End Line Evaluation of the Kenya Horticulture Market Access Programme (KHMAP)

FINAL REPORT

Prepared For

Fresh Produce Exporters Association of Kenya

(FPEAK)

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We trust the report will not only better inform future programming and interventions but also assist other development partners and private sector actors in contributing to long-term sustainable development of the Kenya horticulture sector.

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Executive Summary

Fresh Produce Exporters Association of Kenya (FPEAK), Kenya Flower Council (KFC) and Fresh Produce Consortium of Kenya (FPC Kenya) received financial support from Trade Mark East Africa (TMEA) to implement the Kenya Horticulture Market Access Program (KHMAP) which was implemented from February 2020 to February 2022. The project aimed to improve competitiveness and enhance market access for Kenya's horticultural produce. The KHMAP interventions involved several capacity building factors, including training staff of the industry associations on M&E systems and farmer groups and pack houses on standards, such as Global GAP, Grasp, Safe Use of Pesticides, BRC and FSSC 22000. The ultimate goal was to get farmers organizations and pack houses ready for certification against the requisite standards, improve quality management systems and internal operational processes, establish the Horticultural Management Information System (HMIS), and strengthen logistical engagements with Regional Economic Blocs, Airports, and Sea Ports on export capability.

Upon the completion of the program, the implementing Consortium commissioned an end line performance evaluation to establish the outputs, impact and outcomes against the project monitoring plan, and any other additional/alternative outcomes realized in given strategic project areas. The evaluation sought to draw key lessons as a basis for the design of new strategy and interventions for KHMAP's successor or related programs. The evaluation aimed to inform various stakeholders, including TMEA, industry associations, government agencies, small holder farmers, local retailers, exporters, logistics companies, and service producers, among others. The contract was awarded to OGIVES Limited (Nairobi-Kenya).

To provide accurate and reliable information, the Consultant combined mixed-methods with theory-based evaluation approaches to compare end line quantitative and qualitative data to the baseline data and findings to identify and understand the factors that contributed to outcomes, including barriers to achieving these outcomes. The intention was to generate information to measure changes attributable to the program interventions and provide useful recommendations to FPEAK as the primary implementing agency—recommendations that were useful for follow-on and future projects.

The evaluation addressed the objectives and indicators or questions specified in the ToR using the Organization for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) criteria. The evaluation applied different analytical approaches to different questions to provide an outline of the evidence; among others, these included data source triangulation, Content Analysis, and Theory of Change Evaluation.

Because collection of primary quantitative data was not feasible within the timeline and budget available, the Consultant utilized secondary data available from project reports and literature review to supplement mostly qualitative information. The documents reviewed were identified and agreed upon at Inception meetings with the KHMAP. These included internal documentation and data, and other secondary literature, including the TMEA country strategy, project results causal chain, monitoring plan, progress reports, and work plan, among others. A comprehensive desk review and textual analysis was undertaken to measure changes in conditions of beneficiaries before/after interventions. The Key Informant Interviews anticipated in the evaluation design to validate and supplement the findings from the desk review and shed light on how design and implementation of the program affected outcomes had not materialized at the time of writing this report.

Key Findings

From the various findings, the evaluation concludes that the **program interventions were relevant, efficient and effective**, taking into account the project time of two years being very short and significant implementation disruptions caused by COVID-19. Specific findings include:

1. Evaluated for relevance, coherence and clarity, the evaluation finds that the program was well aligned with the policies, needs and the contextual situation in the country's horticultural sector. The **program interventions were coherent with country-specific realities, legal and policy frameworks, and programs of other partners operating within similar contexts, including addressing** highly relevant felt needs of the industry. The program also addressed country-specific realities concerning institutional capacity and legal and policy framework for competitiveness and enhanced market access.
2. On efficiency and effectiveness, the evaluation finds that the program was fairly efficient in its use of resources and implementation, and effective in its interventions and implementation. Based on the project scope and the findings, the program approach was the best possible because no individual organization was likely to address the range of expertise and resources required by such a program. In addition, **the interventions were implemented with relatively efficient strategies**. However, an analysis of the program's theory of change found weaknesses related to the identification, incorporation and elaboration of key assumptions and risks along the different impact pathways.
3. The **program was time-efficient -** key activities were managed and impacts achieved within the broader program timelines. Despite unforeseen challenges of the COVID-19 pandemic, it still achieved over 90% of its targets within a highly constrained and difficult implementation environment and a shorter time span. The project managed to accomplish a majority of its key objectives, including successfully developing the HMIS platform, training and certifying farmers and pack houses, and conducting studies and stakeholder engagements for successful advocacy. The program enhanced, achieved, or was on track to achieve its targets for horticulture trade and investment promotion, advocacy, and logistics toward improved environment and opportunities for market access.
4. Critical to the program's success was the high level of coordination by the consortium in ensuring that the relevant stakeholders were on board in addressing the sector's challenges to improve market access. This is likely to contribute to the sustainability of the interventions. The program experienced serious challenges at its launch which coincided with the COVID-19 in Kenya and was forced to either limit physical contact with the target beneficiaries or drop some activities, such as foreign travel and exhibitions. These challenges, however, are deemed not to have compromise the program's effectiveness unduly, but the rush to catch up with activities in the second year after pandemic control restrictions eased probably compromised the efficiency of resource utilization and effectiveness of delivery.
5. A few systemic changes are delineable from the program interventions. The program is considered to have contributed positively in enhancing production and market capacity of

farmer groups and pack houses through training and certification. It also lobbied stakeholders in non-traditional production areas to **catalyzing interest and action in export horticulture.** Continuous engagement with the LREB succeeded in influencing a member counties to start increasing production of export horticultural crops. The governors of Kakamega and Kisii committed to work with KAA and KPA to ensure adequate quantities are produced in the region to utilize the facilities being developed at the Kisumu Airport. Most notably, the lobbying of the KAA, Kenya Airways and other stakeholders in the freight and logistics value chains culminated in Kenya Airways flying the first cargo plane in history from Moi International Airport to Sharjah International Airport. In addition, the KAA facilitated the installation of a cargo handling and cold storage facility at the Kisumu International Airport through a Public Private Partnership in 2021 and the launched fresh produce cargo services in January 2022. The KAA also released land at the old Kisumu Airport to pave way for a private company to establish a cargo transit shed. At the Eldoret International Airport, direct exports of cut flowers to the European market resumed in November 2021, in partnership with Ethiopian Airlines, after a 12-year hiatus.

The evaluation also finds evidence of adaptive implementation and working methodologies resulting from experience with COVID-19 pandemic. Adjustments were made for the highly contact-intensive activities and those that relied on meetings were undertaken virtually. In other instances, activities followed a hybrid of physical and virtual approach. The project team appreciated the value and efficiency of virtual meetings and working groups more, which led to the development of a number of project documents that ensured smooth running of the project once launched. The acquired adaptive capacity and new ways of working will help the associations prepare and respond better to changing working environments in the future, including better anticipation of such situations.

6. **Sustainability challenges.** Key weakness of the program, and perhaps significant contributors to weaker performance, include:
    - **Short-termism.** The two-year duration (effectively, one year due to COVID-19), which proved too short for partners to effectively and efficiently implement or track progress of the envisaged interventions. The short-term nature of the project meant that the beneficiaries had only limited interaction with the project. The implementation time may not have been sufficient to embed the gains and cultivate ownership. Importantly, the short duration did not permit impact measurement or getting a sense of early indications of sustained impact. These factors can only be measured in the next 2 to 3 years.
    - **Maintaining functional and capable farmer groups.** Sustaining the capacity built among farmers will be challenging. It is unclear whether farmer groups trained and certified would become more effective mediators of production and marketing.
    - **Retaining knowledge acquired through training.** Knowledge, skills and competence acquisition is a continuous long term process that only one-off short interventions cannot adequately address. Due to the inadequate time accorded the trainings, it is unclear if the knowledge, skills, competence and confidence acquired by pack houses will persist long term. It is unclear from the program documents who will else can support training beyond KHMAP.
    - Whereas the program developed and activated the **HMIS portal** to support all stakeholders (private and public sectors), the availability of adequate capacity and resources to actively manage and maintain the platform is needed.
7. **Strategies to enhance the project sustainability**
    - **Support from the government.** Project sustainability is demonstrated in the case of the Moi South Lake Road, in which KHMAP lobbied the Government and got KERRA to upgrade the road to class C for ease of its future rehabilitations in serving the target horticultural zone. In addition, KHMAP engaged the Meru County Government in addressing market access challenges through a Memorandum of Understanding (MoU) between the county and fresh produce logistics team that is aimed at creating a structured approach to make trade workable.
    - **Spillover effects.** The activities and gains went beyond the implementing Consortium. The program implementation involved partners who have the same goals and are affected

by similar problems; this led to developing supportive services with minimal resources. The participatory nature of the project built a community support that enhances the likelihood of stakeholders taking ownership, feel valued and endeavor to sustain the gains made. Moreover, the synergies created from the highly successful stakeholder engagements and coordination has set the basis for establishing smooth inter-modal transport systems that will spur trade, create efficiency, and improve compliance with international standards.

- **The program built the capacity of Associations' staff.** A well-trained and highly skilled staff, as well as effective leadership, is a valuable asset in developing and preserving projects; the trained staff are better prepared, more confident and more effective in implementing and sustaining projects. Additionally, M&E training and reference manuals developed by the program are available for future use; the manual will enhance the capacity of the Associations for M&E, thus improving their overall organizational effectiveness.
- **Upgrading the Moi South Lake Road** will ease maintenance and continue to serve the horticultural stakeholders in the area for longer periods of time.

Key Lessons

Several lessons are derivable from the program's experience with and impact of the pandemic relevant to future implementation efficiency, among others:

1. It is important for programs to clearly identify, incorporate and elaborate assumptions, risks, and sustainability factors in their TOCs. Had this been done properly at program design, the effect of unforeseen circumstances, such as the pandemic, would have been anticipated and effective mitigation measures put in place.
2. It is important that program design, financing and implementation are highly flexible and adaptable. This equally applies to program financiers and implementers. In particular, there is a need to plan and implement capacity building or similar programs over longer time horizons, including providing room for time extensions to adjust to unforeseen circumstances. After observing and experiencing the realities of COVID-19 in the first year of implementation, the program should ideally have been extended into the third year to make up for lost time.

Key Recommendations

Support for complex capacity and market systems development programs, like KHMAP, need to be spread over at least five years to be effective. The evaluation findings suggest that two years was too short and insufficient time to implement the program effectively. Even for programs that strongly demonstrate relevance and effectiveness in supporting the industry, two years is not adequate time to effectively monitor and track progress at the outcome and impact level. The evaluation strongly recommends that TMEA considers extending the program for an additional three years and increasing the level of support to give consortium partners enough time to implement it effectively, track progress, and realize the outcomes.

