable to the target group such as Koppert with its bio-control products or Agventure with the seeds for canola production by SME farmers.

**Growth opportunities for business:** The Business Cases also created a level of traction in the horticulture markets: a number of the Business Cases were going beyond the specific target groups and regions that were supported directly through the project. The advancements made by AAK through BC3 has exposed them to opportunities to get support from other development partners to promote SSPs. In some locations, initially SSPs focused on a specific sub-sector or commodity but later on expanded their services to other commodities. BC6 has attracted other partners such as FAO and GIZ to support farmers in Global GAP trainings as they seek to get a critical mass of mango suppliers across the country. BC9 - Managing post-harvest losses in green beans through establishment cold storage at the farmer level has also attracted interest to upscale in other parts in the counties and Meru Greens is in discussion to replicate in Trans Nzoia and Vihiga county.
The challenges that could limit sustaining of the emerging outcomes and achievements include:

**Revenue model:** The evaluation team established that the innovation cases in particular kicked off without sufficient reflection on a robust business model, especially identifying sources of revenue (“who pays”) and details of financing in the post-intervention period. Yielder and Mtela, which was uberizing agro-dealers for improvement of access to better inputs, are examples depicting this challenge. Yielder had to reconfigure its model upon the findings from the study on “Mobile and web-based applications in Kenya. An exploratory mapping of the usage of mobile and web applications in the Horticulture Sector”. The same applied in Business Case 14: “High Health Avocado Tree Nurseries”, where ultimately the seedlings produced from the nurseries were very expensive whilst targeting a distorted market due to counties giving out seedlings for free and a market that is not well informed on consequences (economic loss) of poor-quality seedlings.

**Policy:** The KS1758 standard was definitely of interest to KMHP. It is a tool for the Kenyan fruit and vegetable industry operators for establishing systems of good practice of safe food production within their operations and thus has the potential to transform the food safety landscape in the country. However, the Kenya Bureau of Standards (KEBS) and the Horticulture Crops Directorate (HCD) are still developing the KS1758 certification protocols and certainly like other government processes, it may take time to be implemented effectively, hence it will take a while to establish the viability of businesses built around this standard such as E-prod and Green Rhino. Policy backing will be key if the standards are to be adhered to locally.

**Short intervention period:** Most BCs are yet to reach maturity; the majority are about 18 months and cannot rule out the need for continuous support on various aspects to reach maturity. With the KMHP project ending, it is assumed (or hoped?) that cases have developed sufficient support, collaboration and networks to overcome any impediments to their growth and reach maturity.

**Risk averse to SMEs:** A few businesses such as Koppert and Agventure were more inclined to working with the large-scale farms as they were found the owners to be quick in appreciating and willing to try out innovations and less risky to engage and transact. Thus it is anticipated that for some businesses, engagement with smallholder farmers beyond the project period will be limited.

2.3.4. Conclusions

The design of the project was based on a robust Theory of Change that had a dual focus of private sector development next to establishment of an enabling (policy and institutional) environment. Of the 7 intervention areas mentioned in the ToC, some were covered intensively with good results such as awareness raising on new solutions, technological innovation or strengthening of technical capacities of farmers. Others, especially in the public domain like policy dialogue or public-private dialogue received less or more sporadic attention. There has been strong emphasis on inclusion of small and medium-scale farmers and there is good evidence that the project thus contributed to higher incomes and improved livelihoods of farmers and their families. The business cases that were selected are generally strong and relevant even though, especially in the beginning, the selection may have been driven more by the strength of the technological solution and less by assumed opportunities for scaling up or to contribute to systemic change. This was partly due to the fact that no systematic assessment of the respective sub-sectors or value chains was done prior to (and as a part of) the selection procedure. Rather than having 16 business cases in a variety of sub-sectors, it might have been better to focus on fewer cases (in a limited number of sectors) and develop these cases more comprehensively, with a larger number of more diversified actors and with broader
interventions beyond the single business case. Admittedly, there is an issue of strategic choice here - if not a trade-off - between a strong focus on systemic change versus having a wide range of BCs and companies benefitting from the project.

In terms of implementation, the KMHP team was highly qualified and managed the project in a flexible yet focused manner, whereby the team showed high commitment in ensuring inclusion of small- and medium-scale farmers in the respective value chains. Especially in the early years, the project was somewhat driven by numbers and less by an exploration of opportunities for upscaling and systemic change that would benefit SME farmers. The introduction and use of the PPPLab scaling scan as a management tool was a commendable move but came too late to be used for strategic steering.

In terms of sustainability, exit strategies for each business case would have been useful to guide the project interventions in the last year of implementation. Sustainability of the achievements at the level of SME farmers is rather well assured. Many conditions needed to sustain outcomes (such as technology, knowledge, technical skills, market access) have generally been achieved. Some bottlenecks may occur after the project terminates especially with respect to access to finance, entrepreneurial capacities and institutional backing by public sector (in service delivery and policy backing). At the level of businesses, there are sufficient indications that sustainability will be achieved, even though not all business models have as yet proven their case as time was too short to mature (within the project period). From our exchanges with businesses, we believe that in almost all cases there is a firm commitment of companies to sustain and even scale existing business cases. Some innovations appear to take off rather well, especially Agri-Wallet, Fertiplus and possibly Yielder. Whether they will be able to scale and establish themselves more firmly in the sector remains to be seen but in these cases proof of concept (at pilot – nascent stage) has been realised.

2.4. Inclusion of women and youth

This section does not cover inclusion of small- and medium-scale farmers. This was extensively covered in previous sections as it constitutes the very core of the KMHP concept (and one of its two higher-level objectives for that matter).

A Micro, Small and Medium Establishments report (2016) indicated that 31.4% of licenced MSMEs in Kenya are owned by women while for unlicensed MSMEs this amounts to 60.7%. In Nairobi’s MSMEs, 13.5% of them are owned by youth which could be lower when tallied nationally. From the BCs that KMHP has implemented, 25% of the implementing businesses are owned/led by women and youth which is not far off from the national tally of 31.4%. The initial target of 50% may have been set too high in view of the actual situation on the ground nationally at this moment.

Out of a total of 16 business cases, two cases are intended to be youth-led (BC3 and BC10), and one was women-led (BC2). Following the MTR, KMHP made a deliberate effort to focus more strongly on gender and youth in 2019 by designing effective strategies that would potentially lead to better outcomes in terms of youth and women participation in agribusinesses.

A 1-day awareness training on gender was organized for all implementing partners in the first half of 2019. Three selected business cases (BC1 scale up, BC3, BC10) and the Agri-Wallet innovation received thereafter gender coaching to better understand and adopt a gender perspective when doing business. With the help of the consultant, these four businesses are currently supported in adopting gender and putting on a gender lens in their line of business, according to their priorities.

Data on inclusion provided by the project (with disaggregated indicators) indicate fair outcomes for inclusion / participation of women in project interventions, tallying at around 30-40% in most cases. There is less data available on youth inclusion. Only in a few business cases data have been
generated. Feedback received during interviews and FGDs, however, points at the many challenges that youth face in entering and participating in horticulture value chains. Key constraints faced by youth are access to land and to finance. Moreover, the ‘temptation’ of city life and its perceived opportunities lure many young people to the urban areas away from rural life and agriculture. Exemplary of the challenges of attracting youth to agriculture is the development in the BC3 case Spray Service Providers. As a matter of fact, initially this project was expected to attract mainly youth as SSPs. However, while initially youth were indeed well represented among the group of SSPs, in the course of the project quite a number of them quit the business to migrate to urban areas. For this reason, AAK indicated to us that they now rather look for middle-aged persons as SSPs because these are more likely to remain in the areas where they work (and often farm).

The project’s strategy (in the original proposal) showed a strong intention to address inclusion of women and youth. The proposal indicated that a gender strategy would be developed. In practice, a consultant did indeed produce a report, but this was actually sub-standard and could not really be called a gender strategy. Consequently, it was not given follow up and gender remained an issue that received very little focus until mid-last year (2018) with a new project manager who possesses a strong background and expertise in gender. The new project manager initiated the above-mentioned training and coaching trajectory. This is an initiative that is commendable, but unfortunately was initiated in a late stage.

In the selection of cases, no specific attention was paid to inclusion, e.g. no assessment was done of gender and youth-related challenges in the sub-sector(s), nor were clear gender- or youth-specific objectives identified in the development of business cases (based on principles of equality and economic empowerment). Having no specific strategy on inclusion, also implied that for most of the years there has been no specific budget allocation for inclusion except later on in the project (as indicated above). Moreover, a number of stakeholders especially from the private sector, were not always ‘enthusiastic’ about the project’s efforts to push for more inclusiveness in business case whereby some indicated that inclusion may not necessarily be possible or relevant in each case. This may be true, yet a good gender-strategy would have helped the team to ‘convince’ and mobilise such actors by spelling out how to approach inclusion in business cases and provide guidance in what BCs inclusion could be a valuable element of the implementation modality.

2.5. Systemic change

Upscaling process from farm / company level to sector level will contribute to a dynamic horticulture sector with sustained growth, higher incomes, more employment and improved food security in Kenya was one of the KHMP higher objectives. This was reinforced by the project’s principal aimed at addressing critical, systemic issues in the Kenya horticulture sector to be addressed at farm, industry, or government level (sector relevant organisations) for maximum sector impact and sustainability. However, the discussion on system change within this KHMP cannot be held in isolation of the other KHMP principles such as the requirement to seek cooperation between Dutch and Kenyan entrepreneurs through transfer and use of innovative Dutch technologies, products and market linkages. The project was also to act as a platform and entrance point for new and existing companies on the Kenyan market. Another working principle was that the private sector would provide a 50% co –investment in the business investments under the project.

Broadly, as observed during the assignment and discussed earlier in this document, there was more emphasis by KHMP on transfer and use of innovative Dutch technologies, products and market linkages to which most of the KHMP indicators were aligned to as opposed to systemic change. Furthermore, the implementation phase was too short to observe substantial change in the industry,
and the lack of results-chains made it difficult to establish if the interventions were on the path to contribute to larger systemic change. There was anecdotal evidence, however, of interventions pointing towards potential contribution to systemic change with time. They are highlighted below.

2.5.1. Elements with potential to contribute to systemic change

Curriculum development on IPM (BC3 SSP) and curriculum development at Latia (BC5) on greenhouse production have the potential to influence how spraying services are promoted and greenhouse production is managed in the horticulture industry. Indeed, the Ministry of Agriculture alluded to the fact that the SSP approach is being positioned as the preferred mode of spraying services to ensure good and effective use of pesticides.

KMHP contributed in reviewing the KS1758 standard on 15 product-specific standards in fruits and vegetables through participation in technical committees, support to dissemination of KS1758 horticulture standards through media talk shows on food safety as well as through food safety sensitization meetings for hoteliers across the country, organised together with HCD. Discussions with HCD affirmed the potential of these standards to ultimately have a far and wide impact on enhancing the food safety in the domestic market, once the relevant protocols and regulations are implemented effectively. This would also enable Green Rhino’s efforts pioneering traceability systems for safe food in the local market gain traction.

Agri-Wallet’s outreach is growing rapidly whilst proving it is feasible to support smallholder farmers often considered risky by traditional banks with innovative financial products. Assessment by EAMDA in mid-2019 established that Dodore projected to reach close to 45,000 farmers, 70 buyers and 327 input suppliers by the end of 2019. This success demonstrates changes in behaviour amongst a larger number of other players within the agriculture sector beyond the target horticulture value chains to cereals subsector.

KHMP supported the establishment of the International Biological Manufacturers Association (IBMA) Kenya. The Association is expected to expand the adoption of biocontrol pesticides through engaging the regulatory authorities for policy improvement, promoting the technology amongst farmers and to increase knowledge among various stakeholders through training on biocontrol products and IPM in general. Sensitization of the Kenya Standing Technical Committee on Imports and Exports (KSTCIE) that included membership drawn from biological manufacturers, the regulators (KEPHIS, PCPB, KEBS and KWS) as well as well as the Ministry of Agriculture, Livestock and Fisheries was a good starting point to influence change by addressing the areas of the regulatory framework that would benefit other actors beyond those targeted in the project. Interventions to strengthen support functions within the market systems were being explored through the support of activities of Koppert in BC 1 & 7, and Fertiplus and involvement of other actors such Real IPM.

BC14 aims to promote a high health protocol for avocado seedling nurseries. The ultimate aim is to create a benchmark model for cost-effective production of high health seedlings that can be replicated by other nurseries. The case already attracted the interest of other development actors such as the Kenya Crops and Dairy Market Systems Development (KCDMS) Programme funded by USAID. KCDMS is keen to expand the model to other locations in 6 counties. The initiative has the potential to go to scale once a competitive model is established as it is currently facing price competition from “local and roadside tree nurseries”. However, the plans to support industry awareness on the high health protocol avocado seedling nurseries through platforms such the avocado network (the Avocado Society of Kenya) and government regulators (HCD and KALRO) will contribute to creating an enabling environment.

21 The KMHP team itself considers 30,000 farmers to be a more realistic target for 2019
2.5.2. Relevance and contribution of the project to the development of the horticultural sector in Kenya.

Horticulture is one of the leading sectors flagged as an engine of industrial growth in the GoK document ‘Vision 2030’. The industry is the fastest growing agricultural sub-sector and ranks high in terms of foreign exchange earnings from exports. It employs directly and indirectly about 4 million people, mainly women, who constitute 75% of the labour force. Smallholder farmers contribute over 60% of the total horticulture production in Kenya. The report further mentions that smallholder farmers constitute 80% of all horticultural growers in the country, and half of these are women. About 95% of horticulture products are traded on the domestic markets. While half of smallholder horticulture growers exclusively serve the domestic market, the other half are linked to exporters. This indicates that horticultural production constitutes an important income earning opportunity for smallholder farmers in Kenya, including traditionally disadvantaged groups. Thus, increasing productivity and quality in the sector directly impacts on income and food security in the country.

Poor market orientation and infrastructure, limited access to appropriate extension, financial services and market information, unpredictable weather, high costs of farm inputs and hired labour, obsolete technology / farming practices, stringent international export standards and poor post-harvest management are amongst the key constraints limiting the development of the sector. Indeed, post-harvest losses for horticulture products in Kenya go as high as 45%.

Food safety issues with fruits and vegetables at domestic markets and public health risks related to excessive pesticide usage at farm level and poor hygiene conditions throughout the horticulture supply chain continue to pose serious health risks to the population. Increasing demands for Global GAP and higher certification and stringent food safety standards set by the European Union and increasing demand for quality and safe food by the local markets insinuates the need to effectively address these concerns. Therefore, the choice of by KMHP to work along the three thematic areas of inclusion of small and medium sized farmers in market-oriented supply chains, food safety and integrated crop protection, food losses and efficiency in supply chains was very relevant to the sector.

The timeframe of the project was too short to establish robust evidence of concrete achievements in the broader horticulture sector level. However, it is notable that the project through individual business cases indeed made some meaningful contribution to the sector albeit from different angles and at different nodes in diverse value chains. Vertical coordination and upscaling across the different stages of the value chain is similarly critical, as targeting only a specific node may simply shift losses from one node to another, erasing any incentives for adoption of new technologies and practices.

Therefore, looking at the project holistically, the interventions scattered at different spots within the sector make the project’s contribution to systemic change appear minimal. The KHMP vision and its ultimate (envisaged) impact were clearly articulated in the project’s overall Theory of Change. A focus on a smaller number of value chains with “interconnected / aligned” BCs and innovations (rather than the presently isolated BCs) and with well-developed and documented causal pathways to the envisioned systemic changes would have contributed to more visibility of the achievements at sector level. Stronger linkages to other (complementary) projects of SNV and other agencies, and more resources to catalyse processes and other supporting functions within the market system would as well have aided KMHP’s contribution to sector development. The importance to address these aspects is implicit in the KHMP 2019 ambition to “lift from project to sector-wide multi-partner business models” but time was too short to effectively realise this excellent ambition.
2.6. Project design, implementation, governance and organisational set-up

2.6.1. Collaboration and partnership with external actors

The KMHP had good rapport with the 40+ businesses that are (or have in the past been) involved in business cases and innovations. Management of relations was done by the project advisers, each of whom was assigned specific business cases and/or innovations. Despite the fair level of synergy within the team and among the advisers, in terms of implementation, business cases were rather siloed and relatively few linkages were established between cases. To give response to this issue that was raised in the MTR, the incoming project manager took the initiative to organise a Partner Day together with SNV’s Smart Water for Agriculture Programme in July 2018. This event offered a forum for exchanges and learning among stakeholders involved in the business cases and innovations as well as contributions from external actors.