Future programs should focus more on cultivating effective linkages between farmer groups and off-takers. This will assist in assessing how any enhancements in market access impacted on produce quality, volumes, prices, revenues and incomes of target farmers' groups and pack houses based on training offered and certifications acquired.

Greater focus and resources be placed on strengthening organizational structures of farmer groups for effective, sustainable and impactful capacity building effort. While anticipated in the program design, the COVID disruptions and short duration of the program did not permit organizational capacity strengthening. This should be a priority for current and future programs of a similar nature because the sustainability of any gains from training and market development strongly hinges on the effectiveness of farmer organizations as critical value chain partners.

Future capacity building training should afford trainees adequate time for effective coverage and delivery of content and practical learning through appropriate pacing of delivery and practical exercises. The preferred approach of a standard 3-day session and uniform

content, irrespective of the pack house type, size and needs, should be discouraged because each pack house is unique in its establishment, business activities, quality of staff, and pressing needs.

Organization and training capacity assessments should be undertaken prior to training to understand the context and needs. Furthermore, training evaluations should be designed and analyzed to offer insights on trainee experience beyond the generic satisfaction surveys.

Better and more innovative targeting of pack houses for capacity building. Resources would be better utilized on small-medium pack houses that likely face greater challenges with low staff capability, and are more likely to gain larger benefit from the training. For sustainability, future interventions should incorporate intra-industry advocacy to encourage pack houses, specifically the large establishments, to allocate adequate resources for similar staff training.

Better anticipation of and preparedness for natural and health disasters. The COVID-19 pandemic delayed intervention implementation of highly meeting-intensive activities because such risks, assumptions and their impact were never anticipated in the program documents or the TOC. Future program design should identify, incorporate and elaborate realistic assumptions and risks in the TOC to cover such situations.

Strengthening information and M&E systems of the Associations. Despite the training and capacity support, the Associations are still far from establishing effective M&E systems, specifically recording, gathering and collating, storing, organizing, analyzing, and reporting data and information. These are key ingredients to successful program design, implementation and evaluation. It is recommended that the training continue using the M&E manuals and be expanded to broader areas, including the collection, storage, analysis and reporting of industry and market data and information. This includes building in-house capacity to maintain and manage the HMIS portal. Related to this is the need for **program sponsors to reduce the amount and frequency of reporting**, especially for small and short programs like KHMAP. The quarterly reporting and other intervention documentations demand too much time and effort among an already thin program staff. If such extensive reporting were to continue commensurate resources should be provided to bolster the ranks of the program M&E departments.

1. Introduction

1.1 Overview, objectives and scope of work

A consortium of Fresh Produce Exporters Association of Kenya (FPEAK), Kenya Flower Council (KFC) and Fresh Produce Consortium of Kenya (FPC Kenya) (henceforth, the Consortium) received financial support from Trade Mark East Africa (TMEA) to implement the Kenya Horticulture Market Access Program (KHMAP) which was implemented from February 2020 to February 2022. The project aimed to improve competitiveness and enhance market access for Kenya's horticultural produce. The KHMAP interventions involved several capacity building factors, including training staff of the industry associations on M&E systems and farmer groups and pack houses on standards, such as Global GAP, Grasp, Safe Use of Pesticides, BRC and FSSC 22000. The ultimate goal was to get farmers organizations and pack houses ready for certification against the requisite standards, improve quality management systems and internal operational processes, establish the Horticultural Management Information System (HMIS), and strengthen logistical engagements with Regional Economic Blocs, Airports, and Sea Ports on export capability.

Upon the completion of the program, the implementing Consortium commissioned an end line performance evaluation to establish the outputs, impact and outcomes against the project monitoring plan, and any other additional/alternative outcomes realized in given strategic project areas. Specifically, the program performance was evaluated using the following criteria:

1. Compare the number of farmer groups trained i.e., at the beginning and after the project;
2. Identify the farmer groups / pack houses certified or in the process of getting certified against the requisite standards;
3. Evaluate changes/benefits to the participants resulting from the trainings and certifications;
4. Assess any improvements in farmer group/pack house quality management systems and internal operational processes;
5. Assess the markets accessed resulting from trainings offered;
6. Evaluate the influence of logistical engagements with Government / Regional Economic Blocks / Airports / Sea Ports on export capability, including the effect of rehabilitation of Moi South Lake Road;
7. Generate beneficiary case narratives related to the training and certification; and,
8. Evaluate the establishment of the HMIS and the impact of capacity building on staff of associations.

The evaluation sought to draw key lessons as a basis for the design of new strategy and interventions for KHMAP's successor or related programs. It also aimed to inform various stakeholders, including TMEA, industry associations, government agencies, small holder farmers, local retailers, exporters, logistics companies, and service producers, among others.

1.2 Theory of change

The Theory of Change (ToC) can be defined as the conceptual model for achieving a collective vision. It reflects the understanding of the pathways of change required to create an enabling environment where the overall impact goal is met, i.e., improved market access to targeted value chains. Key program inputs are brought together through a set of interconnected enabling strategies to achieve change. A description of each layer of the ToC and how these to interrelate is provided below, starting from Assumptions, Inputs, strategies, Outcomes and the target visional impact. A theory of change typically addresses the linkages among the strategies, outcomes, and goals that support a broader mission or vision, along with the underlying assumptions that are related to these linkages.

FPEAK sought to improve market access by creating an enabling environment for stakeholders in the horticulture sector. The main targeted beneficiaries were pack houses and farmer groups in the targeted value chains. FPEAK and its consortium partners focused on capacity building based on the needs of the target beneficiaries. The consortia work with national and county level institutions and leverage the unique sector economic realities for sustainable systemic changes. The malfunction of the "farmer-to-market" eco-system, where support structures and institutions that are meant to provide farmer groups and pack houses with the requisite inputs and services are unable to

adequately deliver on their mandate and functions. Farmers faced specific challenges in access to market information, credit facilities, and capacity building to secure certification (due to the prohibitive cost). Access to markets was inadequate as a result of certification standards due to the high cost of training and certification. In addition, the sectors face challenges of lack of a harmonized system for capturing data in the form of the HMIS.

2. Approach to Program Evaluation

The Consultant uses rigorous and sound approaches to appraise, assess and evaluate the effects of development and policy interventions at all stages of the project life cycle. The preferred approach for ex-post impact evaluation and learning combines quantitative and qualitative evidence-based analytical techniques to generate evidence and lessons, and develop solutions aligned with the needs and requirements of clients at every step of the process.

2.1 General Approach

The purpose of the KHMAP end line performance evaluation was to measure project achievements toward objectives and assess its development outcomes. That is, an assessment of activities and results (outputs and outcome) for relevance, coherence, impact, effectiveness, efficiency, and sustainability. It particularly sought to document strengths, weaknesses and lessons learned to develop proposals aimed at enhancing the effectiveness and quality of future interventions, including their sustainability at the end support. Since the evaluation was to be used primarily for learning and strategy planning, it fitted the description of both outcome and formative (planning) evaluations. Formative evaluation is especially important in capacity building and behavior change projects because such interventions are often complex and, therefore, require careful monitoring of processes in order to respond to emergent properties and any unexpected outcomes. Undertaking formative evaluation allows one to develop a better understanding of the process of change, and finding out what works, what doesn't, and why; this allows one to gather the knowledge to learn and improve future project designs and implementation.

The interventions involved several training and capacity building factors, including training staff of the industry associations and farmer groups and pack houses on standards. The ultimate goal was to enhance capabilities of the FOs and pack houses access markets competitively through standards certification, improved quality management and internal operations, enhanced market information, and logistical capability. To evaluate these diverse factors, a multi-subject approach is considered the most appropriate for its cost-effectiveness and time efficiency. The evaluation is interpreted as lending itself more to qualitative approach, specifically theory- and case-based evaluation methods.

2.2 Evaluation Design

To provide accurate and reliable information, the Consultant used before/after mixed methods approaches based on baseline and monitoring data collected by the program. The evaluation compared end line quantitative and qualitative data to the baseline data and findings to identify and understand the factors that contributed to outcomes and identify barriers to performance in achieving these outcomes. The intention was to generate information to measure changes attributable to the program interventions and provide useful recommendations to FPEAK as the primary implementing agency—recommendations that were useful for follow-on and future projects. A comprehensive desk review was conducted to measure changes in conditions of beneficiaries before/after interventions using the Organization for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) criteria.

2.3 Evaluation Questions

The evaluation addressed the objectives and indicators or questions specified in the ToR. The questions followed the OECD and DAC criteria, henceforth DAC criteria to guide the design and development of the end line evaluation. This enabled the Consultant to develop an evaluation matrix that responded to specific questions as follows:

1. What were the relevance, appropriateness and coherence of the intervention theory and model as a mechanism for catalyzing improvements in competitiveness and enhancement of market access for Kenya's horticultural produce?

2. What was the performance (outputs and outcomes) of the interventions in relation to enhancing the capacity of beneficiaries to compete and access markets for Kenya's horticultural produce?
3. How did the Technical Assistance (training and capacity building) component perform? What lessons are derivable from the performance?
4. To what extent did the intervention model and design show proof of concept in terms of effective and efficient delivery and results?
5. Are there any indications of spillover effects of the interventions on non-beneficiaries?
6. What is the way forward for up-scaling and sustainability of the interventions in terms of opportunities for strengthening and sustaining the capacity acquired, expansion within the country, extension to other stakeholders, or replication in other areas of operation?

The approach compared the performance indicators before and after the project. These were used to assess whether performance has improved significantly. The evaluation was guided by the following broad questions in Table 1.