The Embassy of the Kingdom of the Netherlands in Kenya (EKN) is the donor agency and has an observer status in the Steering Committee. The First Secretary Food Security at EKN (Ms. S. Willems) has been the liaison person with the project team since 2016 and is thus among the few who have followed up project dynamics for the greater part of the project’s lifecycle. The First Secretary has played an active and supportive role especially through contributions in the Steering Committee. The EKN has allowed for a flexible project design, flexible annual budgeting arrangements and very reasonable reporting requirements (as compared to other donor agencies). The flexibility in the program allows the team to learn by doing and seize opportunities. In general, the project manager and team have monitored and learned from developments and made improvements in the implementation where and when needed.

The project invested in external relationships and sought collaboration with sector associations and other multi-stakeholder platforms. A strong and fruitful collaboration was established with the Agrochemicals Association of Kenya (AAK) for the implementation of the (quite successful) business case with Spray Service Providers (BC3). The project also supported the launch and establishment of the Kenyan Chapter of the International Biocontrol Manufacturers Association (IBMA) in 2017 even though in later years there has been little collaboration with IBMA. The project also supported the Fresh Produce Export Association of Kenya (FPEAK) as well as the National Potato Council of Kenya (NPCK) be it in a more ad-hoc manner (e.g. by supporting conferences, workshops, studies or events but not in systematic or continuous way). The project contributed or supported multi-stakeholder events and initiatives organised such as the mango-stakeholders platform meeting in 2018 and a meeting of the Avocado Society of Kenya, but such initiatives were relatively few.

Specific mention must be made of the collaboration with the Horticultural Crops Directorate (HCD) in rolling out the KS1758 standard. Food safety sensitization workshops were organized with HCD and the Hotel and Restaurant Association in Mombasa, Kwale, Malindi and Nairobi counties for hotel and supermarket managers, their sourcing teams and their suppliers. The sensitization workshops were a joint initiative of KMHP together with HCD, SGS laboratories, Kenya Plant Health Inspectorate Service (KEPHIS), Pest Control Products Board (PCPB), Fresh Produce Exporters Association of Kenya (FPEAK), Fresh Produce Consortium of Kenya (FPC), as well as the State department of Trade in the Nairobi forums.

2.6.2. Contribution of the consortium members and functioning of the Steering Committee

The project is implemented by a consortium of SNV as lead agency and Delphy, HIVOS and Solidaridad. All except Delphy, were already working together in an earlier project, of which KMHP is the successor. In the previous project, the lead was Solidaridad.
The project has made sure that in its external communication like website, reports, social media, etc., it is branded consistently as a consortium of four partners (with use of the 4 logos). In practice however, the project is generally perceived by outsiders and even many of its partners and stakeholders as an SNV project. The fact that the project team is based at SNV and - rightfully so - features itself as one single team, has certainly contributed to the SNV profile.

On the question whether the project has had any complementary character and whether added value was created through the consortium and if so, in what way, the answer is: no or hardly at all. Project advisers seconded by the other member organisations to the team have all contributed substantially to the well-functioning of the project. At the same time, however, content-wise it is not possible to single out specific content-wise contributions of consortium members other than SNV to project design or approach. This could have been possible, though: HIVOS for instance has a strong track record and rich expertise in inclusive development, women rights, as well as in policy influencing especially on sustainable diets and food security. Some of these (especially inclusion and policy influencing) could have added flavour and strength to the project. Delphy could possibly have contributed more strongly in project design and content on matters related to knowledge management and research or by offering technical knowledge and expertise on challenges in horticulture production or marketing. Solidaridad on its turn, has good experience and expertise in inclusive agri-business value chain development and in working with farmers and their organisations. The Solidaridad team member did use this knowledge and expertise in her advisory work and so did the Steering Committee member in the review of proposed cases and pilots.

A member of the Steering Committee indicated that creating synergies between KMHP and organisational programmes was not proposed until later in the programme (e.g. end of last year). On the whole, however, the team is of the opinion that the potential opportunities for creating added value, realising synergy and mutual learning within the consortium were hardly exploited.

While the consortium as it stands, has an adequate composition for project delivery based on the expertise and strengths of each of the member organisations, opportunities for exploiting complementarity and creating added value have thus not been explored, let alone utilised. Presumably, the expectations were not clearly spelled out at the start e.g. on collaboration among members, respective roles and contribution of members to the consortium or on the added value that members hoped to realise. Some members indicated that they did get limited exposure from the project.

SNV was the lead agency which was accepted by other members even though at the start there may have been some discontent or friction about the change in leadership in the transition from the former project with Solidaridad in the lead to the present one where SNV took over as lead agency. External stakeholders generally acclaim the SNV team for the way in which they steered and coordinated the project.

As far as governance is concerned, the arrangements that were in place have proven to be quite effective and efficient, even though there is a shared feeling (among the consortium members) that the Steering Committee could have played a much stronger role in terms of strategic steering and guidance of the project. Now, the Steering Committee mainly served to deliberate about and approve the business case proposals (that were pre-selected by the project team).

Initially it was foreseen to establish a Programme Advisory Committee consisting of external experts. In consultation with the SNV Country Director, it was decided not to establish this committee but rather to have once a year a meeting of an ‘extended steering committee’. This allowed to invite

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22 KMHP’s ‘sister’-programme in Rwanda drew lessons from this programme and assigned clearer responsibilities (with a budget) to its consortium partners
subject-matter experts on the specific issues that featured on the agenda. We could not truly establish the role and contribution of this extended steering committee to the project dynamics and outcomes.

2.7. Monitoring and Evaluation

2.7.1 Use of data of the ME system for steering the program

The project’s M&E system is based on a results matrix with quantitative output, outcome and impact indicators. The M&E results are regularly updated and reviewed. The program started with an overall baseline study and in principle, a baseline and end line study were to be carried out for each Business Case. For baseline and endline surveys of Business cases, software and e-questionnaires of AKVO FLOW were used. The AKVO FLOW / AKVO RSR methodology allows for the generation of detailed management information that is also used to update the Steering Committee on developments and results. The combination of baselines and end-lines per BC gives the team good insight in (quantitatively measurable) outcomes of the cases. It also to some extent allows linking case-based results to the overall program objectives.

The 2017 MTR observed that the link to the RSR module has proven useful even though – apparently – there was a need to discuss obstacles with AKVO team. At the time, the expectation was that the annual reports could be produced faster with more details on project progress. In addition, through the AKVO website, information (facts and illustrated stories) on the project would be easily accessible for outsiders.

Looking back now at the use of M&E system over the last 5 years, we share the earlier MTR observation that the core of the M&E system was well-thought off, providing a useful and relevant selection of quantitative indicators to assess progress of the project in different areas. Numeric data produced by the system have indeed allowed project management to effectively steer towards realisation of the quantitative targets and related goals of the project such as (3.1) 20,000 farmers visit and be trained at demonstration plots, (2.2) 30 exchange visits organised to/for producers’ organisations, (5.2) 10 stakeholder fora’s organised at county level to share study findings and develop action plans, (6.4) support 5 industry-level associations activities towards reduction of post-harvest losses and to promote solutions from the project, just to cite a few examples.

Posting of a full-time M&E officer has obviously contributed to a well-maintained M&E system that is regularly updated and used by staff, management and steering committee. The annual reports of the project are interesting, well-written and succinctly rich. They provide essential information and data on the progress and outputs / results of the different business cases, innovations, events, studies, and other project interventions.

The AKVO RSR system, however, has proven to be less useful than expected. Production of annual reports through the AKVO system was cumbersome and required manual transposition of data from the Excel document developed by the M&E officer to the AKVO software. The evaluators tried to extract stories about the project via the AKVO website. This proved to be problematic and could only be realised after a tedious use of the search engine. As far as we (as outsiders) could establish, the AKVO RSR did not live up to its expectations in terms of facilitating communication, accessibility of information and external visibility of the project.

2.7.2 Use of ME system to capture developments and changes on systemic change and for learning
The M&E system indicators on systemic change at outcome level were defined as follows:

<table>
<thead>
<tr>
<th>Outcome 2: Systemic challenges related to inclusion of small and medium sized farmers in market-oriented supply chains, food safety and reducing food losses in the horticulture sector effectively addressed by farmer, industry and government level organisations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outputs:</strong></td>
</tr>
<tr>
<td>• KMHP programme and institutions have reached 250 horticulture companies on effective measures to enhance food safety and improved crop protection.</td>
</tr>
<tr>
<td>• At least 10 market infrastructure e.g. collection centres, upgraded with facilities to improved hygiene, storage and marketing of produce.</td>
</tr>
<tr>
<td>• Food safety standards established for Kenya.</td>
</tr>
</tbody>
</table>

The key challenge in monitoring developments or changes at systemic levels really is the lack of qualitative indicators. Triggering systemic change is generally a complex (if not chaotic) process with many actors acting at various institutional levels. Such processes can hardly be captured by quantitative indicators, even though admittedly proxies may to some extent offer an indication of change (see for instance the business case description in the annexes where we used proxies to describe indications of scaling and of systemic change). So, indicators used in the M&E are limited in scope as they remain focused on quantitative targets (number of farmers, of companies, of fora) but fail to capture process related features and / or the contribution that the project made to presumed (but unmeasured) changes at outcome level.

The lack of a qualitative angle in M&E was also observed as a key challenge by the MTR. While in the MTR reference was made to challenges mainly in targeting of interventions, e.g. lack of data that could point at the fact that certain technologies might be better suited to specific groups, we feel that the challenges in the M&E system reach further than just issues of targeting but rather relate to failure to capture - characteristics of as well as progress in - critical (multi-stakeholder) processes that are expected to lead to systemic change.

Admittedly, thanks to their strong grasp of the specificities and developments of the different business cases in combination with the use of PPPLab Scan and AAER scan (introduced later in the project), the project team has been able to strongly improve its grasp on higher-level changes and dynamics surrounding the business cases. This found its reflection and was described in the reports of the respective scan exercises as well as in the 2018 annual progress report. The best possible use of findings will be in lessons learnt for future programming in market-led agricultural development (see chapter 3).
3. Lessons learned and suggestions for future programming

3.1. Design issues for systemic change

**Design of projects or programmes that aspire to contribute to systemic change**

In 2014, the Donor Committee on Enterprise Development (DCED) published *implementation guidelines for the DCED Standard*, that was written primarily for practitioners in market development programmes. It recognises that assessing changes in market systems poses significant challenges. Given the current investment in programmes with systemic objectives, however, the DCED saw a real need for practical guidance that will help field staff to monitor market-level changes. Consequently, the guidelines outline a simple, flexible structure through which will help programmes using the DCED Standard to outline, review, and monitor a causal pathway to systemic changes in the market.

According to the guidelines, qualities that systemic change should have are:

- **Scale** - Systemic changes influence and benefit a large number of people who were not directly involved in the original intervention
- **Sustainability** - Systemic changes continue past the end of the project, without further external assistance
- **Resilience** - Market players can adapt models and institutions to continue delivering pro-poor growth as the market and external environment changes

The publication offers an outline for practitioners to design and implementation of programmes that have the ambition to advance and foster systemic changes in market-led programming. According to the guidelines, programmes aspiring to systemic change should

i. articulate a vision for the market,
ii. articulate a vision for the changes that the programme will trigger,
iii. document the causal pathway to those changes,
iv. and how this pathway can be revised in light of experiences,
v. set indicators for each key step on this causal pathway, and measure them,
vi. assess the extent to which the programme contributes to the changes that are observed.

In programmes like KMHP, these steps should be taken within the context of each sub-sector or value chain where business cases are being established.

We would like to add that in this sequential design and implementation, specific dimensions or perspectives can be integrated. In the case of KMHP one would integrate the perspective of inclusion of women and youth at different stages of the sequence namely by (step ii above) articulating a vision on inclusion in market-led development, (iii) integrating the dimension of inclusion in the pathways of change, (iv) identifying gender- and youth-disaggregated indicators and (vi) in assessing programme contribution to inclusive development of the sector or value chain.

As a matter of fact, the same reasoning may be applied for dimensions of climate change with an emphasis on climate adaptation at the level of different actors in the chain or sector.

The evaluation team thus strongly recommends the adaptation of these DCED standards and guidelines for systemic change in market-led agriculture development programmes.

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23 Drawing from previous thinking and research from the Springfield Centre, MarketShare Associates, Samarth-NMDP, the Market Facilitation Initiative (MaFI) and the Private Sector Development Reader series, among others.
25 Note that this was accomplished for gender in the KMHP M&E system but less so for youth-disaggregated indicators.
3.2. Lessons learnt for future programming

From the many achievements as well as the challenges of the KMHP as presented in previous chapters, lessons have been learnt that ideally (or hopefully) may find its application in other and/or future programmes with similar settings and goals. Below is a succinct telegram-style selection of lessons learned and/or suggestions for future programming:

- The business case approach is an effective way to engage private businesses in inclusive value chain development in horticulture as well as to address challenges in areas of food safety and food losses,
- If one aspires to contribute to systemic change, business cases need to be complemented / balanced with addressing the enabling environment (institutions, organisations, policies, regulations).
- This dual approach is well reflected in the overall ToC of KMHP which has proven its relevance (be it that in practice of KMHP the balance tilted towards private sector development).
- It is strongly advised to develop a result chain (or causal pathway) for each business case including a depiction of the envisaged pathway towards systemic change. This allows for comprehensive design, strategic monitoring and steering, accurate management of implementation and (if and when needed) adjustments in the strategy and approach in pathways of change for private sector development as well as for establishing an enabling institutional and policy environment.
- Causal pathways will allow a more comprehensive approach whereby (often recurring) challenges (such as access of SME farmers to finance or to markets) are identified and can subsequently be addressed in a timely manner (if need be).
- It was found that it would be better (more efficient and effective) to focus on a few cases with a comprehensive approach involving multiple actors and levels, rather than trying to cover many sub-sectors and a wide variety of commodities.
- The most effective cases are the ones that from the onset, establish linkages between different actors in the value chain from farm to fork.
- Focus is needed on supporting functions in the market system as drivers of scaling. Supporting functions include – among others - infrastructure, financial services, leadership and coordination, R&D, extension and (market) information services and skills and capacity development.
- Farmer groups and/or producer organisations can play a pivotal role in inclusive value chain and market-led sector development, performing vital services such as in awareness raising, knowledge transfer, chain-embedded service delivery, bulking in sourcing or marketing, access to asset financing and working capital, and many more.
- Similarly, support to sector associations and multi-stakeholder platforms can be a true catalyst for leveraging sector-wide innovations and developments especially so where these take the lead in sector development.
- Working with national and county governments and stakeholders in the entire sector on food safety standards (such as KS1758) has proven to be an effective pathway of change towards upscaling of good practices and application of appropriate technologies at different levels and by different actors in the value chains.
- In all cases, policy backing will be needed for scaling up promising innovations and working towards systemic change. The government is a key player in most market systems whether as regulator and policymaker or provider of supporting functions e.g. research, information, infrastructure etc. Therefore, the nature of engagement and/or partnership with government, as
with any market player, must be informed by analysis and their envisaged role in market system change.

- The enabling environment can be strengthened by improving the institutional arrangements and supporting policy implementation, facilitating public-private collaboration and consultation, and improving the capacities of both public and private horticultural actors.

- The use of PPPLab Scaling Scan and possibly AAER for strategic design as well as strategic steering of the project is highly recommended but must be used from the onset i.e. starting at design stage.

- A sound ex-ante analysis of gender- and youth-related challenges in sub-sectors is a prerequisite for developing an effective strategy for inclusion with clear objectives aiming at equality and economic empowerment.

- More can be gained from systematic linking and learning with other programmes of SNV and other agencies.26

It is hoped that these lessons learned will inspire other market-led horticulture programmes in other countries, especially so in projects financed by Netherlands Embassies and implemented by SNV: in Burundi, Cambodia, Ethiopia, Ghana, Nigeria, and Rwanda.

### 3.3. Filling in future gaps

KMHP comes to an end in December 2019 and direct support to the business cases and innovations will cease, as will support to applied research or sector-based initiatives. As we observed in section 2.3 (sustainability), a number of conditions for assuring sustaining the achievements of KMHP have been met at the level of SME farmers as well as among industry players. Nevertheless, in many cases gaps remain to ensure sustainability and further incentives will be needed especially with a view to scaling-up successful technologies or services and to continue working towards systemic change at sector level.

A number of ongoing development programmes already contribute directly or indirectly to horticulture sector development. Stakeholders of KMHP (including the consortium members and EKN) and the newly formed National Horticulture Transformation Technical Working Group (NHTTWG) may well explore opportunities offered by these programmes to fill in gaps left after closure of KMHP.

A quick scan of some existing donor initiatives revealed possibilities among programmes such as

- **2SCALE** is an incubator program that manages a portfolio of public-private partnerships (PPPs) for inclusive business in agri-food sectors and industries. 2SCALE offers a range of support services to private partners - companies and farmer groups - enabling them to produce, transform and supply quality food products for end-user markets, including Base of the Pyramid consumers. In Kenya, fresh vegetables (onions, tomatoes, chilies) and African leafy vegetables (ALVs) are already among the elected sub-sectors for 2SCALE’s intervention. Interventions are very much in line with KMHP and include aspects of climate smart farming technologies in the Arid and Semi-Arid Land, innovations in pest management and farming methods, new product development, access to finance, last mile distributions to the BoP consumers and marketing practices in the selected Kenyan value chains. Implemented by SNV, IFDC and BoPlnc.

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26 Good examples (be it late in programme) of KMHP with V4CP and SD4All but also KMHP who tried but did not succeed to have other SNV programmes active in agriculture / horticulture join in an initiative to strengthen gender programming
- **Voice for Change Partnership (V4CP).** SNV and IFPRI work together in the Voice for Change Partnership to support CSOs to foster collaboration among relevant stakeholders, influence agenda-setting and hold the government and private sector accountable for their promises and actions. V4CP tackles four issues including food and nutrition security and specifically addresses gender balance and climate change mitigation. In Kenya, evidence products were developed by IFPRI in support of the advocacy on food safety and losses in dairy and horticulture and these issues were put on the agendas of national and county governments. The V4CP would be an appropriate vehicle to continue working at policy levels around issues of food safety and food losses in horticulture.

- **SNV’s Enhancing Opportunities for Women’s Enterprises (EOWE) intends to boost the start-up and development of women’s businesses in rural areas in Kenya and Vietnam through a combination of enterprise development, social transformation and policy advocacy interventions.** The programme aims to increase the income of female farmers and entrepreneurs by increasing business and farming skills and access to inputs, productive assets, finance and markets. On a societal level, the programme facilitates dialogue on social norms that influence unequal time spent by women on reproductive tasks, control over and use of income and resources, decision-making power and leadership within households and communities. The programme complements its enterprise development and social transformation interventions with policy influencing and advocacy activities to build the capacity of government and civil society actors to advocate for, develop and implement gender-sensitive policies and plans.

- **Sustainable Diets for All (SD4ALL) is implemented by HIVOS, IIED and Article 19.** SD4All is an advocacy programme that uses evidence to help low-income communities in 5 countries including Kenya improve their access to sustainable, diverse and nutritious food. In Kenya, SD4All supports SME farmers in diversifying their production and translating this to diets amongst rural and urban consumers. SD4ALL also works with small and medium enterprises to increase access to diverse and nutritious foods. The programme integrates multi-stakeholder processes and policy influencing approaches. Moreover, it stimulates youth to get involved in the agri-food system.

- **Food for All project of Solidaridad works with businesses in horticulture value chains to increase inclusion of the small holder farmers by linking them to markets.** The project works with smallholders in Eastern Kenya. It combines the production of bananas and vegetables with high value agricultural products like milk and French beans. Within this project, cooling, processing and packaging facilities are constructed. Nurseries are established and the farmers are trained in climate SMART agriculture, livestock production practices and in obtaining certification, the latter to guarantee the quality for export, but also for the local market.

- **AGRIFI - AgriFl is an EU-funded programme focusing on smallholder’s inclusiveness and/or agri-business SME enterprises.** It has with different results areas. One area offers a blending facility aiming to unlock, accelerate and leverage investments with a value chain approach. A 2nd area seeks to increase the capacity of private sector and County Governments to implement and enforce standards on animal health, food safety and plant health. The programme also seeks to strengthen the capacities of actors along selected value chains including horticulture through the Agricultural, Technical and Vocational Education and Training (ATVET) system approach.
● **USAID** - As part of the **Feed the Future** initiative, USAID supported more than 1.5 million households. The initiative shares modern farming practices. The Kenya Crops and Dairy Market Systems (KCDMS) programme focusses on four main value chains: dairy, livestock, horticulture, and staple foods. It links farmers to markets, improve seed quality, increase access to financing, and promote private sector solutions. The goal is to facilitate more efficient business practices and policies to support Kenya’s growing economy.

● **The Market Access Upgrade Programme (MARKUP)** is a regional development initiative implemented by ITC, GIZ & UNIDO. It aims to support increased exports of agribusiness and horticultural products, promote regional integration as well as access to European markets. MARKUP assists small and medium-sized enterprises (SMEs) by targeting specific agricultural commodities including spices and horticulture (especially avocado).

● **Microleasing** – a Swisscontact project that aims at pushing the “banking frontier” further down the poverty line thereby increasing access to financial services, through which micro-enterprises, subsistence farmers and low income households increase their economic activities. The project provides full finance lease for the acquisition of productive assets to the bottom poor especially the rural small holder farmers.

● **Micro Enterprises Support Programme Trust** promotes economic growth, employment creation and poverty alleviation through support to enterprises. MESPT works with intermediaries that provide financial or business development services to improve the performance of enterprises. The aim is to strengthen financial intermediaries in order to establish a strong, stable, market-based micro-finance sector in Kenya.

● **Route to Food Alliance** is active in lobbying for withdrawal of harmful pesticides from the Kenyan market and works around consumer awareness on food safety.

● **Linking and learning from SNV’s Opportunities for Youth Employment (OYE) in other countries**

### 3.4. Suggestions for follow-up

Now that KMHP is coming to an end, a specific request to the evaluation team was to come up with a few concrete issues that can be taken up by the programme or other interventions that require immediate action and can lead to more sustainable business cases or a next step to achieving systemic change.

The evaluation team identified 8 areas where concrete action could be taken immediately or in future projects. These are based on our findings and conclusions on sustainability (section 2.3) and systemic change (section 2.5). Inspiration was also found in the (adjusted) approach of SNV’s HortInvest Rwanda programme whose design was indeed already informed by lessons learned in KMHP.

Our suggestions are:

1. **Exit strategies**: This request for concrete follow-up action, in fact, is very closely related to one of the findings of the evaluation, namely that the project did not develop specific exit strategies for business cases. Concise exit strategies might have contributed to ensuring sustainability of project achievements. Assuring sustainability or taking further steps towards systemic change is very much a matter that needs to be approached at the level of specific business cases or value chains. It is therefore suggested to select the most promising cases and innovations and for each of these to develop an outline of exit strategy that indeed indicates what specific actions can be taken to contribute to improved sustainability or further contribution to systemic change.
2. **Effective finance mechanisms.** Access to effective finance options has proven to be a recurrent and critical obstacle for SME farmers to participate in and enjoy benefits of technological innovation. This is a challenge for the entire agricultural sector. There have been and still are quite many agencies and organisations working in this field. Nevertheless, the example of Agri-Wallet shows that there is continuing need for out-of-the-box thinking and piloting of innovative financial packages that serve the needs of the SME farmers. Specific resource allocation for such experimental initiatives continues to be needed.

3. **Policy backing issues:** Government is a key player in most market systems whether as regulator and policy maker or as provider of supporting functions such as research, information, or infrastructure. In future projects upon establishing the potential contribution of Government institutions such as HCD, PCPB and KEPHIS in the anticipated systemic change, the projects should go beyond engaging them in events and conferences only but rather have structured engagements with clear outputs and deliverables. This could also apply for the County Governments to promote upscaling and replication within their jurisdictions.

4. **Inclusive value chains & sustainable trade.** The Rwandan HortInvest programme has taken up production and supply improvements specifically for domestic and regional fresh produce markets in addition to the more high-value export markets. Moreover, adoption of a sustainable trade concept is adding to the comprehensiveness of the project approach. For (SNV) programmes that will continue (or plan to be) working in the horticulture sector in Kenya as well as existing business cases of KMHP, it is worthwhile to learn from the Rwandan experience and consider to expand the conceptual framework towards an inclusive and sustainable value chain development and trade model. A learning workshop was held in Rwanda in October. In follow-up to this workshop, it might be worth to organise an expert roundtable in Kenya to share lessons learnt and seek common ground for strategic development.

5. **Market convening.** Quoting the IDH Sustainable Trade Initiative: Sustainable trade will unfold when all stakeholders in the market: producers, traders, brand, retailers and end-buyers work together, and all have an (enlightened) self-interested in sustainable market transformation. In the horticulture sector in Kenya there appears to be less enthusiasm among sector actors to pursue market convening and build upon multi-stakeholder processes and platforms. SNV programmes and EKN may explore options for supporting initiatives in the short term that bring players in the horticulture sector (or specific sub-sectors) together to jointly assess relevant issues in their sector and formulate possible solutions. This will be a more continuing hands-on consultation forum as compared to the on-off strategic roundtable mentioned before.

6. **Technical advice:** In design as well as in implementation, the project has chosen to pursue certain goals or take up certain initiatives that – in retrospection – may have required more in-depth exploration of their strategic relevance or operational approach. In future projects, high level relevant technical expertise should be co-opted to advise on design and implementation of business models and in evaluation of BCs. It is also worth considering establishing a more permanent technical advisory committee consisting of high-level experts from public and private sectors in Kenya to advise SNV (or possibly the Dutch development sector in Kenya through EKN) on matters related to design and implementation of projects.

7. **Strengthening of capacities** of various actors remains a necessity and must continue to ensure that relevant stakeholders will be given the opportunity to participate in sector development and are able to meaningfully contribute to strategic and operational decision making as well as in policy influencing. Two examples to illustrate this point:
   - the use of PPPlab scaling tool for improved design of market-led sector development programmes, enhanced monitoring of progress and strategic steering of business cases.
Target: aid agencies, development organisations, business leaders, public sector officials, leaders of farmer organisations;

- value chain research and mapping to enhance assessment of opportunities and challenges in specific sub-sectors for inclusive and sustainable value chain and trade development. Target: aid agencies, development organisations, sector associations, business leaders, public sector, farmer organisations.

8. **Joint implementation schemes.** Even though the present evaluation concluded with mixed findings regarding the added value of the implementing consortium, experience in other settings has shown the potential power of such joint implementation schemes. The Rwandan Hortinvest project has drawn lessons from KMHP by adopting a consortium configuration whereby member organisations are assigned considerable responsibilities in specific areas with complementary budget allowance and a matching governance structure. This will ensure that the members’ expertise is fully exploited and if combined with exchange and learning mechanisms, will create added value in the consortium that benefits project stakeholders.
Annexes

A. Terms of Reference
B. Theory of Change KMHP
C. Brief report on Business Case 1 and upscale: Promoting the use of innovative technologies in vegetable production
D. Brief report on Business Case 3: Improvement of food safety through adoption of IPM and training of professional spray service providers
E. Brief report on Business Case 6: Reduction of post-harvest losses through value addition for mango value chain in local and export markets
F. Brief report on Business Case 9: Managing post-harvest losses in green beans through efficient cold chain and alternative utilisation of rejects
G. List of business cases, innovations and studies
H. Quantitative Project Impact, Outcomes and Outputs – 2015 till August 2019
I. Itinerary of the evaluation team
J. List of Persons Consulted
K. Documents consulted
Annex A. Terms of Reference Final Evaluation KMHP

1. Background

The Kenya Market-led Horticulture Programme (KMHP or KMHP), 2015-2019, contributes to increased food security, increased incomes and a dynamic and sustainable horticulture sector in Kenya. Financed by the Embassy of the Kingdom of the Netherlands (EKN) with a budget of 6.7 million Euro and implemented by a consortium of SNV (lead), HIVOS, Solidaridad and Delphy, it has two outcomes:

1) Entrepreneurial capacities & performance of 50,000 farmers enhanced through business cases with private sector companies
2) Systemic challenges effectively addressed by farmers organizations, industry & government;

The programme is addressing three themes, crucial for further development of the horticulture sector:

1) Inclusion of small and medium sized, entrepreneurial (SME) farmers in supply chains;
2) Improving food safety and integrated crop protection; and
3) Reducing food losses and improving efficiency in supply chains.

KMHP complied with and supports the objectives of the Multi Annual Strategic Plan of the Embassy of the Kingdom of the Netherlands in Kenya (MASP 2014-2017), in particular the food security and trade and aid agenda and will hopefully continue to be relevant for the next MASP which is currently being finalized. The programme closely cooperates with Dutch and Kenyan entrepreneurs and makes use of their advanced technologies, products and market linkages in so-called business cases (BCs). The focus of the programme is on small and medium sized, entrepreneurial (SME) farmers and farming as a ‘family unit’. Simultaneously KMHP addresses policy and market-related, systemic issues at farm, industry and government level, supported by results from innovative and market oriented business cases.

The program had a Mid-Term Review in November 2017, with the following recommendations:

Scaling

- Start planning for scale earlier and put more attention to challenges for scale, like access to finance
- Link BCs more with overall systemic change
- Promote more strategic sharing and learning
- Think better about outreach strategy and communication
- More qualitative use of M&E data

Inclusion of women and youth

- Analyse the different situation of women and youth in terms of household tasks burden, access to resources and decision-making at household levels and in organizations. Make strategies to address these

Since, the program has worked to take these recommendations into consideration and is systematizing lessons learnt to accelerate scaling of successful business cases. Seen the fact that the
Horticulture sector is still a priority in the new strategic plan 2019-2022 of the EKN and also other programs financed by the Netherlands government in and outside of Kenya work on systemic change through business cases (CSA, 2Scale, HortINVEST, HortiFRESH, etc.), the program would like to do a final evaluation to see how much impact and sector change was reached with this approach and how the methodology can be improved to reach more scale and impact.

This ToR provides the framework for a competitive tender to recruit a team of one international- and one national independent expert to capitalize on the learnings and to advise on potential scaling and linking initiatives for the future. The external evaluation is planned for August-September 2019.

2. **Scope of the external evaluation**

The evaluation will systematically assess what has been achieved, what has not, and why, in the two outcome levels of the project (benefits of business cases at beneficiary level and systemic change in the horticulture sector in terms of improved services and policies) and its 3 themes. The evaluation criteria will be the standard ones: relevance, effectiveness, efficiency, sustainability and impact, of which effectiveness and sustainability are particularly key. It will be important to assess not only the results, but specifically also review the approach and methodology used, assess whether the pathway to change has worked, and whether the business case approach is sufficient to lead to systemic change. What has the project contributed to sector transformation and what remains: clearly indicate the lessons learnt that could lead to more impact and better ways of working for more scale, sustainability and inclusion: what should be changed to have improved results in other programs in the future and what are the risks of pulling out by end of 2019?

3. **Objective of the programme evaluation**

The evaluation has the following objectives:

- To assess to what extent the project achieved its formulated results (especially at outcome and systemic level) with smallholder farmers, companies and institutions benefiting from the project;
- To assess wider relevance & contribution of the project to horticultural sector change in Kenya in a sustainable way after end of programme: copying of innovations and technologies by smallholder farmers and groups that were not direct beneficiaries, signs of systemic changes and crowding in of other market system actors using new business models;
- To assess the appropriateness and effectiveness of strategies, approaches and modalities used in the project to realise the intended results, and especially reaching scale through tackling issues like access to finance and markets;
- To assess the integration of cross cutting themes of inclusion of women and youth, gender, climate change and environment in the project
- To identify major bottlenecks and lessons learnt and document them to take into consideration for a possible follow-up programme, development of the Kenyan horticultural sector and learnings of other (Dutch funded, horticulture) programs working on systemic change through business cases in and outside of Kenya. Also assess risks of pulling out at this moment, especially for the sustainability and durability of the interventions.
- Performance of the consortium: did this set-up work? What was the added value of each consortium member and what were the weaknesses?

4. **Project Evaluation Research Questions**
The evaluation team should consider but not limit itself to the following research areas and questions:

- **Sustainability of Results**: What have been the strengths and weaknesses of the programme implementation strategy, approach & modality? What are major success factors for the programme and what were the factors preventing achievement of targets and results? How sustainable are the results? What are the risk for sustainability of the results of pulling out by the end of 2019?

- **Systemic change**: What is the relevance and contribution of the programme to the development of the horticultural sector in Kenya, in terms of systemic changes in food safety, food losses and inclusion of small holder farmers (men, women and youth)? How did the planning and ME system take into account systemic change and how could this be improved in future programs? Were data of the ME system used for steering the program and learning?

- **Scaling**: What are the programme’s best practices & results to scale up? What are the lessons learnt to be considered in the design of future similar programmes? What are the challenges & opportunities for scaling up the good practices of KMHP within the current Kenyan institutional and sector context?

- **Organizational and institutional set-up**: How is the collaboration and partnership with different associations and government institutions and with other projects & organizations working on horticultural development? What has been the contribution of the consortium members and the functioning of the Steering Committee and the weak points of the institutional set-up?

In these four research areas, the issues of social inclusion (gender, women’s empowerment and youth involvement), climate change and environmental sustainability should be taken into consideration and recommendations for improvements in future programs given.

5. **Sources of information**

The team will start with studying the existing reports and studies. Annex 1 provides a list of documents that will be made available. The level of detail in the available information differs from one component to the other. Here an overview is given:

- a) For all business cases and some innovation cases baselines and endlines were/are being done. In some cases also qualitative focus group discussions were held and reported on. Most of the quantitative data is available in AKVO. The programme will share all data collected in this way. All contact details of partners will be made available.