Table 1: Evaluation Questions

Criteria	Assessment Questions	Data sources
Relevance	• How relevant was the design of the intervention to the broader context? • Were beneficiaries and stakeholders involved in project design and implementation? • What is the extent of the intervention in line with the needs and priorities of the target group? • What is the relevance of the instruments and the projects selected? • What relevant lessons has the project provided for future target projects? • Were beneficiary targeting criteria and processes appropriate, transparent, and properly implemented? • Were the scale, type, and timing of the program activities appropriate to the needs of the target population?	FPEAK project documents Sector Policies
Coherence	• How were context factors considered in the design and delivery of the intervention? • What is the extent of FPEAK's intervention coherent with policies and programs of other partners operating within the same context? • To what extent does the project intervention address country-specific realities concerning institutional capacity, legal and policy framework in relation to competitiveness and enhanced market access for Kenya's horticultural produce?	FPEAK project documents, KIIs Sector policies
Efficiency	• To what extent was the intervention cost-efficient (Planned/ Actual)? • Was the intervention implemented in a timely way? • Were projects implemented in time and impacts achieved within an appropriate time period? • Was the intervention implemented most efficiently compared to alternatives? • What was the efficiency of project partners in project implementation? • What lessons can be learned in future project implementation efficiency?	Project documents Evaluation data collected KIIs Project team Partner documents
Effectiveness	• To what extent were the outputs and outcomes achieved (likely to be achieved)? • What factors influenced the achievement or non-achievement of the outcomes? • What were the unintended (positive or negative) outcomes of the project intervention for beneficiaries and non-beneficiaries?	FPEAK project documents KIIs Evaluation data collected

	• What is the achievement of outcomes leading to/likely to lead to meeting intervention objectives? • How well were program activities planned and implemented?	
Impact	• What were the impacts of the intervention on beneficiaries (intended and unintended)? • Which project interventions contributed to intended results? • What were the effects of grants on target sector projects?	Project documents Baseline Reports KIIs Project team
Sustainability	• Which sustainability challenges and risks is the project facing? • Which strategies has FPEAK put in place to enhance the project sustainability? • To what extent will activities and gains continue beyond FPEAK's engagement?	Key Informant Interview Document reviews (M& E and program reports)

3. Methodology

This section presents the assessment methodology including the design, tools and procedures.

Qualitative Approach. Outcome and formative evaluations often lend themselves to qualitative methods of inquiry. The questions asked are generally more open and lead to exploration of processes, both from the viewpoint of participants, but also from that of project staff and other stakeholders. Qualitative methods are especially useful for interventions that increase in complexity (i.e., require many discretionary and face-to-face transactions, and are contentious), when the 'context' is highly variable, when the quality and availability of existing data is poor, and when insights are sought on specific types of impacts on specific groups. The KHMAP interventions check all these boxes. In line with most evaluations of complex programs, theory-based approaches involving the use of either mixed methods (quantitative and qualitative) or qualitative methods were preferred. The incentive for using theory-based methods derives from the premise that programs are embodiments of theories. In view of the above, the evaluation combined mixed-methods with a theory-driven systems approach:

- **Mixed-methods** approach to ensure data collection and analysis are informed by a feedback loop combining a deductive approach (drawing from predefined analytical categories) with an inductive approach allowing space for unforeseen issues or lines of inquiry overlooked at the outset; this can also lead to capturing unintended outcomes, negative or positive, of the interventions.

- **Theory-based Evaluation (TBE)** based on a theory of change sought to explain changes, considering underlying assumptions and risks. The Consultant applied the explicit theory of change developed for KHMAP to draw conclusions about whether and how an intervention contributed to observed results.

3.1 Collection of Data

Addressing the overall objective of the evaluation required both qualitative and quantitative data. However, because collection of primary quantitative data was not feasible within the timeline and budget available, the Consultant utilized secondary data available from project reports and literature review to supplement mostly qualitative information. Qualitative data was collected using in-depth document review and key informant interviews. Specific methods included:

1. **Inception Meetings:** The evaluation commenced with discussions with the KHMAP consortium, followed by desk reviews of relevant documentation, to familiarize the Consultant with the intervention design, model and context. The intended outputs are:

   - Improved understanding of the project background, goals and strategy.
   - Refine the project scope, approach, and timelines;
   - Validate and confirm the availability of relevant documents, profile targeted stakeholders, and procedures, among others;
   - Determine the participation of KHMAP in facilitating access to data and documents, including mobilizing key informants, and reviewing reports submitted by the Consultant.
   - Determine the project communications strategy and reporting requirements; and,

- Identify potential risks and challenges envisioned in implementing the study.

2. **Document and Systems Review:** The Consultant reviewed relevant documentation to familiarize with the interventions design, model and context. This involved the review of internal documentation and data, and other secondary literature, including the TMEA country strategy, project results causal chain (RCC), PAR document, monitoring plan, progress reports, and work plan, among others. Reviewing documents helped to identify information gaps and areas requiring attention during interviews. They also helped the Consultant to develop initial narratives around the outcomes and results. The Consultant was keen on first utilizing information that is readily and reliably available before conducting further data collection and validation.
3. **Key Informant Interviews:** Consultations with key stakeholders, including the KHMAP consortium senior leaders, partners, and beneficiaries using unstructured open-ended discussion questions and checklists were proposed. The information of interest directly related to the interventions and their implementation and management. These shed light on how design and implementation of the project affected outcomes. A list of key stakeholders was drawn and validated with the KHMAP team. In defining the stakeholder universe, the Consultant first identified the key ones from the review of project documents. The selection was guided by the need to capture respondents with a high diversity of knowledge of project interventions. Three beneficiary groups were interviewed and case studies developed accordingly.

3.2 Analytical Approaches

Different analytical approaches were applied to different questions to provide an outline of the evidence, as follows:

Data Triangulation: Multiple methods or data/information sources were used to develop a comprehensive understanding of the interventions and test validity through the convergence of information from different sources.[1] The evaluation applied data source triangulation. The basic purpose of using this approach is to give a more detailed and balanced picture of the state of competitiveness and market access arising from the project interventions.

Content Analysis: Studying of documents and communication artifacts – texts of various formats, pictures, and audio or video was used to examine patterns in communication in a replicable and systematic manner. Content analysis was used to identify patterns in recorded communication by systematically collecting data from a set of texts. It was both quantitative (focused on counting and measuring) and qualitative (interpreting and understanding). These were extracted mostly from desk review of reports, documents and data sets.

Theory of Change Evaluation: The Theory of Change (TOC), as it reflects the current understanding of the pathways of change required to create an enabling environment to achieve the overall impact. Key program inputs brought together through a set of interconnected enabling strategies to achieve change were analyzed and unpacked. The results causal chains (RCC) and impact pathways were evaluated to assess the validity, relevance, and plausibility of the causal assumptions made for the project. This also involved an assessment of whether core assumptions at program commencement continued to be valid through implementation phases and any readjustments made by the project.

The evaluation commenced by analyzing a sequence of events and results (outputs, immediate outcomes, intermediate outcomes, and ultimate outcomes) that were expected to occur owing to the intervention – i.e., program logic or logic model. The next step was to outline the mechanisms of change, as well as assumptions, risks, and context that support or hinder the theory from being manifested as observed outcomes. This permitted a better understanding of the causal link between intervention outputs and the expected outcomes and to test, with evidence, the assumed causal chain of results with what was observed to have happened, checking each link and assumption in the process to verify the expected theory. Finally, actions, actors, and resources to ensure equitable distribution of opportunities and benefits were demonstrated in a representative TOC.

[1] DFID. Guidance on Evaluation and Review for DFID Staff. London. 2005.

4. Analytical Findings

4.1 Analysis of KHMAP TOC

4.1.1 Key Inputs

The KHMAP deployed several inputs across its interventions towards its overarching goal of enhancing market access. Key inputs were as follows.

1. **Technical Assistance:** The technical assistance (TA) model is based on a demand-led and sustainable approach to working with governments and other stakeholders in the horticulture sector to foster evidence-based culture, strengthen the legislative instruments, and put in place a functional and sustainable accountability system that tracks commitment in the sector. This input was expected to contribute to increased awareness and participation, the identification of needs and gaps, and enhanced capacity, technology, marketing, and business development services (BDS). It was anticipated that this would increase knowledge, skills, competencies and confidence in the sector (Immediate Outcomes) and increase access to quality information and services, and enhance alignment, influence, empowerment and accountability in project delivery (Intermediate Outcomes) through strong sector leadership, governance and inter-sectoral coordination.
2. **Funds:** This included grants and other finances mobilized to finance activities targeted at improved market access.
3. **Leadership:** This aligned with strategies for awareness building and mobilization of the public and farming community to increase the number of farmer, government, leadership, and stakeholder engagements; these would in turn contribute to improved market access for targeted value chains. Leadership was also assumed to contribute to the coordination of project activities with important players in the sector, and thereby leading to dialogue, decision making commitments, and strengthened support for the sector.
4. **Advocacy:** This included media advocacy campaigns on the identified problems in the sector to enhance awareness and visibility. It was envisaged to induce changes in perception and increase salience of the sector among the target communities and counties.
5. **Building Partnerships:** This entailed building and strengthening relationships with farmers and horticulture companies as well as strengthening relationships with key stakeholders, including development partners.
6. **Staff Time:** The staff of the Consortium put in considerable time in planning, implementing and managing the project for efficiency and effectiveness.

4.1.2 Strategies for the ToC

The six inputs described above were implemented in line with eight interconnected and mutually reinforcing activities/strategies. Each strategy was utilized along the impact pathways taking into consideration the nature of the program as presented in the ToC. The activities included:

1. Training selected pack house staff on standards and market requirements;
2. Training farmers on GAP;
3. Holding advocacy meetings with relevant stakeholders on freight and logistics;
4. Organizing member conferences/forums on market sustainability and market access;
5. Establishing and operationalizing the HMIS;
6. Participating in and organizing trade fares;
7. Facilitating B2B meetings between members and market players;
8. Training Associations staff on M&E;

The outputs contributed to the immediate outcomes, then intermediate outcomes, through a dynamic process involving one or more strategies or activities acting as enablers of change, as shown in the Table 2.

Table 2: Program strategy	
	OUTCOMES / OUTPUT / ACTIVITY
1	**Improved market information systems**
1.1	Improvement and operationalization of Horticulture Market Information Systems
1.1.1	Development/review of standard guide for field and market data collection
1.1.2	Data recording and analysis tools (computers)
1.1.3	Training on data collection
1.1.4	Data Collection and validation activity
1.1.5	Development of Horticulture Market information Portal
1.1.6	Market information publication & dissemination
2	**Improved Horticulture sector Export strategies**
2.1	Development of market entry strategies
2.1.2	initiate and facilitate exporter/importer Associations B to B
2.1.3	Participations in trade fairs
3	**Trade & Investment promotion for horticulture (promotion, trade fairs)**
3.1	Organize member conferences/ Forums on market sustainability and Market access
3.2	Hold advocacy meetings with stakeholders to address issues such as Freight and Logistics)
4	Capacity building and market linkages - (domestic, regional, international)
4.1	Train at least 40 select farmer groups and link them to new markets
4.2	Train at least 100 pack house staff on food safety standards e.g. BRC, FSSC 22000, HACCP
4.3	Economic Study for Moi South Lake Road
5	**Institutional capacity development of horticulture institutions and trade support bodies**
5.1	Train association staff on project M&E and data management
5.2	Development of customized M&E capacity building tools/ guidelines (manuals)
6	**Project M&E**
6.1	Project Baseline study
6.2	Review and Monitoring meetings

4.1.3 Findings on the KHMAP ToC

The KHMAP TOC did not specify assumptions or "conditions for success" and risks behind each impact pathway. As mentioned in preceding sections of this report, the ToC reflects the understanding of the pathways of change required to create an enabling environment where the overall impact goal of catalyzing and sustaining changes for improve market access is attained. Key program inputs are brought together through a set of interconnected enabling strategies to achieve change. Theory of change can be defined as the conceptual model for achieving a collective vision; it typically addresses the linkages among the strategies, outcomes, and goals that support a broader mission or vision, along with the underlying assumptions.