- b) Annual plans and reports give a good overview of the theory of change, main strategies and methodologies used and results obtained over the year.

- c) Intake forms, ToR and respective reports of business cases and studies commissioned over the years will be shared.

- d) Internal reviews of business cases and scaling potential were done, and these will be shared.

- e) The MTR will be made available.

- e) Reports of support events organized by sector level organizations.

- f) Minutes of team meetings and SC meetings will be made available.
6. Research methodology
One of the main activities in many external evaluations is to collect data from smallholders, on the results of the project. In this case this is not needed as the project already collected a lot of data on outcomes and impact. These studies have their limitations (self-reporting), but these cannot be corrected by a survey by an external team (without investing substantial more time and budget). What would be very useful is getting an idea of the more systemic impact through review of signs of copying by farmers not initially included in the activities supported by the project and crowding in by similar businesses in a sample of business cases.
So the evaluation will be more qualitative in nature. Still the approach of the evaluation team to collect data, insights and opinions needs to be systematic and transparent. The consultants are invited to explain their approach with this in mind. To support the design of an efficient collection of information and ideas, Annex II gives a list of beneficiaries (companies; smallholders, institutes) per business case.

7. Specific Tasks of the consultancy
The consultancy will be responsible specifically for the following tasks and deliverables:-

▪ Design/refine evaluation methodology: present a detailed workplan and field visit schedule;
▪ Prepare semi-structured interviews to be used for each type of beneficiary;
▪ Prepare/produce the draft project evaluation report and debrief and discuss with management team;
▪ Validate the draft project evaluation findings and recommendations in a small stakeholder workshop;
▪ Prepare/produce the final project evaluation report incorporating feedback obtained from the validation workshop.

8. Requirement and selection criteria of Evaluation consultancy
The evaluation has to be implemented by a team of one international and one national consultant. The requirements are as follows:

Eligibility criteria:
▪ International track record and demonstrated experience regarding project evaluation, experience in evaluation of agriculture related market-led projects in Africa;
▪ Three Reference letters from donors or other organisations who commissioned project evaluations, indicating how they appreciated the quality of project evaluation work;
▪ Written engagement stating that the consultancy and its team members do not have any direct or indirect interest in the results of the project evaluation and possible future new projects.

Selection criteria for the evaluation team
▪ The international team leader should have demonstrated experience & expertise in project evaluation in Africa, as well as experience in agricultural value chain/market system development in (East) Africa. Experience in private sector inclusive agribusiness programs is important and expertise in the creation of an enabling environment.
- The Kenyan team member should have experience in the area of smallholder horticulture sector development, agribusiness and value chain/market development and proven experience in project evaluations and able to speak Swahili.
- At least one of the team members should have experience in assessing gender and youth inclusion.

The consultancy should deliver a technical and financial proposal that will be assessed as follows:

**Technical proposal Max 80 points**

<table>
<thead>
<tr>
<th>Selection criteria</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CV International team leader</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Experience with smallholder agriculture/horticulture value chain development (GAP; IPM; extension)</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Experience in private sector/market system development</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Experience in supporting policy development</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Experience in Kenya / East Africa/ Africa</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Experience in gender and youth inclusion</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Experience in program evaluation, especially of MSD programs and with qualitative data collection</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>CV national team member</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Experience with smallholder horticulture value chain development</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Experience in private sector/market system development</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Experience in supporting policy development</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Experience in gender and youth inclusion</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Experience in program evaluation</td>
<td>30</td>
</tr>
<tr>
<td>3</td>
<td>Understanding the assignment</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Feedback on ToR</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Proposed approach</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Clarity on roles and responsibilities in team</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Clarity &amp; adequacy of work schedule</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>80</strong></td>
</tr>
</tbody>
</table>
Minimum requirement for technical proposal to be eligible: 60 points out of 80.

Financial Proposal: Maximum 20 points for the lowest eligible bid. Others get proportionally less.

Finance: all travel costs as well as the costs of accommodation, food, etc. will be covered directly by the project. So the budget is very simple: a lump sum for all the fees.

9. Role of SNV, partners and EKN in the evaluation

SNV will be responsible for the practical organisation of the evaluation, while the SC will give their ‘no objection’ if agreed to the evaluation. This means in practice:

- SNV will launch an international tender to recruit the consultants, based on this ToR approved by the Steering Committee;
- The selection of consultants is done by the project team with support of the HR department and the proposal will have to be approved by the Steering Committee and EKN.
- The evaluation team will start their assignment with a briefing of the project owners (Steering Committee and EKN) and complete it with a presentation of their draft findings and recommendations to the team.
- The final report will be presented to the Steering Committee and EKN for approval
- SNV will be responsible for supplying the necessary project documents and providing administrative support for the selected consultancy firm.

10. Schedule

The evaluation will be conducted over a period of 30 days in the period August-September 2019. The following is an indicative schedule of the assignment that can be adjusted by the consultants if they wish.

<table>
<thead>
<tr>
<th>Preparations</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday (Day 1)</td>
<td>Read key-documents and prepare semi-structured interviews</td>
</tr>
<tr>
<td>Monday (2)</td>
<td>Travel</td>
</tr>
<tr>
<td>Tuesday (3)</td>
<td>Briefing with project staff. Discuss approach &amp; schedule.</td>
</tr>
<tr>
<td></td>
<td>Update semi-structures interviews</td>
</tr>
<tr>
<td>Wednesday (4)</td>
<td>Briefing with EKN</td>
</tr>
<tr>
<td></td>
<td>Complete semi-structured interviews</td>
</tr>
<tr>
<td></td>
<td>Travel to field</td>
</tr>
<tr>
<td>Thursday (5)</td>
<td>Visit business partners</td>
</tr>
<tr>
<td>Friday (6)</td>
<td>Travel to other area and visit business partners</td>
</tr>
<tr>
<td>Saturday (7)</td>
<td>Travel back to Nairobi and visit partners in Nairobi</td>
</tr>
<tr>
<td>Sunday (8)</td>
<td>Review of collected data and reflection</td>
</tr>
<tr>
<td></td>
<td>Rest</td>
</tr>
<tr>
<td>Date</td>
<td>Activity</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td>Monday (9)</td>
<td>Travel to the field and visit business partners</td>
</tr>
<tr>
<td>Tuesday (10)</td>
<td>Field work and travel back to Nairobi</td>
</tr>
<tr>
<td>Wednesday (11)</td>
<td>Visit partners in Nairobi</td>
</tr>
<tr>
<td>Thursday (12)</td>
<td>Meetings in Nairobi and debriefing in the afternoon with team</td>
</tr>
<tr>
<td>Friday (13)</td>
<td>Validation workshop in the morning, debriefing with EKN and SC</td>
</tr>
<tr>
<td>Saturday (14)</td>
<td>Travel back</td>
</tr>
<tr>
<td>Sunday (15)</td>
<td>Rest</td>
</tr>
<tr>
<td>Reporting</td>
<td>Submit final report 2 weeks after departure</td>
</tr>
</tbody>
</table>

**11. Budget**

The maximum available budget is **Euro 25,000**. This budget EXCLUDES any VAT/WHT.
Annex B : Theory of Change KMHP

Diagram: Theory of Change – Impact Pathway KMHP

- **Increased income, employment and food security in Kenya**
- **Dynamic horticulture sector in Kenya and sustained growth**
- **Institutions & organisations engaged**
- **Supportive environment**
- **Private sector development**

**Overall Goal**

**Objective 1:** Reduced Food Losses in supply chains

**Objective 2:** KMHP collaboration at farm, industry & government level (beneficiaries)

**Intervention Areas**

- Policy support
- Awareness raising
- Up-scaling, dissemination & communication
- Market linkages facilitated
- Technology, good production methods promoted & training
- Strengthening farmers’ capacities

**Annex B : Theory of Change KMHP**
Annex C – Report on Business Case 1 and upscale: Promoting the use of innovative technologies in vegetable production

<table>
<thead>
<tr>
<th>Business Case name:</th>
<th>BC1 and up-scale - Promoting the use of innovative technologies in vegetable production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Chain(s) Involved:</td>
<td>Vegetables &amp; potatoes</td>
</tr>
</tbody>
</table>
| Duration: | BC1: Q1 2016 – Q1 2017  
Upscale: Q2 2018 – Q4 2019 |
| Number of beneficiaries | BC1: reached 4,309 SME farmers  
Upscale: 220 farmers (target) |
| Regions or Counties Covered: | BC1: Kiambu Nakuru Nyeri Nyandarua Laikipia Narok Uasin-Gisgu  
Upscale: Kiambu Kirinyaga, Meru and Nyeri |
| Investment: | BC1: 140,260 € matched 50-50 KHS - KMHP  
Upscale: 0 € |
| Stakeholders | BC1: Rijk Zwaan Export B.V., Kenya Highland Seeds Ltd, Real-IPM, Koppert, Cropnuts, Hortipro, Yara, Syngenta, Livatty, SoilCares  
Upscale: Neighbourhood Fresh Market, Holland-Greentech, Rabobank Foundation, Dodore (Agri-Wallet), Koppert Biologicals |

Background

KHS works with smallholder farmers in improving farming techniques and promoting the use of improved hybrid seeds to improve food security and farmer incomes. The use of hybrid vegetable seeds remained low as farmers are unaware of the benefits these can bring in terms of yield increases and disease resistance. Kenya Highland Seed (KHS) wanted to explore innovative ways of reaching out to and serving the grassroots small scale vegetable farmers. Through an innovative mobile based seed buying and verification system complemented by demonstration fields, managed by individual farmers, KHS introduced a combination of innovative technologies that included hybrid vegetable seeds, greenhouses and drip irrigation.

In the first phase of BC1, 12 demonstration sites were set up in 9 counties and around 3,200 small and medium scale farmers were trained on good agronomic practices like efficient use of water using drip irrigation, achieving high yields and good quality using hybrid seeds, efficient use of fertilisers and chemicals which included integrated pest management. Greenhouse technology was introduced as a controlled environment for pests and diseases and a way to increase productivity on a small area of land. Four farmer trainings were held on each site and the fifth was a field day which created an opportunity to summarise the four trainings and allowed farmers to network with service providers.

An endline evaluation was done on the business case. This evaluation revealed that the farmers were unable to fully adopt the innovative technologies due to lack of water during the dry season; challenges in accessing sustainable markets and lack of working capital and asset financing. The scale-up of BC1 was then developed to address these gaps.

- Neighbourhood Freshmart Ltd (NFL) came on board with a view to link farmers to markets. NFL contracts farmers for a variety of crops.
- NFL then approached the input supplier Holland Greentech (distributor of Rijk Zwaan) and Koppert to distribute the inputs to the farmers.
- Holland Greentech’s role is to provide certified seeds directly to the farmers and offer agronomic advice on good agronomic practices to ensure maximum productivity at high quality.
- Koppert’s role is to provide integrated pest management solutions to farmers by developing crop specific programs that minimise use of artificial pesticides and promotes biological agents to combat pests and diseases. This ensures the food is safe.
• Through the Agri-Wallet (of Dodore company), and with financing from Rabobank Foundation, these two input suppliers offer input loans to farmers as well as loans to NFL to pay farmers in time.

• In partnership with the Smart Water for Agriculture (SWA) program, two trainings were conducted with a farmer group that experienced problems with access to water. Two demonstrations of a below ground and above ground water pond were set up in Limuru.

Direct results

Of phase 1:

As mentioned above, in 2017 (?) the BC1 there was an end term evaluation of the BC1. In the (powerpoint) presentation by the evaluators, it was stated that We were not able to measure increased income at this stage. A follow-up of the 260 farmers after 6 months will help us understand if increased income for farmers will be achieved.

It appears that eventually this study was not carried out. As a result, there is no hard evidence of the BC1 case on income and livelihood of the target SME farmers. The evaluators observed that income range for a lot of farmers is below KES 40,000. The evaluators did not, however, indicate whether this concerned net incremental income from engagement in the business case. They did however observe that this (relatively small) amount explains why to date a majority of farmers are interested in a greenhouse but cite finance as the biggest hurdle they are yet to overcome.

Nevertheless, the evaluators concluded that the business case 1 was a success because farmers were introduced to productivity enhancing technologies, food safety enhancing technologies and loss reduction enhancing technologies. The case addressed the thematic area of farmer inclusion. Farmers have embraced food safety through adoption of IPM. Farmers have reported increased yield and quality after adopting the new farming techniques. BC1 therefore has addressed the issue of food security as a result of increased yields and good quality products.

Below are a few numeric outcomes of the BC1 as reported by either KMHP or the evaluation (based on a sample of 156 farmers)

- 117 (78%) adopted new technologies
  - Of these:
    - 70% reported improved quality of produce
    - 28% reported improved yield / quantity
    - Only 5 (4%) installed a greenhouse
    - 54% of reported challenges in adoption of the technologies
  - almost all (>95%) face challenges in asset financing and/or working capital
  - over half of them cited water shortage as a challenge
  - another challenge is that 60% of farmers who attended trainings would not go back to the demo sites to check on progress or ask additional questions

BC1 - upscale

The up-scale has started in 2018 so it is too early to comment on the results. A few numerics on progress till end 2018:

- with Holland GreenTech, a new farmer group in Kirinyaga was engaged and a total of 176 farmers (108 male and 68 female) were trained on the use of open field tomato production using certified seed.
- 25 farmers (15 male and 10 female) were trained on farm economics by Rijk Zwaan and Koppert
- 18 farmers (11 male and 7 female) were trained on becoming installation technicians for water ponds (SWA programme)

The collaboration with Agri-Wallet is starting up and the very first collection of produce from farmers by NFL was taking place at the time the evaluation. NFL indicated that it is in the process of developing a wider farmer base for its produce by contracting 300 more SME farmers.

---

27 The presentation indicated over 70% with income KES < 40,000
Scalability and systemic change

In February 2018, the team conducted a PPPLab scaling scan on the business case (phase 1). This resulted in the following overall assessment:

The most critical challenge for scaling as identified by the team was access to finance. The team also identified a number of other areas where the challenges occur if scaling is to be realised.

The present evaluation also discussed challenges to scaling and to leveraging systemic change in FGDs with farmers (Limuru), at the meeting with the Local steering committee (NFL was not present) and in an interview with management of NFL. Below we present a few issues that were raised in our exchanges with actors whereby we tried to assess the situation as of today (so in the early stages of scale-up of the BC&).

Indications of (potential for) scaling
- Demos, trainings and field days attracting large numbers of farmers
- Farmers indicating genuine interest in demonstrated technologies
- Well tested business models (for seed especially – less so for bio-pest control by SME farmers)
- Diversification of produce supplied to NFL outlets
- Companies (suppliers and aggregator) willing to provide embedded extension services to SME farmers
- Input providers using existing service providers such as seed raisers as extension agents and marketers of their products leading to an expansion of advisory agents for farmers
- (Agri-Wallet) effectively introduced and in integrated in the business case (inputs, credit, sales)
- County governments showing interest
- Farmer groups established and operational
- NFL putting up cold store room at their godown in Nairobi
- Expansion of NFL's supply chain to include informal traders

Challenges in scaling.
Note: challenges in scaling and challenges to realise systemic change are often strongly interlinked
- Access to and affordability of finance (working credit, asset finance, high interest rate, …)
- Access to and linkages with rewarding markets for SME farmers (still many rely on brokers)
- Mistrust and lack of longer-term relations between stakeholders in value chains
- Little / poor quality extension provided by public sector
- Lack of resources in public sector
- Conditions for loans by Agri-Wallet not fully aligned with need to work with alternating crop schedules
- Capacity limitations with NFL (transport, cold storage, quality control)
- Feasibility of retailing model of NFL not yet fully established (plan to establish 5 grocery outlets has been cancelled, looking at other options now)

Indications of systemic change (see also under challenges for scaling)
- Input providers willing to continue using the demonstration sites as learning centres for dissemination of knowledge to farmers
- Input providers using existing service providers such as seed raisers as extension agents and marketers of their products leading to an expansion of advisory agents for farmers
- BC-related farmers confirming that other farmers adopt the use of certified seeds and IPM solutions (copying the trained farmers)
- Project-induced crowding-in of other services e.g. Agri-Wallet, SMEP, SWA
- Koppert and HGT working with other buyers using a similar approach
- Financial service providers and asset providers developing viable model for asset acquisitions e.g. buy-back plans by Hortipro
- Crowding in by communication service providers for advocacy and marketing e.g. mass media coverage highlighting issues of food safety to consumer
- Government regulations on food safety such as KS 1758 approved and being introduced across the value chains.