A theory of change should outline the intended progression from project activities and products to a desired set of outcomes and long term impact. However, the analysis of the KHMAP ToC suggests weaknesses, especially the level of detail – or explanatory granularity – is too low and the assumptions and risks, while specified in the Monitoring Plan, were not incorporated and elaborated in the TOC. Even the few assumptions identified in the Monitoring Plan were incorrectly specified, phrased and assigned to different impact nodes. As such, the ToC was no more than program logic or logic model that expresses the intentions of the promoters while ignoring the actions and intentions of other stakeholders, including very little clarity on the assumptions made about the conditions under which the program success is assumed. The KHMAP ToC is an amalgamation of who, what, where and when the program aims to achieve its impact with a sprinkling of how and why. This is a combination and confusion of a logic model and a ToC, and is ineffective in serving the two different purposes of these instruments.

The logic model describes processes, often moving from one to another in a linear manner; while logical, it sometimes requires a leap of faith. The commonly used logic model often regard the projects as isolated and controlled systems (Valters, 2015). The theories of change (the good ones), on the other hand, identify, incorporate, explore and explain the assumptions behind the leaps of faith, taking into consideration a broader context, often beyond the control or even the influence of the project (Valters, 2015; Stern, 2012). According to Vogel (2012), "assumptions represent the values, beliefs, norms and ideological perspectives, both personal and professional, that inform the interpretations that teams and stakeholders bring to bear on a program." Recognizing that the

program works in an environment in a constant state of change, good ToCs link the project's anticipated outcomes to the real world, where the outcomes will be achieved, and encourage a flexible and adaptive response to unanticipated or unplanned diversions or interruptions. Ideally, the ToC should be the driver of a learning culture within the program; it helps document learning around the assumptions, activities and challenges.

A consequence of working with a diluted or fused ToC is that the resultant strategies, inputs and evaluations have limited strength to explain how the program works – to better understand how and why change happens. The TOC was predominantly an upward accountability mechanism. This considerably constrains attempts to learn from the process by leaving out the "what does not work" question; as such, potentially important learning was lost and lessons of what not to do forgotten. To remedy this, evaluators call for a narrower focus on only a select aspects of the ToC (Delahais & Toulemonde, 2012). In line with this thinking, Gordon and Lemire (2015) developed the "keystone node" approach that centers on the examination of keystone nodes within the ToC. Like the keystone in a stone arch, if a TOC keystone node fails, the TOC crumbles at that point. As such, each node contains critical assumptions or steps of logic that are vital to the intervention theory progressing from one stage to the next.

By focusing the evaluation on 'keystone nodes', evaluation efforts target the most learning-rich steps within the TOC, allowing for a better understanding of complex, multi-year programs. The keystone node approach focuses on areas where change is imperative for the program to work, and if change does not happen the program either fails or is forced to adopt a "work-around". In examining these focal points, one relies on analytical techniques that promote a better understanding of how and in what ways programs work or fail to work, how and in what way we might learn from our errors.

Assumptions

The keystone node approach was applied in unpacking and elaborating the KHMAP TOC by identifying, incorporating and elaborating key assumptions, risks and sustainability factors. These are discussed below and applied to developing recommendations for an expanded TOC to guide the Strategic Framework for successor or similar programs. Sustainability factors are discussed under sustainability in subsection 4.2.6.

For the TOC to be upheld, several assumptions are made at different levels of implementation. These assumptions are built from the KHMAP monitoring plan and organized as follows:

- External conditions: These are conditions beyond a project's immediate control, but have a significant impact on the Program and affect program delivery.
- Internal conditions: these are areas that the project has more direct control over and have responsibility for achieving, and which the program seeks to drive through its activities to facilitate the achievement of the intermediate outcomes.

A review of the KHMAP TOC suggest that it is guided by the following mix of external and internal assumptions (*not exhaustive, can be developed further*).

Table 3: Assumptions and outcomes

Assumptions	Outcomes
The farmers currently producing horticultural products either for the local or export markets.	Enhanced capacity of targeted farmers to meet market requirements and access markets.
Low market access is a product of inadequate training and knowledge of standards	Increased awareness and knowledge of market requirements
Training farmers on GAPs enhances their capacity to access markets	• Increased knowledge of GAPs • Increased capacity to meet market requirements
Farmers groups will implement the standards they are trained on and certificates obtained (FSSC, BRC)	• Increased awareness and knowledge of market requirements among farmers • Increased certification • Increased capacity to meet market requirements – enhanced knowledge, skills, competency and confidence • Enhanced quality and safety of produce

	• Lower produce loss and rejection rates • Higher prices, lower losses and higher sales volumes – higher revenues and profits
Off-takers interested in sourcing more if quality and standards of produce improve	• Increased access to market • Better prices offered for better quality and safety
Pack houses will implement the standards they are trained on and helped obtain (FSSC, BRC, ISO 22000)	• Increased awareness, knowledge, skills and competency of market requirements among pack house staff • Increased certification • Enhanced capability of pack houses to meet market requirements • Enhanced quality and safety of produce • Lower produce inspection and rejection rates • Higher prices and lower losses – higher revenues and profits
Training Associations on project monitoring and evaluation improves organizational capacity to steer market access programs.	Improved organizational capacity to effectively monitor and evaluate projects

4.2 Evaluation Findings

4.2.1 Relevance

Relevance refers to the extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, global priorities and partner' and donor's policies. The main aspects explored when assessing the relevance of a project are: whether the needs are addressed and are significant and whether the design of the project is appropriate for addressing them. The section then provides an assessment of the relevance of the KHMAP intervention, based on its strategy and the intervention design. The evaluation was guided by the following evaluation questions on relevance.

Evaluation Questions:

- How relevant was the design of the intervention to the broader context?
- Were beneficiaries and stakeholders involved in project design and implementation?
- What is the extent of the intervention in line with the needs and priorities of the target group?
- What is the relevance of the instruments and the projects selected?
- What relevant lessons has the project provided for future target projects?
- Were beneficiary targeting criteria and processes appropriate, transparent, and properly implemented?
- Were the scale, type, and timing of the program activities appropriate to the needs of the target population?

A baseline survey conducted at the beginning of the program established that many stakeholders were involved in the sector, and several gaps and needs needed to be addressed across the horticultural sector for improved market access. Among the gaps identified included the following:

- A lack of a harmonized system for capturing quality and reliable data for promoting market access, drawing lessons and improving planning. This impeded enhancement of market access for horticultural produce, and thus demonstrated the need for a market information system that was complete, relevant, reliable and accessible to key stakeholders in the horticulture sector.

- Some farmers faced specific challenges in access to market information, credit facilities, and capacity building to secure certification (due to the prohibitive cost)[2].

- Inability of exporters to access certain markets despite having acquired certification for food safety standards. The baseline study found that over 75% of the pack houses had certification

[2] **B**aseline Survey for the Kenya Horticulture Market Access Program

for BRC and none for other vital standards, such as FSSC 22000. In addition, exporters faced other market access challenges, including comparatively high cost of domestic production, over-reliance on a narrow product range and a few export destinations, lack of direct flights to potential non-traditional markets, slow pace of implementing trade protocols, and lack of coordination of marketing bodies.

- Inadequate training and capacity building among farmers and pack houses due to the high cost of training and certification.
- An unmet need for certain horticultural produce in the local markets plus unexploited opportunities in the regional and international markets. There was a likelihood that Kenya would be a net importer of some horticultural produce from the region, since pineapples, apples, onions, oranges, bananas and tomatoes are already major imports from the EAC region; this implied that there were opportunities for local farmers to produce them. In contrast, unexploited markets existed for herbs and spices, which had less than 1% presence among producers despite significant international demand.
- Significant information gaps between smallholder farmers and the market. Data suggested gaps in communication between the farmer/farmer groups and the next player in the value chain concerning knowledge of market expectations. This affected the overall quality of products due to practices such as premature harvesting, poor post-harvest handling, inappropriate storage facilities and low adoption of technologies.
- Poor governance, management and group cohesion contributed to weak farmer organization structures.
- Institutions in the horticultural sector, private and public, have the capacity in terms of human resources and, in some instances, infrastructure, but lack of a coordinated approach in sharing of information and resources had led to misalignment in resource allocation, ineffective marketing strategies, unresponsive national laws and regulations, weak value and supply chains, poor product quality and low adoption of research outputs in support of horticultural growth. There was also a need to further strengthen monitoring and evaluation by developing a comprehensive M&E plan that captures all the information on the project M&E, which encompass a theory of change, project success and failure assumptions, and M&E Matrix and Quality Assurance framework.

The project responded to the challenges identified in the baseline survey with a raft of activities to address the needs of a wide range of key stakeholders for improved market access for targeted value chains. These activities included training selected farmers on standards (GAP), training selected Pack House staff, training key staff of the Associations on M&E, participating in and organizing trade fairs, B2B meetings for members and markets, improvement and operationalization of Horticulture Market Information Systems (HMIS), and organize member conferences/forums on market sustainability. These activities addressed the gaps among the beneficiaries.

Capacity building of farmer groups and pack house staff was in the form of training on GAP standards, the building and operationalization of the HMIS, B2B meetings, and advocacy and workshops where relevant stakeholders contributed to beneficiary needs and addressed capacity gaps. Among its key interventions was the development and operationalization of the HMIS, which is a one-stop information platform for ease of access to information on the sector and aligns with the functions of HCD. This demonstrates that the project responded appropriately to the felt needs of industry stakeholders to improve prospects for better market access.

The project, however, did not address a few gaps identified in the baseline survey, including access to credit among farmers and the unaffordable cost of certification. In addition, it is unclear if the challenge of weak farmer organization structures due to poor governance, management and group cohesion was addressed.

This evaluation deems **the beneficiary targeting approach and processes appropriate, transparent and proper**. The project interventions were designed and implemented in line with the needs of the farmers, pack houses and other stakeholders in the industry, and have generated relevant lessons for future projects.

This evaluation concludes that the project was **relevant and highly aligned with and addressed vital local and national needs and priorities of the horticulture industry**. Importantly, it complied with Kenya and recipient counties' development policy and planning and TMEA objectives and strategies.

4.2.2 Coherence

Evaluation Questions:

- How were context factors considered in the design and delivery of the intervention?
- What is the extent of FPEAK's intervention coherent with policies and programs of other partners operating within the same context?
- To what extent does the project intervention address country-specific realities concerning institutional capacity, legal and policy framework in relation to competitiveness and enhanced market access for Kenya's horticultural produce?

In addressing the gaps and needs of the targeted beneficiaries, the program engaged constructively with various government ministries, departments, research institutions, parastatals, sectors, authorities and commissions at the National and County levels in efforts to improve market access. This is demonstrated by the various stakeholder engagements (two in Kisumu and one each in Mombasa and Eldoret.[3] The program also ensured that private sector stakeholders were on board. The strategic approach adopted by the program was in line with policies and Acts in the country as demonstrated by examples below.

1. The Agriculture and Food Authority (AFA) Act of 2013 established the AFA with the following mandates:
    - To administer the Crops Act;
    - To promote best practices, regulate, the production, processing, marketing, grading, storage, collection, transportation and warehousing of agricultural products;
    - To collect and collate data, maintain a database on agricultural products, documents and monitor agriculture through registration of players as provided in the Crops Act;
    - To be responsible for determining the research priorities in agriculture and to advise on research thereof;
    - To advise the national and county governments on agriculture levies for purposes of planning and enhancing harmony and equity in the sector.
2. The Horticultural Crops Directorate (HCD) was established under the Crops and AFA Acts as a directorate within the AFA. Initially, the HCD focused on horticulture development and marketing, but currently, its functions have evolved to include:
    - To facilitate the marketing of horticultural crops through monitoring and dissemination of market information.
    - In consultation with relevant stakeholders, establish and enforce horticultural standards.
    - Develop and review rules and regulations for the horticultural industry.
3. Kenya Plant Health Inspectorate Services (KEPHIS) is the government parastatal whose mandate is to assure the quality of agricultural inputs and produce to prevent an adverse impact on the economy, the environment and human health. Its functions include training farmers on quality standards expected in international markets.
4. KEPROBA provides export trade information services. The Agency collects, collates, stores, analyses and disseminates trade information to support enterprise competitiveness. In addition to the market research findings, the Agency obtains export market information from credible sources such as the International Trade Centre (ITC), World Trade Organization (WTO), trade promotion organizations including the Japan External Trade Organization (JETRO), Centre for the Promotion of Imports from Developing Countries (CBI), among

[3] Kisumu, Mombasa, and Eldoret Trip Reports

others. Information is accessible by the public through print and electronic media and business libraries.

5. The program extensively engaged with RTI's Kenya Crops and Dairy Market Systems (KCDMS) Activity and KEPHIS, both of whom strive to improve the level of adherence to quality standards for the horticultural export market. For example, FPEAK supports its members to comply with national and international standards like Global Gap, KS 1758, BRC, and FSSC 22000, among others. KFC supports small scale flower farmers, who may not be able to strictly adhere (as individuals) to standards that warrant certification, to obtain alternative certification mechanisms. The training of farmers and pack house staff undertaken by the program to meet international standards and get certified therefore aligned with the functions of KEPHIS on farmer training on standards. The interventions also aligned with the AFA Act 2013 mandate to promote best practices in and regulate the production, processing, marketing, grading, storage, collection, transportation and warehousing of agricultural products. Another AFA mandate addressed by the program is the collection and collation of data, maintaining a database on agricultural products, and documenting and monitoring agricultural production and marketing through registration of players as provided for in the Crops Act.

An additional intervention that aligned with the objective of multiple programs and stakeholders was the advocacy and resource mobilization for the rehabilitation of the Moi South Lake Road in Naivasha for easier and faster movement of horticultural produce. Engaging government stakeholders in the road construction sector and roping several stakeholders, such as export horticulture farms, tourism and hospitality industry, farmers' and labor organizations, local community-based organizations, and industry associations led to the allocation of a budget to rehabilitate the road. This rehabilitation benefited a broad spectrum of stakeholders beyond the horticulture sector.

The project also addressed country-specific realities concerning institutional capacity and legal and policy framework for the competitiveness and enhanced market access. This was demonstrated by the engagement of Meru County in addressing market access challenges through a Memorandum of Understanding (MoU) between the County and fresh produce logistic team whose aim was to create a structured approach to make trade workable. However, the fate of this MoU is unclear. Project documents indicate that the MoU was prepared in February 2022, at close of the project, and the county's legal department was still fine-tuning it and directing the engagement.[4]

Based on these examples, the program interventions were coherent with policies and programs of other partners operating within similar contexts. The evaluation therefore concludes that the **program interventions coherent with country-specific realities, legal and policy frameworks, and programs of other partners operating within similar contexts**.

4.2.3 Efficiency

Efficiency is used to measure how the inputs and outputs (qualitative and quantitative) are converted to results. This criterion looks at whether the activities were cost-efficient and the objectives achieved on time[5] guided by the following questions.

[4] Fresh produce logistics stakeholder engagement report Meru & Isiolo Counties

[5] Measures the outputs (qualitative and quantitative) about the inputs. This criterion looks at whether the activities were cost-efficient, and whether the objectives were achieved on time.

Evaluation Questions:

- To what extent was the intervention cost-efficient (Planned/ Actual)?
- Were projects implemented in time and impacts achieved within an appropriate time period?
- Was the intervention implemented most efficiently compared to alternatives?
- What was the efficiency of project partners in project implementation?
- What lessons can be learned in future project implementation efficiency?

Efficiency in resource utilization. At face value, the program was highly cost-efficient. The actual expenditures were below the planned budget for most of the quarters as budget burn rate was generally low, and only picked up in Q2 of 2021 (Table 4). A lot of this boils down to the impact of COVID-19 on implementation, where activities delayed for two quarters and forced lower spending, budget reallocations, and budget scale downs. The project reports show a total spend of $485,000 against a budget of $485,000;

Table 4: Program budget and expenditure

Total project budget	FY 2020 budget	FY 2021 budget	FY 2022 budget	Expenditure									
				Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
485,000 485,000	350,000	350,000*	19,000*	23,196 (125,000)	26,879 (125,000)	69,822 (125,000)	117,488 (125,000)	6,064 (100,000)	47,940 (100,000)	97,636 (100,000)	76,628 (80,000)	16,014 (20,000)	3,333 (3,333)
Burn Rate				18%	21%	56%	93%	6%	48%	98%	96%	100%	100%

Source: Program Quarterly Reports

The timing, scale and type of program activities were adequate to the needs of the beneficiaries. However, the implementation period coincided with the beginning and peaking of the COVID-19 pandemic, which disrupted economic activity globally, including leading destination markets. The project was launched in March 2020 and coincided with the COVID 19 outbreak in the country. This presented public health challenges related to pandemic control measures implemented by the government, such as prohibiting public meetings and restricting movement and travel, which were critical for the program's success.

It is evident the project was slow to deliver in the first year of its implementation due to the challenges of COVID-19 control measures. As indicated in the progress quarterly reports the second year showed much higher performance in project interventions. Despite these challenges the project interventions were achieved as planned and the project was able to deliver its outcomes on time. The program adapted to the challenges by utilizing the delays in interventions to prepare and ensure smooth running of the project once it resumed. In addition, the program delivered some of the interventions efficiently through virtual meetings and working groups that developed some project documents.[6] When the government eased some of the control measures, the program used the window to quickly step up activities. Most objectives were achieved despite the very slow start.

One of the objectives of the program interventions was participation in trade fairs to improve market access for targeted value chains. This strategy was not possible to implement due to the Covid-19 pandemic which reduced the magnitude at which international trade took place during the project implementation. As a result of this, there were restrictions on international travel and the postponement of many international exhibitions. The effect was that physical attendance at international trade exhibitions was not feasible within the program period. The program adjusted to this situation by revising the work plan and reallocating the resources reserved for these activities to expand the HMIS to improve domestic horticultural trade as well as increase data collection. The program successfully obtained approval from TMEA for budget reallocation. As a result, the HMIS portal was developed and operationalized in an expedited manner due to this unforeseen circumstance. These demonstrated the program's efficiency and transparency in the use of resources to achieve goals as well as the flexibility of partners in delivering the interventions.

Trade and investment promotion for horticulture was conducted through advocacy meetings with stakeholders to address issues such as freight and logistics, institutional capacity of horticulture industry Associations and support bodies (FPEAK, KFC, and FPC Kenya).

The key activities were managed within the intervention timelines and impacts achieved within an appropriate time. This demonstrates that **the program was time-efficient**. However, the rush to catch up with activities in the second year after lifting of COVID-19 control restrictions probably compromised on the efficiency of resource use and effectiveness of delivery.

Based on the project scope and the findings discussed above, the program approach was the best possible because no individual organization was likely to address the range of expertise and resources required by such a program. In addition, since this was a capacity-building program for beneficiaries who were initially financially constrained to access training and lacked access to ICT platforms, physical contact training or workshop setups were the most appropriate to deliver the desired results. By implication, **the interventions were implemented with relatively efficient strategies**.

For the aforementioned reasons, the evaluation finds that the program was fairly efficient in its use of resources and implementation. Despite unforeseen challenges of the COVID-19 pandemic, it still achieved over 90% of its targets within a highly constrained and difficult implementation environment and a shorter time span. For this reason, it is too early to evaluate the efficiency of the program in delivering impact. It is recommended that a follow up assessment be undertaken at the end of 2022 to understand outcomes and impact better.

One key lesson towards implementation efficiency of future projects from the experience with and impact of the pandemic is the **importance of clearly identifying, incorporating and elaborating assumption, risks and sustainability factors in program TOCs**. Had the program done this, the effect of unforeseen circumstances such as the pandemic would have been anticipated and mitigation measures put in place. An additional lesson is the **importance of flexibility and adaptability in program design, financing and implementation**; this applies to program financiers and implementers alike. Another lesson is the need to plan and implement such capacity building programs over longer time horizons, including providing room for time extension to adjust to unforeseen circumstances. After observing and experiencing the realities of COVID-19 in the first year of implementation, the program should have been extended into the third year to make up for lost time.