Challenges for on systemic change (see also under challenges for scaling most of which apply here as well)
- County governments little aware of opportunities of - let alone supportive to - integrated business models
- Policy backing missing
- Government extension services not at par with business case / value chain developments
- Farmers groups still lack knowledge and capacities to establish effective collective business operations
- No sector platforms in place
- No leadership for inclusive value chain development

Distribution model for NFL(Off-taker)
Annex D – Report on Business Case 3: Improvement of food safety through adoption of IPM and training of professional spray service providers

<table>
<thead>
<tr>
<th>Business Case name:</th>
<th>Agrochemical Association of Kenya / Croplife Kenya&lt;sup&gt;28&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Chain(s) Involved:</td>
<td>Horticulture &amp; other crops</td>
</tr>
<tr>
<td>Duration:</td>
<td>1.5 years from Q3 2016 till Q4 2017 with no-cost extension till end 2018</td>
</tr>
</tbody>
</table>
| Number of beneficiaries | 119 ToTs Trained  
362 SSP implementers Trained  
Total Farmers Reached – 7416  
• Farmers Sensitized Through Farmer Field Days – 5016  
• Farmers who Received Spray Services – 1991  
• Farmers Trained by SSPs - 409 |
| Regions or Counties Covered: | Makueni, Nakuru, Narok, Nyandarua, Kajiado (Loitoktok), Bungoma |
| Investment: | Contribution by SNV – € 114, 200  
Contribution by AAK - € 112, 693  
Total budget – € 226, 893 (KES 25,900,774) |
| Stakeholders | SNV, PCPB, County Government, CBO |

Background

Food safety is one of the main challenges in the horticultural sector majorly. An estimated 80% of what is consumed locally, is produced by small scale farmers many of whom do not understand the concept of responsible use of pesticide, let alone the practice of IPM. Hence many problems associated with use of pesticides. Under its stewardship programme, AAK introduced a system of spray service providers SSPs) who are trained and certified to handle pesticides and who remove the burden of handling pesticides from the farmer. Other components of its stewardship programme include a 24/7 poison information centre, empty container management, and obsolete product disposal management.

From 2016 till end of 2018, SNV’s KMHP has supported the SSPs programme of AAK. SSPs ensure that farmers effectively control pests and diseases through Integrated Pest Management (IPM) strategies. AAK as the implementer had two main goals: (1) reducing food losses brought about by ineffective pest and disease management, and (2) improving food safety by reducing pesticide residue in marketed produce.

AAK partnered with Pest Control Product Board (PCPB) whereby the regulator’s role in this business case was to certify SSPs as a way to confirm the SSPs competence in proper use of pesticides and integrated pest management. AAK also partnered with county governments and CBOs to support the recruitment process of spray service providers and to identify priority value chains in various counties. Input suppliers were brought on board as they have primary contact with farmers during the purchase of agrochemicals and would therefore serve as effective channel through which farmers are linked to SSPs.

Direct results

<sup>28</sup> Resource documents used: Intake form for Steering Committee, annual report KMHP 2018, Internal KMHP documents on AAER scan and PPPLab scan, EAMDA draft endline report, Impact Assessment Report (June 2019)
Under the project, 121 ToTs were recruited and trained as ToTs for the SSPs. A total of 481 men (474) and women (7) from Kajiado, Makueni, Nyeri, Nakuru, Nyandarua and Bungoma were trained as SSPs in August 2016. SSPs were introduced to farmers through 69 field days that were conducted by AAK. The EAMDA draft endline report indicated that SSPs reported average annual net profit of KES 400,000 from spray services only. This number could not be validated by the evaluators. AAK estimated that for around 45% of the SSPs, the spray services make up a sizeable contribution to their livelihood. All will need to complement with other sources of income e.g. farming or by expanding the range of service provision, e.g. soil testing, soil fertility management advice, sales of pest control products to farmers, public health pest control (fumigation), weeding or other operational services, etc. SSPs typically face challenges in financing Personal Protective Equipment (PPE), spraying equipment and transport facilities (motorbikes).

As a result of training and certification, participating SSPs recorded an 80 percent increase in uptake of spraying services among farmers. A total of 7,418 farmers have accessed spray services with Makueni, Nyeri and Nakuru recording the highest uptake. Around 80 percent of the farmers reported adopting IPM and judicious use of chemical pesticides in the project counties and a large number of them are repeat users seeking out spraying services. AAK indicated that introduction by a farmer of SSP instead of the ‘uncontrolled’ pest control practices (as they apply now) may bring cost of pest control down from KES 40,000 to KES 28,000. This plus better quality, higher yields and fewer losses means that SSP is thought to have a high return on investment for a farmer.

**Scalability and systemic change**

The KMHP team identified that weaknesses centered around 3 ingredients; finance, value chain development and leadership and management. The outcome of the team’s scaling scan was as follows:

![SCALING SCAN OF BC3 SSP's BUSINESS MODEL](image)

The observations of the team are presented below together with those of our own observations as well as a few conclusions of the EAMDA draft end line. Reference is made to the team’s report for the recommendations that they formulated to address the challenges in these areas.

**Indications of scaling**

- AAK maintains a core force of ToTs (replaces and trains new ToTs when other resign)
- Same for existing SSP-force
- County governments showing interest and asking to be included
- SSPs having partnerships with the county government departments of agriculture, farmer cooperatives and agro-chemical companies such as Amiran, Osho chemicals, Juanco, Mofarm fresh fruits, Kalamba fruit processing plant among others.
- Instaveg a vegetable export company has trained their own SSPs to service their contracted small-scale farmers.
- Keitt exporters is using SSPs as their field agent

29 KMHP cites a total of 8,853 farmers
The inception of Mango fruit fly campaign implemented by different stakeholders which will be implemented by existing SSP’s in Makue

Challenges in scaling

- Resource constraints to get a critical mass of SSPs out there (larger than present force of around 850 in total)
- AAK not able to carry the burden and cost of monitoring quality of service provision by a larger number of SSPs than those presently operational,
- County governments not allocating resources to SSP promotion (not able or willing to set budget aside)
- The model requires significant investment due to the cost associated with training (including refresher courses), with certifying SSPs and with monitoring quality control.
- A need to link SSPs to other value chain actors like exporters, soil testing activities in order to occupy their schedules for most parts of the year in order to make the model more financially viable
- There is no framework of leadership or overall organisation of all the SSPs thus hindering any form of marketing and growth as a team
- Poor access to financial products that help SS’s acquire better tools of work or expand their coverage (like motorbike)
- Even when financial credit products are available, most financial institutions consider farmers and SSPs high risk and can only give loans on collateral. In addition, they are expensive and thus zone out the possibilities of SSPs expanding and building a brand of their business.

Indications of systemic change

- Curriculum on IPM is developed and used in training SSPs – this can be utilised at larger scale and in (with some adaptations) be introduced in other institutional settings (e.g. use by extension services or in ATVETs)
- Exploration in collaboration with PCPB and Wageningen of possibility to integrate SSP concept in the development of a competence-based curriculum for IPM
- Issues of food safety are increasingly on public and political agenda – this can serve as a catalyst for pointing at SSP one of the possible solutions
- Development of proposal for RTI to scale into 10 more counties by AAK
- Recognition and support of SSPs by county governments i.e. Bungoma, Nakuru and Makueni

Challenges on systemic change (see also under challenges for scaling most of which apply here as well)

- Policy backing is needed
- Need to document and make up the economic case of spray services provision, that is: to establish the the net return for farmers, the net return for the companies and finally the return for society as a whole
- The latter especially must include social returns such as in reduced health risks and thus reduced morbidity among farmers as well as consumers (food safety)
- The case of SSPs is subsequently to be used for evidence-based policy influencing (lobby and advocacy), e.g. to include SSP in the Pest Control Act or to convince county governments to support introduction of SSPs and have it adopted in extension messages
- Engage AAK members more pro-actively in actual support to SSP system e.g. through cost-sharing mechanisms
- Low consumer awareness and/or demand for safe food does not incentivise responsible actors in private and public domain to actively pursue and promote the SSP concept
- Advocacy measures should be deployed amongst the national and county governments to review and enforce regulations governing food safety.
- Integrate SSP in ongoing deliberations and policy discussion on (revised?) Pest Control Act as well as in county-specific policies and regulations e.g. on application of KS 1758
Annex E – Brief report on Business Case 6: Reduction of post-harvest losses through value addition for mango value chain in local and export markets

<table>
<thead>
<tr>
<th>Business Case Name</th>
<th>Burton and Bamber (B&amp;B)³⁰</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Chain(s) involved</td>
<td>Primarily Mangoes but B&amp;B also processes (or intends to do so) other fruits and vegetables</td>
</tr>
<tr>
<td>Duration</td>
<td>18 months; October 2017 to March 2019</td>
</tr>
<tr>
<td>Regions or Counties covered</td>
<td>Machakos, Muranga, Meru, Kitu and Hola, Tana River.</td>
</tr>
<tr>
<td>Number SEM Farmers</td>
<td>22 Global GAP certified – but sourcing from around 1,000 SME farmers (in principle only sourcing from farmer groups)</td>
</tr>
<tr>
<td>Investment (by KMHP and Partner)</td>
<td>Contribution by SNV – € 37,000 Contribution by B&amp;B – € 37,000 Total budget - € 74,000 (KES 8,438,165)</td>
</tr>
</tbody>
</table>

Background

The Burton and Bamber (B&B) case is about reducing post-harvest losses in the mango value chain by drying fresh mango into dried mango slices and through improved quality of raw material and production process. Burton and Bamber B&B is a Kenyan agro-processing company that has been in operation since May 2015 and that produces a range of dried fruit snacks marketed under the Sweetunda brand. The firm sources its fruits from smallholder farmers and markets its processed fruit both domestically and internationally.

As at Mid-2019, the company reported a reach of 1,000 farmers, 200 of whom are contracted. Out of these, 22 farmers in Ithanga have been certified under Global GAP with support of B&B and KMHP project. The company anticipates certifying an additional 100 farmers in Meru and 65 in Machakos by mid-2020. In order to boost sales in the domestic market, B&B invested in in-store promotions to accelerate demand with domestic market supermarkets and grocers. KMHP co-invested with B&B in a new processing facility in Sofia market, Yatta constituency, Machakos county. KMHP facilitated B&B’s acquisition of electric hot-air drying equipment as well as a water purification system. The project also supported B&B in hiring a consultant who is assisting in improving the quality of the cuts as well as the process.

Furthermore, KMHP in collaboration with Yieldwise of IGD/Technoserve and RTI, carried out studies for the Kenyan fresh and dried mango industry. An EU market study was done by ProFound for HortIMPACT in July-September 2018 and presented in a mango value chain stakeholder workshop organized with the other development partners.

Direct results

The business case is deemed a success because it facilitated access to markets for SME farmers while introducing them to technologies that enhanced their productivity, food safety as well as reduced food losses. Key results of the business case have been an improved business (farm) performance of mango growers who have effectively been linked to markets. The entrepreneurial orientation of farmers and their groups have been strengthened. Small and medium farmers and companies involved have adopted best practices and new technologies that increase productivity, reduce losses and increase food safety.

The certification of farmers in Global GAP has resulted in improved quality and quantity reducing the amount of rejected product especially due to fruit fly infestation as well as an enhancement of food safety. The capacity building and Global GAP certification has resulted in reduced rejection rates amounting to an

estimated 3 to 4 percent for mangoes sourced from certified groups, compared to 35 percent rejection rates from new uncertified farmer groups. Global GAP certified farmers earn significantly higher incomes due to the reduced post-harvest losses and premium pricing which is set at KES 17 per kilo as opposed to KES 14 for uncertified farmers. This implies that B&B’s certified farmers generate between 79 and 81 percent more revenue than uncertified farmers.

With KMHP’s support, B&B’s newly leased processing facility in Yatta, Machakos has increased the firm’s processing capacity from 3.5 to 7.5 tonnes per day. In 2019, the firm has procured 145 tonnes of fresh mangoes. As a result of the new processing facility B&B has attracted interest from various international buyers. As at mid-2019, the company had an order amounting to 6.5 tons from a Chinese buyer alongside additional orders from Holland and the UK.

**Scalability and systemic change**

The project team carried out a PPPLAb scan on scalability as well as used to AAER Framework to assess the extent in which the business case has (or has potential to) contribute to systemic change in the mango sector in Kenya.

**Indications of scaling:**
- A strong business case that is making use of technology solutions considered relevant and applicable for SME farmers and for the business itself.
- Growing interest among small farmers in Global GAP certification practices.
- Farmer certification gives the company an edge given the potential for enhanced quality of supplied mangoes, improved productivity and reduced post-harvest losses.
- Farmers benefit from higher revenue due to improved quality and enhanced productivity.
- Slowly growing demand for dried fruits in domestic markets.
- Need to expand range of products and customer base both domestically and internationally.
- Different companies that have ventured into mango drying i.e. Goshen, Azuri etc.

**Challenges in scaling:**
- Concern about the willingness and ability of farmers and their organisations to cover initial and annual recurrent costs for Global GAP certification.
- Apparent lack of willingness of public sector actors especially at county levels to proactively support the mango producers and industry.
- Expand the number of farmers engaged across the country to mitigate against challenges associated with different varieties and seasonal supply fluctuations.
- Need to explore the potential of bringing on board strategic partners to support farmer recruitment, training and certification.
- Public sector agents could (but fail to) support mango growers e.g. inadequate extension services, weak support to farmer organisations or lack of support to appropriate financing mechanisms for small- and medium-scale farmers.

**Indications of systemic change (see also above under scaling):**
- From our observations, the evaluation team can support the claim that this business case may be exemplary, offering opportunities and showing the way forward to systemic change in the sector.
- Interest among small farmers in Global GAP certification practices.
- The domestic market has not readily adopted dried mango as they can access the fresh fruit and will purchase other fresh fruits in off-season.
- Evidence of investments in processing facilities by others (crowding in)

As we argued above (when discussing scaling), there is need for appropriate and affordable financial products (for asset financing and working capital) for SME farmers (and their groups), support by businesses and/or public agencies to establishment and functioning of farmers organisations as well as for a more pro-active and supportive role of (county) governments for farmers as well the businesses and traders to venture into this (potentially attractive and commercially viable) value chain (e.g. in IPM, PPPs for investment in drying facilities, coop structures, regulatory frameworks, etc.).
Annex F – Brief report on Business Case 9: Managing post-harvest losses in green beans through efficient cold chain and alternative utilisation of rejects

<table>
<thead>
<tr>
<th>Business Case name:</th>
<th>MERU GREENS HORTICULTURE EPZ LTD.31</th>
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<tr>
<td>Value Chain(s) Involved:</td>
<td>Horticulture crops- French Beans</td>
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<tr>
<td>Duration:</td>
<td>1.5 years from Q4 2017 till Q1 2019</td>
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<td>Number of beneficiaries</td>
<td>50 field extension officers – Trained</td>
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<td>20 factory workers – Trained</td>
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<td>1,366 (35% women, and 37% below 35 years) Farmers using the Cold storage and Collection centre facilities</td>
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<td>(source KMHP)</td>
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<td>Regions or Counties Covered:</td>
<td>Coolers - Nandi (Lessos) Meru</td>
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<td>Collection centers for Meru, Tharaka Nithi, Isiolo, Murang’a, Kirinyaga, and Nakuru (Naivasha) ()</td>
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<td>Investment:</td>
<td>Contribution by SNV – € 129,000</td>
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<td>Contribution by Meru Green - € 109,000</td>
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<td>Contribution by Aberdare Bloom Ltd -€ 24,000</td>
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<td>Total budget – € 262,000</td>
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<td>Stakeholders</td>
<td>SNV, , County Government, CBO</td>
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Background

The problem of post-harvest loss is especially acute for horticultural crops. Recent review of the literature by IPRI32 reported that most loss estimates for these crops ranged from over just 20% to 35% and that post-harvest losses of fruits and vegetables are far higher than those of cereal crops. Estimates of horticultural losses in Kenya have been reported to be as high as 50 percent, mainly due to poor storage and handling practices. The majority of food losses in sub-Saharan Africa occur at production or during storage and handling stages.

Such losses disproportionately affect the incomes of farmers in rural areas, where poverty rates are highest. Efforts to reduce PHL have the potential to improve producers’ income and build more resilient value chains, able to withstand the effects of climate-related shocks and stressors. In addition, reducing PHL will alleviate the need to bring additional land under cultivation, thereby mitigating negative environmental impacts from agriculture. Cold chains are recommended globally for post-harvest management of fresh fruits and vegetables to minimize post-harvest losses and improve the shelf life of horticultural fruits and vegetables.

This business case aimed at improving the product quality, cold chain regime, and incorporating alternative utilization of rejected beans in the company’s supply chains to reduce post-harvest losses. Reducing these losses were to translate into;

a) More income for farmers as most of the produce supplied will be paid.

b) Increased capacity of the company to provide input and extension support

c) Business opportunity and employment in utilizing rejects for in different formulations.