[6] TMEA Quarter 2 Report

4.2.4 Effectiveness

This assesses the extent to which the program objectives were achieved or are expected to be achieved, taking into account their relative importance.

Evaluation Questions:

- To what extent were the outputs and outcomes achieved (likely to be achieved)?
- What factors influenced the achievement or non-achievement of the outcomes?
- What were the unintended (positive or negative) outcomes of the project intervention for beneficiaries and non-beneficiaries?
- What is the achievement of outcomes leading to/likely to lead to meeting intervention objectives?
- How well were program activities planned and implemented?

The KHMAP's main objectives were to improve market information systems, improve horticulture export strategies through the development of market entry strategies, promote trade and investment, strengthen institutional capacity development of horticulture institutions, and develop and maintain a comprehensive M&E system. Other than the three consortium partners, the other stakeholders included farmers, pack houses, exporters/marketers, the government of Kenya, logistic companies, retailers, NGOs and development partners.

1. Building effective market information systems and strategies

	OUTCOMES / OUTPUT / ACTIVITY
1	**Improved market information systems**
1.1	Improvement and operationalization of Horticulture Market Information Systems
1.1.1	Development/review of standard guide for field and market data collection
1.1.2	Data recording and analysis tools (computers)
1.1.3	Training on data collection
1.1.4	Data Collection and validation activity
1.1.5	Development of Horticulture Market information Portal
1.1.6	Market information publication & dissemination
2	**Improved Horticulture sector Export strategies**
2.1	Development of market entry strategies
2.1.2	initiate and facilitate exporter/importer Associations B to B
2.1.3	Participations in trade fairs

The program developed data guidelines for use within the industry. These guidelines contained information on critical data needed to improve market information systems and access for the country. The data guidelines were critical in guiding the design and development of the HMIS and what information it needed to include. The initiative culminated in the development of the HMIS portal in 2021 as an operational portal for the sector. The main beneficiaries of the portal are members of the Associations and other industry stakeholders who can access real-time data on production, harvested volumes, exported volumes and value of trade. The system will be used for marketing, news, and getting inquiries for Kenyan produce and will provide a platform for the international promotion of Kenya's fresh produce. Efforts are underway to officially launch and expand the portal to include key data sets and other components like inquiries and pricing, to make it a truly robust system for trade. The TORs for improving the portal and data collection were reviewed and tenders awarded to Leldis Africa for redesigning the portal and Development Frontiers Consultants for data collection. However, from the dated information on the site, this evaluation finds limited evidence that the HMIS has been actively maintained since its establishment in 2021.[7]

The program supported the Kenya Horticulture Sector to develop a documentary which helps to tell a positive story on the sector. The promotional video is being used to market Kenya's horticulture industry in the regional and international markets; it has been shared with key stakeholders in Europe, UK and Asia.[8] It also supported the development of a training video on the management of false coddling moth (FCM) pest in roses and capsicum that is being used by producers and exporters

[7] Achievements of the KHMAP Project. See Horticulture Kenya. "Home." Accessed March 26, 2022. https://horticulturekenya.com/

[8] Available here: https://www.youtube.com/watch?v=0lCmjiWaVG0&t=97s

to effectively manage FCM.[9] The knowledge in the video is aimed at reducing the current rate of interceptions of roses in the EU. This evaluation, however, finds that the videos have garnered negligible viewership since they were posted (February 4th & July 6th 2021, respectively) – i.e., 125 and 551 for the former and the latter, respectively, as of March 30th 2022. The low hits suggest either low awareness, disinterest, or a lack of promotion. Alternatively, copies of the videos may have been disseminated directly to industry players.

Enhancing access to existing and new markets. One of the program objectives was to participate in global trade and promotions to improve horticulture sector strategies and engage with market players, especially buyers and service providers. Among the key strategies was positioning Kenya as a supplier of choice for fresh horticultural produce. This outcome was not achieved due to COVID-19 control measures introduced at the program onset (March 2020). Physical attendance of international trade exhibitions was infeasible during the program period. The disruption caused restrictions on international travel and postponement of many international exhibitions significantly reduced demand for fresh produce in international markets, a situation that would persist for the entire duration of year 1 of the program. FPEAK and its partners instead reallocated the designated budget to support the development of the HMIS system.

The program had planned to hold two domestic annual conferences in line with the set target, namely; the Fruits, Vegetables, and Herbs Conference and Exhibition and the Flower Sustainability Conference. These were to be supported by development partners, and were key for the sector as they provided a platform to exchange new ideas, take stock of current situation, and share innovations within the industry. Due to the restrictions on gatherings by the government of Kenya as a result of the COVID-19 pandemic, these events were not feasible. The program reallocated the resources to meetings with stakeholders on logistics and market access at regional levels within the country. Approval for reallocation was sought and obtained from TMEA. These stakeholder engagement meetings were important in unlocking the export potential within the target regions. Specifically, meetings with regional economic blocs were held that resulted in key decisions on investment needed.

In 2020, the Consortium and other industry stakeholders initiated the process of developing Kenya's fumigation protocol for cut flowers to access the Australian market. This was geared toward addressing the Australian market requirement that flowers from Kenya were to be fumigated at the point of exit. Once implemented fully, it was expected to increase opportunities to access the Australian flower market. However, program documents indicate that the protocol was never completed, and, therefore, its value cannot be assessed.

2. Trade and investment promotion for horticulture

3	**Trade & Investment promotion for horticulture (promotion, trade fairs)**
3.1	Organize member conferences/ Forums on market sustainability and Market access
3.2	Hold advocacy meetings with stakeholders to address issues such as Freight and Logistics)

Promoting non-traditional production areas. The Associations, together with key stakeholders from the horticulture industry, met with the North Rift Economic Bloc (NOREB) and Lake Region Economic Bloc (LREB) counties to assess the availability and facility readiness for fresh produce exports from the regions. They held round table meetings that brought together county governments, farmers, and value chain support services to look into opportunities and bottlenecks within the sector that may hinder the export of fresh produce. In addition, representatives from the fresh produce sector and other industry stakeholders visited Mombasa and Kilifi Counties in June 2021, and met with key stakeholders in the coastal region that included Kenya Airways, KRA, KEPHIS, Women Enterprise Fund, KEPROBA, KAA, County Government of Kwale, Lamu County Government, AAK and Tana River County. During the meetings a number of issues were discussed and agreed, with the most urgent being the expansion of cold storage facilities at the Moi International Airport (MIA), Mombasa, and organizing farmers into producer groups so as to increase production.

Enhanced synergies through participatory stakeholder engagement and coordination. As indicated in the documents reviewed, the Consortium worked well in coordinating towards the achievement of the set objectives; FPEAK and its partners involved relevant stakeholders from the

[9] Available here: https://www.youtube.com/watch?v=1_ex7Io1QRg

design to the end of the project. The program team ensured that the services provided were utilized appropriately. In addition, it demonstrated effective coordination through the various stakeholder engagements organized by the consortium; these included Bureau Veritas, Kenya Airport Authority (KAA), and Kenya Ports Authority (KPA) in Mombasa. In Kisumu, two stakeholder engagement workshops were conducted which involved the KRA, Immigration Department, KAA, Kenya Airways, Kisumu County Government, and Kenya Railways. In Eldoret, the consortium successfully engaged the North Rift Economic Bloc (NOREB) County Governments, KFC, HCD, KRA, KPA, Kenya Airways, and KEPHIS. Stakeholder engagements and coordination created synergies among the different players in the industry. The approach established the foundation for achieving the dream of a smooth inter-modal transport system that will spur domestic, regional and international trade, create efficiency and improve compliance with international standards. The evaluation found that **FPEAK and other consortium members had a well-coordinated approach to key stakeholders in line with project goals**.

3. Capacity building and market linkages

4	**Capacity building and market linkages - (domestic, regional, international)**
4.1	Train at least 40 select farmer groups and link them to new markets
4.2	Train at least 100 pack house staff on food safety standards e.g. BRC, FSSC 22000, HACCP
4.3	Economic Study for Moi South Lake Road

Enhanced production and marketing capacity of smallholder farmers. The program delivered effectively on capacity building and market linkages, as demonstrated by the fact that the training led to increased certification among beneficiaries. Evaluation findings show that 1,131 farmer representatives from 46 farmer groups were trained on GLOBAL GAP, KS 1758 part 1: Flowers & Ornamentals, and Flowers and Ornamentals Sustainability Standard (FOSS) under KHMAP. From a target of 40 farmer groups and 480 members, the program achieved 115% and 236%, respectively. FPEAK reached out to 11 farmer groups, FPC Kenya targeted 14 farmer groups and KFC reached to 25 farmer groups bringing the total of farmer groups trained to 49. Moreover, the reported number of FG representatives trained suggests that each FG had about 25 representatives. This number went beyond the size of a typical FG.[10] This evaluation did not review training registers and records (they were not provided), and, therefore, unable to verify the reported numbers.

Table 5: KHMAP Training Beneficiaries - Farmer Groups

Group name	Value of sales (2021)	Partner company	Location	Crop	No. of members	Certification status
FPEAK Members						
Gituamba Bidii SHG	33,000,000		Machakos	FB	12	No
Unity Farmers	14,300,000		Machakos	FB	40	Yes, expired
Ikolya River SHG	28,800,000	Keitt	Makueni	FB	13	No
Mwaani SHG	11,200,000	Exporters	Makueni	FB	27	Yes, expired
Wautu River SHG	15,200,000		Makueni	FB	12	Certified
Woni Mbere	22,400,000		Nyandarua	SP	25	No
Loitoktok Fresh Growers	52,000,000	Veg Pro Ltd	Kajiado	FB	75	Certified
Kajiado Outgrowers	16,120,000		Kajiado	FB	40	No
Enakiron CBO	17,160,000	East	Kajiado	FB	Inactive	Inactive
Friends of Kilimanjaro Initiative	27,600,000	African Growers	Kajiado	FB	84	Certified
Malewa Outgrowers	31,620,000	Interveg EPZ Ltd	Naivasha	FB	Inactive	Inactive
FPC Kenya Members						
Saghaigu Farmers SHG	13,500,000	Centre for	T. Taveta	FB	30	No
Nyolo Farmers SHG	4,800,000	Fresh Produce	T. Taveta	FB	60	No
Chemaner Avocado Farmers	7,410,000	Benok Agencies	Bomet	Avo	30	Certified
Mugango Enviromental Group	10,350,000	Medira Ltd	Bomet	Avo	100	No
Kithimani Growers SHG	9,020,000	Premier Fresh Ltd	Machakos	FB	25	No

[10] It is apparent in the KHMAP program design document that each FG was expected to have approximately 12 members.

Likuyani Farmers SHG	15,390,000	Arvilian Growers	Kakamega	Avo	25	No
Kenton Farm Outgrowers Group	36,040,000	Kenton Farm Ltd	Kirinyaga	FB	25	No
Isinga Avocado Farmers Group	21,600,000	Green Gold	Machakos	Avo	300	No
Matungulu Avocado Farmers	17,280,000	Ltd	Machakos	Avo	200	No
Chemororoch Farmers Group	2,800,000	Premier Farm Ltd	Bomet	Avo	30	No
Kikawani Farmers SHG	5,250,000	Seiyan	Machakos	FB	30	No
Ithui Green Growers SHG	7,920,000	Products Ltd	Machakos	FB	30	No
Hope Tomato & Avocado Growers	7,560,000	Gima Fruveges	Tr. Nzoia	Avo/Tomato	30	No
Isyukoni Farmers SHG	10,560,000	Marja Ltd	Machakos	FB	30	Certified
KFC Members						
11 Groups under WILMAR	66,975,000	Wilmar	Kiambu	Summer Flowers	60	Certified
13 Groups under ZEDGEE	41,768,221	Zedgee	Nyandarua	Summer Flowers	55	Certified
BULGATE Group	13,650,720	Bulgate	Nyeri	Summer Flowers	47	Certified
FINAFLOWERS	18,567,860	Fina Flowers	Kiambu	Summer Flowers	35	Certified

Source: KHMAP reports

In the end, all group members were expected to have the necessary knowledge to enable them comply with requirements of standards, thereby incentivizing exporters to renew farmer groups' certifications and contracting. This likely facilitated continuity in the implementation of market standards and equipping farmers with readily available technical knowledge. The expected trickle-down effect is that the farmer groups would be assured of more reliable and profitable markets capable of improving incomes and livelihoods. However, as discussed in subsection 4.1.2, the assumptions, risks and sustainability factors behind this impact pathway were not clearly elaborated in the program document or TOC and, therefore, it is difficult to evaluate.

Building stronger organizations. Member companies drawn from FPEAK and FPC Kenya – six from FPEAK and five from FPC Kenya, were trained on food safety management systems. A total of 137 pack house staff were trained (137% of target). The training focused on improving compliance to market requirements for fruits and vegetables destined for the EU market through the acquisition of new knowledge and standards certification. The certification aimed to assure the companies of continued access to the markets.

Table 6: KHMAP Training Beneficiaries - Pack Houses

Company Name	Annual Value Traded (KES)	Topic
FPEAK Members:		
Olivado EPZ ltd	1.25 Billion	Emerging Food Safety Aspects 2020 (Food Fraud and Food Defense)
Forevergreens ltd	64 Million	Implementation and maintenance of Food Safety Management System
Vert Ltd	370 Million	
Makindu Growers & Packers Ltd	68 Million	
Veg Pro Group	5.3 Billion	
AAA Growers	1.8 Billion	
FPC Kenya Members:		
Afrex Gold Ltd.	12 Million	Implementation and maintenance of Food Safety Management System
Plan Fresh	5.7 Million	
Avo Veg Health Kenya LTD	198 Million	
Phyma Fresh Produce LTD	225 Million	
Jani Fresh LTD	69 Million	Food Fraud & Food Defense

Source: KHMAP Quarterly Reports

The evaluation finds that the trainings were delivered successfully and efficiently. From responses to the training evaluations, it is clear that the trainings were delivered effectively. The training evaluations suggest that a majority of the trainees (about 80%) was satisfied that the training was beneficial and would positively impact their professional activities. However, across all the pack

houses, inadequate duration of training, inadequate practical learning and exercises, and less than satisfactory organization in terms of venue, time and meals were identified as shortcomings of the training. The trainees wanted more time for an opportunity to meet training objectives and engage more with the material through appropriated content delivery and pacing and practical exercises. It is unclear if the choice of three days was a preference of the pack house management or KHMAP. Moreover, all the trainings were 3-day sessions of standard content, irrespective of the pack house type, size and needs. The evaluation did not find any organization and training capacity assessments undertaken prior to the training to understand the context and needs of the pack houses. Other issues were identified as training methodology and quality of training materials. For these, it is too early to ascribe impact of the training on the performance of the pack houses.

There is an outstanding question about the efficiency in targeting of pack houses for staff training. It is apparent from the data that there was no consideration of company size. Three of the pack houses trained were large establishments, estimated to trade more than KES 1 billion in fresh produce annually; one pack house grossed over KES 5 billion a year. Ideally, such large pack houses should be able to organize and fund their own staff training. KHMAP resources would have been better utilized on small-medium pack houses with greater need for and likely to benefit greatly from staff capacity building.

Improved market and trade logistics. To improve trade and logistics infrastructure for better market access, KHMAP lobbied the government through the transport and infrastructure ministry and affiliated road agencies to rehabilitate a key transport artery for export horticulture (mostly flowers) in Naivasha – the Moi South Lake Road. It commissioned an economic study of the road in May 2020 to generate evidence on the role of the road in the local and national economy. It culminated in a detailed technical report on the economic importance of the road, the cost of its dilapidated condition, and potential returns from its rehabilitation. The study estimated that upgrading the road would save road users about 31% in transport cost over 20 years, with the highest coming from reductions in value of time cost (60%). The publication and study findings were shared with key stakeholders at two public workshops in Naivasha and Nairobi. FPEAK and her partners KFC and FPC Kenya presented the findings of the report to the County Government of Nakuru, Kenya National Highway Authority (KENHA), Kenya Rural Roads Authority (KERRA), five Principal Secretaries, and business operators around Naivasha.

The lobbying successfully led to a section of the road, Maai Mahiu – Moi South Lake Junction to KENGEN being rehabilitated to Class C standard. The Government of Kenya, through the Ministry of Transport and Infrastructure also reassured the different stakeholders that full rehabilitation of the road will be undertaken to join the Moi North Lake road. The road was expected to reduce transportation costs and travel time, promote trade and investment, and stimulate economic growth in agriculture, energy, tourism and hospitality, fisheries, and transportation sectors.

At advocacy meetings held with Kenya Airways and other stakeholders in the freight and logistics value chains, the former agreed to start flying cargo planes from the MIA. In addition, together with stakeholders in the freight and logistics value chain, KHMAP visited Eldoret International Airport (EIA) and Kisumu International Airport (KIA) and agreed to work with KAA and Kenya Airways Cargo to set up cold storage facilities to make transport of fresh produce from these locations possible. These developments are vital in helping reduce the distance travelled from farms to the ports of exit and lower the cost of freight from JKIA; freight cost at these other airports is cheaper. This will contribute to increased savings for the grower/exporters while at the same time maintaining the quality and integrity of the fresh produce destined for international markets.

The evaluation concludes that **the program enhanced, achieved, or was on track to achieve its targets for horticulture trade and investment promotion, advocacy, and logistics** toward improved environment and opportunities for market access at the national, regional and international levels. Despite the disruptions of COVID-19, **these were achieved in the most effective way**, as demonstrated by the capacity of farmers and pack houses and positive response from responsible institutions.

4. Institutional capacity development of horticulture institutions.

5	**Institutional capacity development of horticulture institutions and trade support bodies**
5.1	Train association staff on project M&E and data management
5.2	Development of customized M&E capacity building tools/ guidelines (manuals)
6	**Project M&E**
6.1	Project Baseline study
6.2	Review and Monitoring meetings

This strategy was implemented through enhancing the ICT capacity of the consortium partners and training their staff on M&E. The program equipped the Associations with computers for data collection and management. Sixteen computers were purchased and distributed to the staff of the three Associations. The computers enabled the staff to collect, collate, and store data and are useful in conducting training sessions and other day-to-day activities. Importantly, the computers contributed to enhanced ICT capacity and integration among the staff and will enhance effective communication among its members and other stakeholders.

To strengthen human resource capacity, the program trained 12 staff members the Associations on M&E; against a target of ten, this translated to 133% achievement. The training enabled staff to develop proper M&E plans for the program and are better equipped to support future programs. This has enabled the consortium to ensure that the set objectives and outcomes of the program and other future programs are met. M&E training and reference manuals were developed and are currently with the Association's staff for use. This manual will enhance the capacity of the Associations for M&E, thus improving their overall organizational effectiveness.

The program also conducted a Baseline study in the first year to inform its interventions. It used the findings to design activities and implementation approach. During implementation, the program held several review and monitoring meetings to track progress, assess the implementation environment, and make adjustments in line with prevailing circumstances.

4.2.5 System changes

The impact criterion assesses the changes (positive / negative, intended / unintended, directly / indirectly) produced by the project.[11] This section begins by outlining the observed beneficiary level changes and is guided by the following evaluation questions.

Evaluation Questions:

- To what extent have farmers' groups been trained on GAP standards?
- What were the impacts of the intervention on beneficiaries (intended and unintended)?
- What has the contribution of training farmer groups on certification and contract engagement with off takers?
- To what extent have pack houses been trained on standards and its contribution to market access?
- To what extent has the established HMIS supported stakeholders in the sector?
- Which project interventions contributed to intended results?
- What were the effects of grants on target sector projects?

HMIS Portal. The project established HMIS portal in 2021 for improved marketing, news, and inquiries and international promotion of Kenya's fresh produce. However, it is apparent the HMIS has not been actively managed since its establishment in 2021 and was yet to be formally launched at the commencement of this evaluation.[12] The expansion of the portal incorporated important data sets on areas of production, harvested volumes, exported volumes and value of trade in the different horticultural value chains. Staff of the three associations were trained in November 2021 on the management and maintenance of the HMIS. This was intended to ensure sustainability. Efforts are underway to officially launch and expand the portal to include key data sets and other components

[11] DAC Criteria, OECD website: http://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm

[12] Achievements of the KHMAP Project. See Horticulture Kenya. "Home." Accessed March 26, 2022. https://horticulturekenya.com/

like inquiries and pricing, to make it a truly robust system for trade. Once fully operational, the HMIS is expected to serve over 600 companies involved in export of fresh produce, providing them with most current market information. This is anticipated to lead to increased market linkages and, therefore, contributing to enhanced export market capabilities for the targeted value chains. This evaluation finds that it is too early to assess the impact of the HMIS given its very short life; the Consultant is unable to establish the traffic flows on the portal to measure and understand its impact. (A snapshot of the StatCounter on the portal shows there was about 1601 hits as of March 26, 2022.)