31 Resource documents used: Intake form for Steering Committee, annual report KMHP 2018, Internal KMHP documents on AAER scan and PPPLab scan, Impact Assessment Report (June 2019)

32 Post-Harvest Losses in Fruits and Vegetables: The Kenyan Context – IFPRI 2018
Direct results

Under the project, 2 cold stores and grading shades were established. The Cold storage facility was sourced from Geerlofs Ltd who have expertise in developing and managing cold chains. The project also facilitated training of farmers on post-harvest management. 50 field extension officers and 20 factory workers of Meru Greens were trained on post-harvest management to minimize rejects and improve food safety. As at the end of 2018, 1,366 (35% women, and 37% below 35 years) farmers of whom 850 were in Nandi and 516 in Meru, were trained by extension officers of Meru Greens on harvesting and post-harvest management of green beans to reduce losses and improve food safety. The 850 farmers from Nandi were able to supply 258 tonnes of beans valued at Kes. 10 million within 6 months of installations. During the evaluation, it was established that the number of farmers supplying the centre had increased to about 900, and farmer FGDs during that exercise gave an indication of rejections at the collection centre drop from 50% to lower that 5%, with majority of farmers interviewed stating they have not had any rejects over the past three months. They attributed this gains to training, extension services, adherence to GAP and the fact they are able to harvest frequently and deliver at the cold storage hence avoiding cosmetic rejects (oversize) that often arise from delayed harvesting. The ongoing EAMDA endline study shall provide factual details on the volumes traded and turnover at the two sites in Nandi and Meru as at the end of the project.

Aberdare Bloom acquired a refrigerated truck in January 2018 with 50% co-investment from KMHP to fulfill the component of alternative utilization of rejects from Meru Green. However, this did not materialize as the rejects were not good enough for slicing and packaging in stir-fry mixes for the domestic market. Nonetheless, Aberdare Bloom sourced cosmetic reject from other exporters of French beans and its was reported to have tripled with improved delivery to supermarkets.

Scalability and systemic change

The KMHP team looked at scalability from two perspectives;

Scaling goal 1: Crowding in other buyers to the cold storage and collection centres.

Scaling goal 2: Crowding in more service providers to the business case

The first goal is challenged by the fact that the cold storage technology is expense; a high threshold for other exporters to also invest and there aren’t enough stakeholders involved in promoting cold storage as a solution.

The second goal identified Finance, Monitoring and evaluation, public sector Governance, and leadership and management as the key weakness in the Business case. The outcome of the team’s scaling scan was as follows:

The observations of the team are presented below together with those of our own observations as well. Reference is made to the team’s report for the recommendations that they formulated to address the challenges in these areas.

Indications of scaling

- The farmers using the infrastructure that has been set up (cold storage and collection centers) is increasing exponentially every year, with some of the farmers travelling over 9Kms to access the services.
- There is demonstrated interest of Meru Greens to expand to other regions similar as they are already negotiating with Vihiga and Trans Nzoia Counties on similar arrangements.
- Meru Greens has expressed interest to set more cold stores in Nandi and Nakuru. These are yet to be done because the company is seeking financing.
- The company has adopted a continuous planting and harvesting schedule rather than fixed planting and harvesting dates. This has allowed flexibility for farmers to plan their harvesting, especially for women whose reproductive responsibilities in the household sometimes limit their ability to plant and harvest on fixed schedules.
- Meru Greens is also planning to start pre-processing operations (grading and snipping) in Nandi.
- Financial institutions such as KCB bank offering Mobigrow input loans to Meru Greens farmers in Nandi and Meru due to consistent flow of payment to the farmers.
- Increasing more youth and women engaging as the crop does not require ownership of large tracks of land unlike the tea which alternative cash crop in the region that is male dominated.

Challenges in scaling
- Resource constraints for Meru green to go for PPPs into the other interested counties.
- Farmers in Nandi practicing rain fed farming and this limits the year round production despite the Meru greens keen interest to get supplies throughout the year.
- Occasionally farmers come across counterfeit pesticides and fungicides, which affect their profitability.
- Limited training on farming as a business / entrepreneurship; this could affect the competitiveness of the smallholder farmers in the long run.

Indications of systemic change
- Sharing of the emerging Business model on the establishment of Cold storage of vegetables in production locations as in the case of Meru greens has the potential to lead to has potential to trigger investment and financing mechanisms in the industry.
- The PPP arrangements with the county also have potential to trigger other counties to embrace similar arrangements with off-takers to create an environment that promotes profitable business in vegetables in Kenya. It was established during the evaluation that Vihiga and Trans Nzoia Counties are already exploring similar arrangements with Meru green.
- Nandi county is also considering setting up a canning facility to process horticulture from the region.
- Nandi County have indicated intention to set up basic infrastructure such as land, shades and water infrastructure in other locations so as that makes it easy for businesses similar to Meru Greens to set up storage. In addition exploring the possibility of putting up 5 cold rooms one in each sub county.
- Maersk, shipping company has expressed interest in setting up similar infrastructure in avocado and mango producing areas based on the outcomes of the ongoing business case.
- The County is working on a Youth and enterprise bill to support the farmers access finance / loans, trainings and inputs. Discussions are at an advanced level with Kenya Institute of Business training to provide entrepreneurship training the smallholder farmers.

Challenges on systemic change (see also under challenges for scaling most of which apply here as well)
- Limited engagement of public agencies such as HCD with potential to influence systemic changes through policy
- Need to foster structured engagement with other service providers, i.e. Financial, input services providers, technology providers (water harvesting, irrigation) to enhance the sustainability of the farmers.
- Need to document the viability of the cold storage model.
- The short time frame of the implementation phase not sufficient to observe systemic change at scale, more of intentions expressed.
Annex G – List of business cases, innovations and studies

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**KMHP BUSINESS CASES AND INNOVATIONS 2019**

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<td>BC15 - Eko Smart</td>
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<td>BC16 - Green Rhino</td>
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<td>IBMA (International Botanical Manufacturers Association)</td>
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**Notes:**
Some BCs Baseline and Endline rely on the planting period; because of limited time in 2019, these BCs have their Baseline and Endline combined and done at the same time hence Baseline/Endline.
<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Author</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>KHC reviewed report - City Park Market food safety baseline survey</td>
<td>KHC</td>
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<tr>
<td>2</td>
<td>Profiling Horticulture cooperatives final report</td>
<td>J. Auma &amp; P. Shimon</td>
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<tr>
<td>3</td>
<td>HGC food safety report</td>
<td>GreenRhino</td>
<td>2019</td>
</tr>
<tr>
<td>4</td>
<td>Exporting Mango from Kenya to Europe</td>
<td>ProFound</td>
<td>Nov-18</td>
</tr>
<tr>
<td>5</td>
<td>Identification and engagement of domestic market buyers for horticultural produce</td>
<td>Geoffrey Nyomata</td>
<td>Oct 2018</td>
</tr>
<tr>
<td>6</td>
<td>3R Traceability in food safety report</td>
<td>P. Chemeltorit, Y. Saavedra &amp; Joyce Gema</td>
<td>May-18</td>
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<tr>
<td>7</td>
<td>Mobile apps report</td>
<td>APF</td>
<td>2018</td>
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<tr>
<td>8</td>
<td>Ware potato market survey in Kenya</td>
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<td>2018</td>
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<td>9</td>
<td>Upscaling of commercial storage &amp; warehousing of potato value chains in Kenya</td>
<td>Wageningen University</td>
<td>2017</td>
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<td>10</td>
<td>Phase 2 Upscaling of commercial storage &amp; warehousing of potato value chains in Kenya</td>
<td>Wageningen University</td>
<td>2017</td>
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<td>Phase 3 Upscaling of commercial storage &amp; warehousing of potato value chains in Kenya</td>
<td>Wageningen University</td>
<td>2017</td>
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<td>12</td>
<td>SSP study report</td>
<td>Tymax</td>
<td>Dec-15</td>
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<tr>
<td>13</td>
<td>Study of food losses and loss reduction opportunities in fruits</td>
<td>J. Ndombi Waudo &amp; A. Schripsema</td>
<td>Dec-15</td>
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<td>14</td>
<td>SNV KMHP Gender mainstreming report</td>
<td>Futureforce consultancy</td>
<td>2015</td>
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<td>15</td>
<td>Maji milele feasibility study</td>
<td>ConsumerPro Limited and Latia Resource Centre</td>
<td>Dec-15</td>
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<tr>
<td>16</td>
<td>CGA Client profiling and capacity needs assessment</td>
<td>Cereal Growers Association</td>
<td>Sep-15</td>
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<td>17</td>
<td>Food safety draft report</td>
<td>Sustainable Rural and Urban Development Consultants</td>
<td>May-15</td>
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<td>18</td>
<td>ATL Capacity profiling and needs assessment/capacity profiling and capacity needs assessment</td>
<td>Africa Turn around</td>
<td>2015</td>
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<td>19</td>
<td>Tymax client profiling and capacity needs assessment</td>
<td>Tymax</td>
<td>2015</td>
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### Annex H – Quantitative Project Impact, Outcomes and Outputs – 2015 till August 2019

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<tr>
<td><strong>Impact:</strong> To contribute to increased food security and increased incomes through the development of a dynamic and sustainable horticulture sector in Kenya with inclusion of small and medium-sized farmers.</td>
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<tr>
<td>a) 50,000 small and medium sized farmers (50% female) earn increased income from the linkage with business cases with market-oriented value chains (increases of 10-15%)</td>
<td>50,000</td>
<td>44341</td>
<td>5659</td>
<td>44341 are farmers reached by majority of BCs and innovations since 2015 to date (Q3 of 2019). These BCs and innovations are BC1, BC1 scale up, BC2, BC3, BC4, BC5, BC6, BC7, BC8, BC9, BC10, BC11, BC14, BC15, Livatty, Solicares, Fruit tree, Ketchup, Agri-Wallet, Fertiplus, Koppert, Yielder. Some BCs and Innovations are yet to submit their numbers and they are BC12, BC13, BC16, Mtela. Two innovations IBMA and Project Madaraka will not be submitting farmer numbers. Project IBMA was about formation of an industry association for companies producing biological pesticides while Project Madaraka is piloting a financial solution with Agventure farmers who have already been tallied in BC4. The projection of farmer numbers yet to be submitted currently stands at 12,000 therefore the target of 50,000 farmers could potentially be achieved. The emphasis however is not just hitting the target but also looking at continuity of the innovations and good farming practices promoted between companies and farmers. Female representation in this tally is at 40%. BC1 scale up, BC3, BC10 and Agri-Wallet innovation participated in gender training to understand and adopt a gender perspective when doing business. With the help of a consultant, these four businesses are being facilitated to adopt different gender strategies by putting on a gender lens in their line of work to ensure not one gender is disadvantaged/harmed in the process of promoting new technologies to farmers.</td>
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<td>b) Through industry level organisations &amp; government, 250 companies engaged with the programme with regard to good practices in small and medium size farmer inclusion and food losses.</td>
<td>250</td>
<td>244</td>
<td>6</td>
<td>These are companies that Horti has interacted with t food safety and food loss workshops, conferences through the different BCs and innovations and with the help of industry players like FPEAK, HCD, SOCAA, NPCK.</td>
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<td>c) 50% of targeted farmers in business cases able to articulate how they have better access to markets, contribute to food safety and reduce food/post harvest losses.</td>
<td>50%</td>
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<td>End line evaluation of a number of BCs is currently ongoing and in a few months time, we will establish if 50% of the over 40000 farmers we have reached have better access to markets, produce safe food and have reduced food losses.</td>
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<td>d) 50% of successful business cases presented by women and youth led business.</td>
<td>50%</td>
<td>25%</td>
<td>13%</td>
<td>Out of a total of 16 business cases designed and implemented, two BCs are youth led (BC3 and BC10) and one is women led (BC2). B9 Meru Greens has a business partner Aberdare Bloom which is owned by women giving an overall total of 4 BCs owned by women and youth. Youth and gender is an important thematic area KMHP made a deliberate effort to focus on in 2019 by designing effective strategies that would potentially lead to better outcomes of youth and women participation in agribusinesses. A Micro, Small and Medium Establishments</td>
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(MSMEs) KNBS 2016 report says that 31.4% of licenced MSMEs are owned by women while 60.7% of unlicensed MSMEs are owned by women. In Nairobi’s MSMEs, 13.5% of them are owned by youths which could be lower when tallied nationally. From the BCs KMHP has implemented, 25% of are owned/led by women and youth which is not far off from the national tally of 31.4%

**Outcome 1: Entrepreneurial capacities and performance of small and medium sized farmers and companies enhanced for improved market access to domestic and international markets**

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<tr>
<th>Component</th>
<th>Target</th>
<th>Achieved</th>
<th>Deviation</th>
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<tr>
<td>b) 15 business cases with market-oriented supply chains, including small and medium sized farmers implemented.</td>
<td>15</td>
<td>16</td>
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<tr>
<td>c) 10 Kenyan-Dutch companies with increased sales of technologies related to farm productivity, food safety and reduced food losses engaged with programme.</td>
<td>10</td>
<td>18</td>
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**Output 1: Business Cases in which small & medium sized farmers have improved performance and effectively linked to markets.**

| 1.1 | Implement 15 business cases linking 50,000 farmers to market oriented supply chains. | 15 | 16 | 0 |
| 1.2 | Engage with 10 Kenyan-Dutch companies to provide integrated services & technologies to small and medium sized farmers. | 10 | 45 | 35 |

The Kenya-Dutch companies that participated in the 16 business cases are Bayer, SGS, Hortipro, Illuminum, KHS, Koppert, MEA, Syngenta, Real IPM, Soil cares, Gaea, Livatty, Burton & Bamber, Hygrotech Ltd, Geerlofs Ltd, Aberdare Bloom Ltd, Meru greens (BC9), Agrimech (BC8), Sereni Fries, Mister Potatoes, Brick and Green, Latia, Bosman, Hoogendoorn (BC5), Stevia 1931, Zucchini, Carrefour, Urban coffee, Pema farm fresh, Ojay Green (BC7), Laikipia Nature Conservancy, Eprod, Olivevo, Instaveg, Green Rhino, Fertiplus, Mtela, Yielder, Dodore. Again the focus here was not only for the companies to provide services and increase sales during KMHP programme but also to continue thriving on their own once the programme winds up. To do this, a scaling scan tool was used identify different challenges some of these businesses have in their scaling missions and come up with solutions for these challenges.
In 2016, invitations were sent out to companies to participate in the trade mission but few Dutch companies confirmed willingness to participate thus it was not prudent to organise the mission with less quorum. The trade mission was pushed to May 2017 which again lacked quorum. A different approach was used to achieve the objective of the trade mission. The objective of the trade mission was to find and attract relevant Dutch horticulture companies to come and work in Kenya. Through outreach from NABC, Berenschot consultants, AgriProFocus and Verbos, KMHP got a long list of companies and identified a dozen companies who were interested to work with KMHP and the Netherlands Business Hub as a way of entering the Kenyan market. The objective was therefore achieved even though not in a trade mission kind of way so no trade mission will be organised.

**Output 2: Business Cases which contribute to strengthened entrepreneurial orientation of small & medium sized farmers & farmer organisations.**

| 2.1 | Coach management of producer organisation on governance, enterprise development, marketing & production planning. | 100 | 100 | 0 | Strengthening of producer organisations was an activity undertaken in 2019 and 12 of the 100 producer groups KMHP has worked with were taken through an intense business support training. Most farmer producer groups only exist formally but hardly work as a unit in their approach to the farming enterprise in either sourcing for inputs or markets. The supply value chain requires a constant and reliable source of produce, at times this is not achievable because farmers lack skills in planning, budgeting and forecasting. For these reasons, found it necessary to empower and coach the groups so that they continue with their activities even after the project support comes to an end. With the activity of strengthening producer organisations, KMHP hopes to create awareness about the availability of coaching and training services to other farmer groups and demonstrate its importance and explore possibilities of linking such services to buyers and financial institutions that could potentially offer credit to farmer groups. |
| 2.2 | Organise exchange visits to/for exemplary entrepreneurial producer organisations | 30 | 29 | 1 | Business case 1 had 12 demo sites 3 of which were institutional sites. Chepkoilel in Eldoret, Wambugu in Nyeri and KHS site in Narok. Institutional sites had some of the best GH practices to showcase. Farmers from other demo sites were mobilised to attend farmers field days in these three institutions. BC2 potato farmers from Meru, Laikipia, Narok, Bomet, Nyandarua attended a potato fair in Nyandarua. Eldoret Horticulture Fair was another platform where KMHP mobilised farmer groups that participated in its business cases and innovations to participate in the fair and learn from each other. Farmers were only mobilised to attend 2016 Fair because in 2017, there was an outbreak of foot and mouth in Uasin Gishu. Foot and mouth is a highly contagious disease and the whole Uasin Gishu was under quarantine. The area where the fair was taking place was also under quarantine. As a result, we could not take our farmers to participate in the fair because they would carry the disease back home and spread it to other counties. In 2018, BC4 organised around 4 exchange visits in Nakuru one in Chemusian farm Agventure Nakuru factory, Agventure farm and 2 at Madrugada farm for KCSEED directors and leaders. The beneficiaries of these visits were: Delegates from Egerton University (TAP farm) visited Chemusian farm, Agventure Nakuru factory to learn about adoption of canola as a rotational crop and initial process of practicing conservation agriculture on their farm in Egerton. Chemusian farm limited is a new farm that has just began planting canola on contract and their
experience from the 2 seasons they had canola on their farms was a good way of making TAP farm team know that it is possible to practice conservation agriculture on any farm. The visit was to assure the team of a ready and available market. Potential/expected results from the visit are that TAP farm will adopt canola as a rotational crop and change a few farming practices in line with conservation agriculture and to plant 20 acres of canola during 2018 season. Adoption will be assessed in the 2019 endline assessment. Meta farmers group visited Agventure farm to learn benefits of canola, good farm operation practices, importance of leaving the crop stable on the farm after harvesting, correct and required moisture needed for a seed to germinate. Expected results from this visit are that farmers will recognise and accept that it is not a must to disturb soil to grow crops, acknowledge existence of a market and that growing canola is a viable venture. The other two visits were from KCSEED directors and group leaders who visited Madrugada farm because KCSEED has over 2000 farmers registered with the trust. There was need to reach these farmers so that they could adopt canola as a rotational crop. The first step was to train directors and group leaders of KCSEED and make them understand what canola is all about so that they can appreciate conservation agriculture. The group leaders would then go back to farmers and brief them on canola and mobilise them for trainings. Results of these visits by KCSEED leadership was, Directors gave a go ahead for the rollout of the project to their farmers, directors showed interest in adopting canola as a rotational crop. Group leaders appreciated the concept of conservation agriculture and benefits of adopting canola as a rotational crop and were able to brief their farmers. In 2019, Mwea and Limuru farmer groups under BC1 scale up visited Arusha to learn about plant raising and its benefits.

**Output 3: Small & medium sized farmers involved in business cases adopting best practices and new technologies to increase productivity, reduce food losses and increase food safety.**

<table>
<thead>
<tr>
<th>3.1 Organise demonstration to train 20,000 farmers on new production technologies e.g new hybrid varieties, greenhouse technology etc</th>
<th>20,000</th>
<th>16,375</th>
<th>3,625</th>
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<tbody>
<tr>
<td>BC1, BC2 and Livatty innovation set up demonstration sites to showcase new innovative farming technologies to farmers. BC1 had 12 sites with greenhouses, BC2 had 45 sites to demonstrate Dutch potato varieties and good farming techniques while Livatty had 20 demo sites to showcase Mivena’s Field-Cote which is a controlled release fertiliser (CRF). BC2 had a total of 4176 farmers on its demo sites. Livatty had 845 farmers on its demo sites. BC7 is enhancing food safety of green leafy vegetables through improved production technologies and trained 4137 farmers were trained in 22 demo sites. Fertiplus innovation had 24 demo sites and trained 1570 farmers and BC4 20 farmers trained on Agventure demo. Demo sites will continue being used by businesses post KMHP to demonstrate to farmers new technologies in the market. Results from the ongoing end line surveys will give us an indication of how that is ongoing.</td>
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<tr>
<th>3.2 Involve other service providers to train 20,000 farmers on new technologies &amp; practices related to improving food safety e.g IPM, crop protection.</th>
<th>20,000</th>
<th>21,167</th>
<th>0</th>
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<tbody>
<tr>
<td>BC1, BC1 scale up, BC2, BC3, BC6, BC7, Ketchup innovation and Livatty had a strong element of integrated pest management (IPM) and emphasis on use of biological pest control methods during farmer trainings. In BC3 farmers have adopted services of SSPs. BC6 farmers have been trained on GAP certification, food safety being one of the topics with 22 farmers being GAP certified. Innovation Ketchup had 50 farmers trained on food safety and 35 were GAP certified. More farmer numbers are still expected from BC13, BC15 and BC16.</td>
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Train & link 20,000 farmers to post-harvest losses reduction solutions e.g. cold storage, collection centre etc.

| 2,000 | 8587 | 11413 |

Makueni fruit tree innovation trained farmers in Makueni, Narok, Bomet and Kericho counties on fruit fly management. Farmers were introduced to pheromone traps to control fruit flies. Fruit fly has been a menace in mangoes leading to a lot of waste after harvesting. BC6 trained 1022 farmers on GAP and 22 were GAP certified. Under the Ketchup project, 36 farmers are drying tomatoes and shipping to the Netherlands for Ketchup processing. Drying of tomatoes is being done using a solar drier. In 2018, BC9 and BC11 linked farmers to cold storage for French beans and potatoes. At the moment, 6000 farmers from Meru and Nandi supplying French Beans to Meru Greens are using the 3 cold stores that have been installed at the farm level.

Outcome 2: Systemic challenges related to inclusion of small and medium sized farmers in market-oriented supply chains, food safety and reducing food losses in the horticulture sector effectively addressed by farmer, industry and government level organisations

- **a)** KMHP programme and institutions have reached 250 horticulture companies on effective measures to enhance food safety and improved crop protection.
  - **250**-70-180
  These horticulture companies were reached through business cases, innovations, conferences and workshops. A series of stakeholder meetings, conferences, partner days and the devolution conference planned for 2019 guarantees a wider reach for more companies. FPEAK has 99 horticulture companies on its membership database while AAK memberships for companies that produce chemicals to control plant pest and diseases are approximately 100 companies. Even though it might look like we’re way off hitting the 250 target set, looking at number of registered companies with the 2 industries (FPEAK and AAK), we’re almost half way through.

- **b)** At least 10 market infrastructure e.g. collection centres, upgraded with facilities to improved hygiene, storage and marketing of produce.
  - **10**-11-1
  The facilities include Nandi store BC9, Meru store BC9, one storage at Meru Greens packhouse and a cold storage van for Aberdare Bloom BC9. 6 collection centres for Instaveg have been set up and one refrigerated Truck for product deliveries was bought in May 2019.

- **c)** FFV Food safety standards established for Kenya.
  - **1**-15-0
  KS 1758 has 15 product specific standards in fruits and vegetables were reviewed and approved as standards through which the process of producing, producing and processing safe food must be adhered to. KS 1758 was launched and released to the industry and awareness creation to the industry is underway through county food safety workshops organised by Voice for Change for county governments, hoteliers and their suppliers. The same awareness is being achieved through branding of safe produce using Healthy Green Choice from Green Rhino and use of Eprod’s traceability system.

Output 4: Effective business models for small and medium sized farmer inclusion into market-oriented horticulture supply chains documented and promoted by farmer, industry level organisations.

- **4.1** Carry out preparatory study to increase understanding of small & medium sized farmers inclusion in horticulture supply chains.
  - **1**-6-0
  Akvo flow data was used in 2016 to carry out a needs assessment for smallholder farmers, businesses and service providers. In 2017, Laikipia Conservancy study was done to assess the feasibility of establishing horticulture crops to grow in Laikipia Conservancy and how many smallholder farmers would be included as outgrowers. A potato baseline of small scale farmers was also done in 5 counties: Meru, Bomet, Narok, Nakuru, Uasin Gishu. The study aimed at finding out relevance of storage for small scale farmers, size of storage needed, percentage of produce farmers are willing to store and for how long.
long and finally how much they would be willing to put in the investment. Other studies Buyers and Cooperative were done in 2018.

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<tr>
<th>4.2</th>
<th>Facilitate 5 county-level farmer organisations to implement good practices strengthening linkages with markets.</th>
<th>5</th>
<th>50</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BC1 had 9 farmer organisations linked to innovative technologies in vegetable production. In BC2, 15 farmer organisations were linked to innovative technologies to improve on their potato ware supply to processors. Makueni fruit tree innovation saw 4 cooperatives trained on fruit fly traps to reduce post-harvest losses in fruits. Ketchup innovation has trained Kwakai Rural Sacco Credit and Cooperative Society. The farmers are now Global Gap Certified and producing tomatoes for the Ketchup company, destined for European market. BC6, Ithanga Mango Growers and Marketing Group were trained on good farming practices, given a Global Gap certification and are now producing mangoes for Burton and Bamber. The mangoes are dried and sold to European and local markets. BC7 had 20 farmer groups trained on nethouse farming. Zuchini and Ojay Green were involved in BC7 to buy from farmers who were trained on nethouse farming. Linkage of farmer groups to markets is also being done through strengthening of 12 producer groups an activity being undertaken by Tymax and Africa Turn Around.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4.3</th>
<th>Support 5 industry-level associations to promote good practices in small and medium sized farmers inclusive business models.</th>
<th>5</th>
<th>6</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>KMHP engagement with Society of Agribusiness Advisers (SOCAA) in advocacy of promoting good horticulture practices. Agrochemical Association of Kenya (AAK) was empowered to promote judicious handling of agrochemicals by spray service providers. IBMA Kenya (International Biological Manufacturers Association). KMHP supported the four main biological manufacturing companies to form an industry association that will represent the biological control agents (BCAs) manufacturers. Core functions of the association are to make representations to various authorities to promote the technology and to increase knowledge among the various stakeholders. FPEAK (Fresh Produce Exporters Association of Kenya) was supported by KMHP to host the Fruits and Vegetables Conference &amp; Exhibition with the theme ‘Enhancing Food Safety &amp; Competitiveness for Kenya’s Fruits, Vegetables and Herbs.’ National potato council of Kenya (NPCK) and Kenya Horticulture Council convened the third Annual National potato conference and trade fair on 24th and 25th May 2018. During the conference, top issues facing the potato industry and the progress made in the sector were discussed while the event provided a great opportunity for actors and players to network.</td>
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</tr>
</tbody>
</table>

**Output 5: Effective measures to enhance food safety and integrated crop protection adopted and promoted by farmer, industry & government level organisations.**

<table>
<thead>
<tr>
<th>5.1</th>
<th>Carryout a study on food safety issues in FFV</th>
<th>1</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>A scoping study to evaluate food safety standards of fresh fruits and vegetables in selected domestic markets in Kenya was done in 2015. The study was undertaken to assess the food safety and quality within three counties, Nairobi County (Nairobi area and its environs), Nakuru County (Nakuru Town and its environs) and Machakos County (Machakos Town and its environs). Another food safety study was done with KHC at City market in 2018 and Food safety market analysis with Green Rhino in 2018.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Section</td>
<td>Activities</td>
<td>Output 6.0</td>
<td>2015/16 Achievements</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------</td>
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<td></td>
</tr>
<tr>
<td>5.2</td>
<td>Organise stakeholder fora’s at county level to share study findings and develop action plans.</td>
<td>10</td>
<td>Farmer profiling in 2015 was done in 9 counties. The counties were clustered into 3 and three meetings were held to share findings with county officials. With support from KMHP, FPEAK (Fresh Produce Exporters Association of Kenya) organised a Fruits and Vegetables conference and exhibition in Nairobi county. The conference brought together stakeholders in the fruits and vegetables industry, exporters, farmers and government officials. Food safety policy issues were discussed, statistics on food safety status shared and also the diagnostic analysis of the industry. Data on microbial contamination of fresh fruits and vegetables was shared. Voice for Change organised Nakuru and Muranga food safety workshops. Green Rhino shared findings on Food Safety Market Study. Action plan from the Green Rhino forum is to improve market structures which in turn will lead to improved hygiene. 3 hoteliers workshop have been done in Kwale, Mombasa and Nairobi for KS1758. KMHP used Eprod platform to disseminate study findings of Buyers and Cooperative study to promote food safety in Meru, Muranga, Nyandarua, Laikipia counties.</td>
<td></td>
</tr>
<tr>
<td>5.3</td>
<td>Support 10 county governments to improve on food safety and promoted solutions demonstrated by the programme.</td>
<td>10</td>
<td>480 Spray service providers and implementers were trained in BC3 to improve food safety through adoption of IPM in 5 counties; Makueni, Kajiado, Nyeri and Nyandarua. Some of the trained SSPs were absorbed by their respective county governments to offer extension services to farmers example SSPs from Makueni, Bungoma and Nakuru counties. Nyeri, Nakuru and Bungoma counties held stakeholder forum meetings to create awareness about trained SSPs and their role in improving food safety in respective counties. KMHP has also invested in capacity building to implement KS1758. Together with Voice for Change, food safety workshops have been organised in Nakuru and Muranga counties. Green Rhino shared findings on Food Safety Market Study. Action plan from the Green Rhino forum is to improve market structures which in turn will lead to improved hygiene. 3 hoteliers workshop have been done in Kwale, Mombasa and Nairobi for KS1758. KMHP used Eprod platform to disseminate study findings of Buyers and Cooperative study to promote food safety in Meru, Muranga, Nyandarua, Laikipia counties.</td>
<td></td>
</tr>
<tr>
<td>5.4</td>
<td>Facilitate 5 county-level farmer organisations to improve on food safety and integrated crop protection</td>
<td>5</td>
<td>4 farmer cooperatives were trained under Makueni fruit tree innovation on the use of pheromone traps to manage fruit fly pest. Fruit fly trap is a cheap and effective pest control method and has no issues with MRL residue. Ithanga Mango Growers and Marketing Group &amp; Kwakwai Rural Sacco Credit and Cooperative Society have been GAP certified. GAP certification emphasises on IPM control methods. BC7 had 20 farmer groups who were trained on nethouse farming which integrated IPM. BC1 scale up has 12 farmers groups that were trained on integrated crop protection with Koppert taking the lead in this training. Instaveg 12 farmer groups have also been GAP certified.</td>
<td></td>
</tr>
<tr>
<td>6.0</td>
<td>Improved practices to reduce food losses adopted, documented and promoted by farmer, industry &amp; government level organisations.</td>
<td></td>
<td>In 2015 a Study on Food Losses and Loss Reduction Opportunities in Fruits and Vegetable Chains in Kenya was done. The study assessed potato, courgette and avocado supply chains. The goal of this scoping study was to assess the magnitude of post-harvest food losses in selected fresh fruits and vegetables and recommend food loss reduction strategies that could be implemented under the Kenya Market-led Horticulture Programme (KMHP) in order to improve food and nutrition security households. In 2017, another study about Upscaling of Commercial Storage and Warehousing of Potato Value chains in Kenya was done by Wageningen University and the results were used to design BC11.</td>
<td></td>
</tr>
<tr>
<td>6.1</td>
<td>Carryout a study to evaluate food losses in selected FFV.</td>
<td>1</td>
<td>In 2016, 9 counties from whom farmer profiling was done were clustered into 3 forums to share food loss study findings. The first Africa Post Harvest Congress and Exhibition was organized in 2017. The University of Nairobi (UON) was supported by</td>
<td></td>
</tr>
<tr>
<td>6.2</td>
<td>Organise 10 stakeholder fora’s at county level to share study findings and develop action plans.</td>
<td>10</td>
<td>In 2015 a Study on Food Losses and Loss Reduction Opportunities in Fruits and Vegetable Chains in Kenya was done. The study assessed potato, courgette and avocado supply chains. The goal of this scoping study was to assess the magnitude of post-harvest food losses in selected fresh fruits and vegetables and recommend food loss reduction strategies that could be implemented under the Kenya Market-led Horticulture Programme (KMHP) in order to improve food and nutrition security households. In 2017, another study about Upscaling of Commercial Storage and Warehousing of Potato Value chains in Kenya was done by Wageningen University and the results were used to design BC11.</td>
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</tbody>
</table>
develop joint action plans. KMHP to hold the first All Africa Post Harvest Congress and Exhibition bringing together industry players in the agriculture for a joint effort in reducing food losses in Africa. Input from private sector example technology providers, government and academia resulted in a resolution to host the event annually to promote reduction of food losses. WUR-FBR shared findings of a study on food losses in potato, avocado and courgette with stakeholders. This information was pulled into a database of knowledge on food losses in Africa and the database is being hosted by UON for public use. The findings will also be published in the congress proceedings. Potato storage studies done by Wageningen University were also shared/presented to stakeholders.

| 6.3 | Support 10 county governments to take measures to reduce food losses and promoted solutions from the programme | 10 | 11 | 0 | Findings and solutions from a baseline study on post-harvest losses were shared with 9 county government agricultural officers and extension officers. BC3 trained and certified SSPs to handle pesticides essentially removing the burden of handling pesticides from the farmer. Training was done in Nakuru and Bungoma. The trained SSPs were recognised and accepted by the two county governments. Bungoma county government later on used the trained SSPs to contain an outbreak of fall army worm in the county. |

| 6.4 | Support 5 industry-level associations activities towards reduction of post harvest losses and to promoted solutions from the programme | 5 | 4 | 1 | Through BC3, Agrochemical Association of Kenya (AAK) was facilitated and became instrumental in building capacity for Spray Service Providers who in turn offered their services to farmers. Fresh Produce Exporters Association of Kenya (FPEAK) was supported by SNV to host the Fruits and Vegetables Conference & Exhibition with the theme ‘Enhancing Food Safety & Competitiveness for Kenya’s Fruits, Vegetables and Herbs.’ IBMA - KMHP supported the four main biological manufacturing companies to form an industry association that will represent the biological control agents (BCAs) manufacturers. NPCK and KHC were facilitated to convene the third Annual National potato conference and trade fair on 24th and 25th May 2018. |

| 6.5 | 5 county-level farmer organisations facilitated to take measures to reduce food losses. | 5 | 21 | 0 | 15 farmer organisations in BC2 and 4 cooperatives in Makueni fruit tree innovation were supported in 2016 to take measures that would reduce food loss. BC2 farmers were introduced to better disease control methods like seed dressing using trianum to control/manage pests and diseases at the farm level. Makueni fruit tree management farmers were exposed to fruit fly traps that help in reduction of destruction of mangoes by fruit flies. Ithanga Mango Growers & Marketing Group and Kwakyai Rural Sacco Credit and Cooperative Society were GAP certified. Kwakyai farmers were trained on how to dry tomatoes while Ithanga farmers supply mangoes to Burton and Bamber for drying. |

Output 7.0 : Knowledge development and dissemination for upscaling of best practices and effective business models on farmer inclusion, improving food safety & reducing food losses.

| 7.1 | Develop 10 evidence-based solutions related to the three thematic areas | 10 | 11 | 0 | BC4 promoted Canola as a rotation crop to encourage conservation agriculture (minimum tillage and improvement on soil fertility), BC3 had Spray Service Providers to enhance food safety and Livatty Innovation promoted controlled release fertiliser that increased farmer yields. Yielder was a platform used to improve the communication between farmers and knowledge centres and vice versa. Fertiplus promoted organic fertilisers to smallholder farmers, BC1 and BC7 had green & net houses and growbags, BC5 use of trained ToTs offering professional services to greenhouse farmers. BC8 full mechanisation of potato. BC1 scale up design of pre-financing farmers using Agri-Wallet to buy inputs. Sereni fries piloted a potato storage. SoilCares had a handheld soil testing device that gave instant results. |

| 7.2 | Package the solutions for effective promotion & upscaling & pre-test | 10 | 7 | 3 | There were brochures in BC4 that highlighted what conservation agriculture is and the role of canola in contributing to improvement of soil fertility while the farmer reaps its economic benefits. The brochures were distributed during farmer field days. KS 1758 has 15 product specific standards in |
fruits and vegetables were reviewed approved as standards through which the process of producing, producing and processing safe food must be adhered to. KS 1758 was launched and released to the industry and awareness creation to the industry is underway. The standards were summarized and condensed into a 26-page A6 booklets that are distributed during awareness creation sessions. Yelder was a platform used to improve the communication between farmers and knowledge centres and vice versa. Information about Yelder app and how it functions and how to sign up was made into a brochure which is distributed during farmer field days. A video has been made for BC3 SSPs who were trained and are serving farmers. The video is used to showcase SSPs work during stakeholder meetings that are aimed to advertise and introduce SSPs to the public. Information about Agri-Wallet has been made into a brochure which explains how the app works and how to sign app. The brochures are distributed during farmer field days and stakeholder meetings. HprtIMPACT facilitated National Potato Council of Kenya (NPCK) to hold two conferences in 2017 and 2018. The conference provided a great opportunity for actors and players to network and to discuss top issues facing the potato industry and the progress made in the sector. Two conference magazines highlighting all conference activities was developed and distributed to stakeholders during NPCK events. 2017 magazine covered mechanization of potato farming and BC8 pilot on potato mechanization was highlighted. 2018 magazine looked at promotion of potato production for food security and agribusiness. The design session for BC11 was covered in this issue. Hortifresh magazine covered Fertiplus, Agri-Wallet and SSP stories. The magazine has a wide coverage and more players in the horticulture industry.

| 7.3 Design an upscaling promotion campaign for selected solutions | 10 | 4 | 6 | Kwakya story was featured in the Nation Newspaper, Fertiplus in Hortifresh, Agri-Wallet featured in Hortifresh, SSPs featured in Hortifresh, SSPs documentary, |
## Annex I - Itinerary of the evaluation team

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thu / Fri 29-30 Aug</td>
<td>Thomas Were joins EAMDA in Nandi (BC9)</td>
</tr>
<tr>
<td>Sat 31st Aug.</td>
<td>Travel to Nairobi</td>
</tr>
<tr>
<td>Sun 1st Sept.</td>
<td>Meeting of evaluation team in Nairobi for planning and preparation</td>
</tr>
</tbody>
</table>
| Mon 2nd Sept | Briefing with Programme Manager  
Meeting EAMDA team  
Meeting with project team                                                                                                                                                                                                                                                                                                                                 |
| Tue 3rd Sept | Meeting with lead Private sector BC 6 Burton & Bamber in Thika  
Visit at HCD premises in Yatta  
Meeting Ms. Willem & Ms. McKenzie at EKN                                                                                                                                                                                                                                                                                        |
| Wed 4th Sept | Meeting members farms’ group in Limuru (BC1)  
Meeting lead BC3 Mr. Benson Ngigi - AAK  
Meeting at National Potato council of Kenya                                                                                                                                                                                                                                                                                     |
| Thu 5th Sept | Meeting local Steering Committee BC1  
Meeting Lead Private sector BC 9 – Meru Greens                                                                                                                                                                                                                                                                                        |
| Fri 6th Sept | Meet Liz Kyengo on AKVO & M&E  
Meet with Alexander Valeton - Yielder  
Meeting Horticulture Crops Directorate                                                                                                                                                                                                                                                                                          |
| Sat 7th Sept | Meet lead BC 1 scale up Neighbourhood Fresh Mart                                                                                                                                                                                                                                                                                           |
| Sun 8th Sept | Travel to Makueni                                                                                                                                                                                                                                                                                                                            |
| Mon 9th Sept | Meet Farmers & SSPs (BC3)  
Travel Back to Nairobi                                                                                                                                                                                                                                                                                                                          |
| Tue 10th Sept | Meet with Joshua Oluyali - MOALF  
Meeting KMHP Team members                                                                                                                                                                                                                                                                                                                        |
| Wed 11th Sept | Meeting lead Fertiplus  
Meeting Mr. B. Kiome of Hivos  
Meet KMHP team members                                                                                                                                                                                                                                                                                                                         |
| Thu 12th Sept | Meeting KMHP Team Members  
Preparing sensemaking workshop  
Drafting report headlines                                                                                                                                                                                                                                                                                                                     |
| Fri 13th Sept | Sense making and validation workshop  
Part 1 – External and internal  
Part 2 – Internal  
Meeting KMHP Team members                                                                                                                                                                                                                                                                                                                |
| Mo 16th Sept | Debrief SNV Country Director Jeen Kootstra with PM                                                                                                                                                                                                                                                                                            |
| Tue 17th Sept | Skype meeting  
- Mr. Ed Moerman – SV Member – Koppert  
- Mr. Bert-Jan Ottens – Green Rhino                                                                                                                                                                                                                                                                                                              |
| Wed 18th Sept | Skype with former PM – Stefan Engels                                                                                                                                                                                                                                                                                                         |
## Annex J – List of Persons Met

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sigrid Meijer</td>
<td>KMHP Project Coordinator</td>
</tr>
<tr>
<td>2</td>
<td>Ben Ndolo</td>
<td>KMHP</td>
</tr>
<tr>
<td>3</td>
<td>Betty Musembi</td>
<td>KMHP</td>
</tr>
<tr>
<td>4</td>
<td>Elias Chandi</td>
<td>KMHP</td>
</tr>
<tr>
<td>5</td>
<td>Elizabeth Kyongo</td>
<td>KMHP</td>
</tr>
<tr>
<td>6</td>
<td>Leah Mwaura</td>
<td>KMHP</td>
</tr>
<tr>
<td>7</td>
<td>Renan Lozano</td>
<td>KMHP</td>
</tr>
<tr>
<td>8</td>
<td>Tony Okuku</td>
<td>EAMDA</td>
</tr>
<tr>
<td>9</td>
<td>Samuel Kibocho</td>
<td>EAMDA</td>
</tr>
<tr>
<td>10</td>
<td>Irene Mue</td>
<td>EAMDA</td>
</tr>
<tr>
<td>11</td>
<td>Karin Asinga</td>
<td>EAMDA</td>
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<td>12</td>
<td>Fred Ogana</td>
<td>EAMDA</td>
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<tr>
<td>13</td>
<td>Jonathan Bamber</td>
<td>Burton &amp; Bamber</td>
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<tr>
<td>14</td>
<td>Sarah Bamander</td>
<td>Burton &amp; Bamber</td>
</tr>
<tr>
<td>15</td>
<td>Violet Lumbaga</td>
<td>Burton &amp; Bamber</td>
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<tr>
<td>16</td>
<td>Sanne Willems</td>
<td>Embassy of the Kingdom of the Netherlands</td>
</tr>
<tr>
<td>17</td>
<td>Rose McKenzie</td>
<td>Embassy of the Kingdom of the Netherlands</td>
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<tr>
<td>18</td>
<td>Benson McKenzie</td>
<td>Agrochemicals Association of Kenya</td>
</tr>
<tr>
<td>19</td>
<td>Charity Mukami Maina</td>
<td>National Potato Council of Kenya</td>
</tr>
<tr>
<td>20</td>
<td>Teresa Wamburu</td>
<td>Director Holland GreenTech</td>
</tr>
<tr>
<td>21</td>
<td>Geoffrey Ongoya</td>
<td>Technical Manager Koppert</td>
</tr>
<tr>
<td>22</td>
<td>Linda Busienei</td>
<td>Operations Manager Dodore</td>
</tr>
<tr>
<td>23</td>
<td>Violet Mingate</td>
<td>Partnership Manager Dodore</td>
</tr>
<tr>
<td>24</td>
<td>Irene Wahome</td>
<td>Project Manager Meru Greens</td>
</tr>
<tr>
<td>25</td>
<td>Gerald Muthomi</td>
<td>Director Meru Greens</td>
</tr>
<tr>
<td>26</td>
<td>Mauku Samuel Njau</td>
<td>Finance &amp; Administration Manger Meru Greens</td>
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<tr>
<td>27</td>
<td>Francis Gatu</td>
<td>Factory Manager</td>
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<tr>
<td>28</td>
<td>Moses Sisuma</td>
<td>Technical Assistance Meru Greens Nandi Lessos</td>
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<td>29</td>
<td>Nancy Chebii</td>
<td>Agriculture Extension officer Nandi – Lessos</td>
</tr>
<tr>
<td>30</td>
<td>Mercy Kogo</td>
<td>Liaison officer Department of Trade, Nandi County</td>
</tr>
<tr>
<td>31</td>
<td>Innocent Serem</td>
<td>Trade Officer Department of Trade, Nandi County</td>
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<tr>
<td>32</td>
<td>Josephine Simiyu</td>
<td>Manager Regulations and Compliance HCD</td>
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<td>33</td>
<td>Caroline</td>
<td>Horticulture Crops Directorate</td>
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<td>34</td>
<td>Alexander Valetton</td>
<td>Founder Yielder</td>
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<tr>
<td>35</td>
<td>Mahat Ali</td>
<td>Executive Director Neighbourhood Freshmart</td>
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<tr>
<td>36</td>
<td>Gerald Mutua</td>
<td>Manager Business Support Services NFL</td>
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<tr>
<td>37</td>
<td>Boniface Kiome</td>
<td>HIVOS</td>
</tr>
<tr>
<td>38</td>
<td>Joshua Oluyali</td>
<td>Director Horticulture – MoAFL – Lead NHTWG</td>
</tr>
<tr>
<td>39</td>
<td>James Opiyo</td>
<td>FAO County Programme Specialist Makueni</td>
</tr>
<tr>
<td>40</td>
<td>Hezron Arunga</td>
<td>Fertiplus</td>
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<tr>
<td>Farmers’ Group in Limuru</td>
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<td>--------------------------------------------------------------</td>
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<td></td>
</tr>
<tr>
<td>41 Michael Ndiba</td>
<td>Chairman</td>
<td></td>
</tr>
<tr>
<td>42 Francis Njenga</td>
<td>Secretary</td>
<td></td>
</tr>
<tr>
<td>43 Charles Munene</td>
<td>Farmer</td>
<td></td>
</tr>
<tr>
<td>44 Sylvenous Kihani</td>
<td>Farmer</td>
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</tr>
<tr>
<td>45 Peter Gakhuna</td>
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<tr>
<td>46 David Kiga Kinyanjui</td>
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<tr>
<td>47 Sara</td>
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<tr>
<td>48 Vinda Ngecha</td>
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<tr>
<td>49 Salome Ginga</td>
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<tr>
<td>50 Mary Njui</td>
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<tr>
<td>51 Moses Mburu</td>
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<tr>
<td>52 Mary Gathoni</td>
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<tr>
<td>53 Haron Ngige</td>
<td>Farmer</td>
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<table>
<thead>
<tr>
<th>Spray Service Providers and Farmers in Makueni</th>
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<tbody>
<tr>
<td>54 John Gathungu</td>
<td>SSP</td>
</tr>
<tr>
<td>55 Anthony Kimeu</td>
<td>SSP</td>
</tr>
<tr>
<td>56 Rev Peter Ndegwa</td>
<td>SSP</td>
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<tr>
<td>57 Geoffrey Mutinda</td>
<td>Farmer</td>
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<tr>
<td>58 David Kivingi</td>
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<tr>
<td>59 Daniel Macharia</td>
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<tr>
<th>Meru Greens Farmers – Nandi</th>
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<tr>
<td>60 William Ragut</td>
<td>Farmer</td>
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<tr>
<td>61 Evelyn Rabur</td>
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<tr>
<td>62 Patrobus Yobi</td>
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<tr>
<td>63 Arusey Edward</td>
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<tr>
<td>64 Baranabus Maru</td>
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<tr>
<td>65 Samuel K Ngeny</td>
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<td>66 Ruth Kosgei</td>
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<tr>
<td>67 Collins K Kirui</td>
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<tr>
<td>68 Obadijah Biwot</td>
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<td>69 Samuel Misoi</td>
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<tr>
<td>70 Beatrice Cherono</td>
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<tr>
<td>71 Wilborn Koech</td>
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<td>72 Julius Kogo</td>
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<tr>
<td>73 Ezekiel Sawe</td>
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<tr>
<td>74 Valentina Jemei</td>
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</tr>
<tr>
<td>75 Rael Chekwany</td>
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</tr>
<tr>
<td>76 Martha Tanui</td>
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<th>Persons interviewed or participants in Skype conferences (not met in person)</th>
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<tr>
<td>77 Rachel Wanyoike</td>
<td>Solidaridad - Member of KMHP Steering Comittee</td>
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<tr>
<td>78 Martine de Jong</td>
<td>Delphy – Member of KMHP Steering Comittee</td>
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<td>79</td>
<td>Heleen Bos</td>
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<td>80</td>
<td>Ed Moerman</td>
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<td>81</td>
<td>Jeen Kootstra</td>
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<td>82</td>
<td>Bert-Jan Ottens</td>
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<td>83</td>
<td>Stefan Engels</td>
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</table>
Annex K – Documents consulted


KMHP (2016) BC3 AAK SSP BC Intake form

KMHP (2016) SNV HortIMPACT 2015 annual report

KMHP (2017) BC1 Impact evaluation powerpoint presentation

KMHP (2017) SNV HortIMPACT 2016 annual report

KMHP (2018) AAER Assessment: Meru Greens Business Case

KMHP (2018) BC1 BC9 Final report scaling workshop

KMHP (2018) SNV HortIMPACT 2017 annual report

KMHP (2019) AAER Assessment Agrivijana Powerpoint and Narrative

KMHP (2019) AAER Assessment Agriwallet

KMHP (2019) AAER Assessment Fertiplus

KMHP (2019) AAER Assessment Sereni Fries

KMHP (2019) AGRI-WALLET DRAFT REPORT


KMHP (2019) BC3 AAER Analysis final

KMHP (2019) BC3 AAER Analysis powerpoint

KMHP (2019) EKN Annual Plan KMHP 2019 final


KMHP (2019) Improvement of food safety through adoption of IPM and training of professional spray service providers (SSP) - Scaling Scan BC 3

KMHP (2019) SNV HortIMPACT 2018 annual report


PPPLab Food and Water (2016) Explorations 04. Scaling: From simple models to rich strategies. The partnerships Resource Centre, Aqua for All, SNV and Wageningen University and Research.

PPPLab Food and Water (2017) Insights Series 06: Scaling through PPPs. The partnerships Resource Centre, Aqua for All, SNV and Wageningen University and Research.


Ridolfi C., Hoffmann V. and Siddhartha Bara. (March 2018) Post-harvest losses in fruits and vegetables: the Kenyan context. IFPRI Review for V4CP programme