Improving trade logistics and cost of trade. The rehabilitation of the Moi South Lake Road was a great achievement as a result of project intervention. It helped to reduce the time taken to transport fresh produce out of the farms, tremendously reduced the operations costs for the buses and truck ferrying workers and fresh produce, respectively. The estimated magnitude of the impact of the road are the net impacts on commuting users, other users, and businesses – a product of usage (e.g., number of trips or vehicle mileage) and per unit use (e.g., time or cost saved per trip)[13]. This being an agriculturally-rich area, local communities will also benefit from improved transportation systems to access farm inputs and markets for horticultural produce and dairy products from Naivasha, Nakuru, Nairobi and Central Kenya. In addition, easier access and lower road user costs are expected to make the area more attractive and competitive to investment.

Lobbying the KAA, Kenya Airways and other stakeholders in the freight and logistics value chains led to Kenya Airways flying the first cargo plane in history from Moi International Airport to Sharjah International Airport, with 20 tons of fresh produce and 23 tons of seafood onboard. In addition, the result of lobbying the KAA led to the installation of a cargo handling and cold storage facility at the KIA through a Public Private Partnership (owned by Munira Gilani, a local investor) in 2021 and the launching of fresh produce cargo services in January 2022.[14] The KAA also released land at the old Kisumu Airport to pave way for Tradewinds Aviation Services Limited to establish the cargo transit shed. At the EIA, direct exports to the European market of cut flowers from the North Rift region resumed in November 2021, in partnership with Ethiopian Airlines, after a 12-year hiatus.[15]

Capacity building of farmers and companies. Training farmers, farmer groups and pack house staff on GAP and standards improved awareness and knowledge of market requirements. The program reportedly supported 59 export companies, 50 of which obtained certification for 2022; the rest had scheduled their audits for late 2021 and 2022. While the trainings were delivered effectively, the training evaluations suggest that impact was diminished by inadequate duration of training, inadequate practical learning and exercises, and less than satisfactory organization in terms of venue, time and meals were identified as shortcomings of the training. The trainees felt the time was inadequate to meet training objectives and engage with the material through appropriate pacing of delivery and practical exercises. Moreover, all the trainings were 3-day sessions of standard content, irrespective of the pack house type, size and needs. The evaluation did not find any organization and training capacity assessments undertaken prior to the training to understand the context and needs of the pack houses. Other issues identified included training methodology and quality of training materials.

It is too early to ascribe impact of the training on the performance of the pack houses. Due to the short period of implementation arising from COVID-19 disruptions, the program closed before it could demonstrate the extent to which the training of pack houses and farmer groups has contributed to increased certification and better market access. However, limited interviews conducted with two farmer groups and one pack house suggest some early positive outcomes from the interventions, including:

- Improved quality of farm produce
- Reduced or no rejection of produces sold to off-takers and pack houses

[13] An Economic Study of the Moi South Lake Road (C707), Naivasha Final Report, 2020

[14] January 05 2022, Wednesday. "Boost for Farmers as Kisumu Airport to Fly Fresh Produce." *Business Daily*, January 4, 2022. https://www.businessdailyafrica.com/bd/corporate/shipping-logistics/boost-for-farmers-kisumu-airport-to-fly-fresh-produce-3672250.

[15] December 15 2021, Wednesday. "Farmers Eye Direct Eldoret Airport, EU Flower Exports." *Business Daily*, December 14, 2021. https://www.businessdailyafrica.com/bd/corporate/shipping-logistics/farmers-look-tap-direct-eldoret-airport-eu-flower-exports-3652740.

- Increased knowledge and awareness about food safety and effective and economical ways of managing pack houses
- Buying or procuring the right agrochemical
- Following the right procedure in pesticide/herbicides application
- increased awareness of market requirements
- GLOBAL.G.A.P. certification of individual farmers

These changes combined to increase the production and sale of higher volumes of better quality produce, which implies increased revenues from higher sales of and better prices for good quality produce. Whether the higher revenues led to higher profits is unclear because the interview never delved into the additional cost of implementing the changes. Other information gaps include changes in contractual engagements with off-takers among FGs and changes in business and market access for the pack houses.

Catalyzing interest and action in non-traditional production areas. Due to continuous engagement with the LREB, KHMAP succeeded in influencing the member counties to start increasing production of export horticultural crops. This led to the Governors of Kakamega and Kisii counties committing to support farmers to increase production and improve quality of export crops. For example, Kakamega County began constructing market places for local markets' produce and was working with other development partners to develop a fish processing plant. Kisii county is currently negotiating with a private investor to set up a banana flour processing facility. The governors committed to work with KAA and KPA to adequate quantities are produced in the region to utilize the facilities being developed at the KIA.

Weak organizational structures of farmer groups. System changes are likely to be weak, since the assumptions and risks behind this pathway was never elaborated in the TOC. It is also unclear whether farmer groups that received training and certification became more capable of effectively mediating production and marketing.

Adaptive implementation and working methodologies. The COVID-19 pandemic delayed activities but the program used the time to redesign and prepare better for implementation. Adjustments were made for the highly contact-intensive activities, e.g., training had to be physical so it waited for easing of restrictions. Activities that relied on meetings were undertaken virtually. In other instances, activities followed a hybrid of physical and virtual approach. Despite the adaptability, some activities that required international travel in and out of the country could not be implemented effectively and, therefore, had to be canceled. Since they implemented the program with COVID-19 restrictions in place, the project team appreciated the value and efficiency of virtual meetings and working groups which led to the development of a number of project documents that ensured smooth running of the project once launched.

4.2.6 Sustainability

Sustainability assesses the potential for continuation of program activities and benefits after support is withdrawn, i.e., the probability of long-lasting benefits and their resilience to risk over time.[16]

Assessment Questions

- Which sustainability challenges and risks is the project facing?
- Which strategies has been put in place to enhance the project sustainability?
- To what extent will activities and gains continue beyond KHMAP engagement?

Sustainability challenges.

1. **Short-termism.** The short term nature of the project meant that the interventions meant that beneficiaries had only limited interaction with the project. The implementation time may not have been sufficient to embed the gains and cultivate ownership.

[16] OECD, DAC Evaluation Network, DAC Evaluation Quality Standards, March 2006 http://www.oecd.org/site/0,3407,en_21571361_34047972_1_1_1_1_1,00.html

2. **Retaining knowledge acquired through training.** Knowledge, skills and competence acquisition is a continuous long term process that only one-off short interventions cannot adequately address. Due to the inadequate time accorded the trainings, it is unclear if the knowledge, skills, competence and confidence acquired by pack houses will persist long term. It is also unclear from the project documents who will provide the training support post KHMAP. However, limited interviews conducted with two farmer groups and one pack house generally suggest that the gains and activities from the project are likely to continue beyond the program. All the beneficiaries interviewed were practicing what they learned through the training and certification process, and there were plans in place to continue the training and knowledge sharing.
3. **Maintaining the certification status.** The premise for supporting certification was the high cost of the process. Since the certifications are renewable, the cost of renewal must be borne by the beneficiaries, specifically for farmer groups. Moreover, the interviewees indicated that the project came to a close before the certification process was completed for most members. This could be attributed to the short implementation time frame coupled with disruptions from COVID 19 pandemic, which delayed or slowed down key aspects of the implementation.
4. **Maintain functional and capable farmer groups.** Sustaining the capacity built among farmers will be challenging. It is unclear whether farmer groups trained and certified would become more effective mediators of production and marketing, particularly since farmers' experience with certification was too short under KHMAP.

Strategies to enhance the program sustainability

HMIS portal. KHMAP developed and activated the **HMIS portal** that will support all other stakeholders (private and public sectors). The program is not clear on the availability of adequate capacity and resources to actively manage and maintain the HMIS.

Support from the government. Project sustainability is demonstrated in the case of the Moi South Lake Road, in which KHMAP lobbied the Government and got KERRA to upgrade the road to class C for ease of its future rehabilitations in serving the target horticultural zone. Upgrading the road will ease maintenance and continue to serve the horticultural stakeholders for long periods of time. In addition, the engagement of the Meru County Government to address market access challenges through a Memorandum of Understanding (MoU) was aimed at creating a structured approach to make trade workable. However, this evaluation was unable to determine if the single MoU entered into at the end of program will remain relevant and viable beyond the program.

Spillover effects. The activities and gains go beyond the Consortium. An example is the Consortium's involvement of key stakeholders in the target value chains. The project implementation involved partners who have the same goals and are affected by similar problems; this has led to developing supportive services with minimal resources. The participatory nature of the project build community support resulting in the embracing of project activities. This enhances the likelihood of stakeholders taking ownership, feel valued and endeavor to do things that can help the gains continue after project closes. Furthermore, the synergies created from the highly successful stakeholder engagements and coordination set the basis for establishing smooth inter-modal transport systems that will spur trade, create efficiency, and improve compliance with international standards.

The program built the capacity of Associations' staff. Capacity building in an organization can lead to project sustainability. A well-trained and highly skilled staff, as well as effective leadership, is a valuable asset in developing and preserving projects that the beneficiaries needs. Trained staff are better prepared, more confident and more effective in implementing, sustaining and growing programs. The M&E training and reference manuals developed by the program and availed to the Associations will be available for future use. The manuals have the potential to enhance the capacity of the Associations for M&E and market information, and thus improving their overall organizational effectiveness.

Adaptive approaches to programming. The COVID-19 pandemic accorded the program more time to redesign and prepare better for implementation, among several adjustments. Implementing the program with COVID-19 restrictions in place helped the program team appreciate the value and

efficiency of virtual meetings and working groups. The acquired adaptive capacity and new ways of working should help the associations prepare and respond better to changing working environments in the future, including better anticipation of similar situations.

Retaining knowledge acquired and sustaining practices. The beneficiaries interviewed for this evaluation reported putting in place various strategies to sustain the activities and the gains made; the pack house plans to conduct annual trainings, while farmer groups plan to retrain members (transfer of knowledge) and continue practicing what they learned from the trainings.

5. Conclusion and Recommendations

5.1 Conclusions

From the various findings, the evaluation concludes that the **program interventions were relevant, efficient and effective**, taking into account the project time of two years being very short and significant implementation disruptions caused by COVID-19. Specific findings include:

1. Evaluated for relevance, coherence and clarity, the evaluation finds that the program was well aligned with the policies, needs and the contextual situation in the country's horticultural sector. The program interventions were coherent with country-specific realities, legal and policy frameworks, and programs of other partners operating within similar contexts, including addressing highly relevant felt needs of the industry. The program also addressed country-specific realities concerning institutional capacity and legal and policy framework for competitiveness and enhanced market access.
2. On efficiency and effectiveness, the evaluation finds that the program was efficient in its use of resources and implementation, and effective in its interventions and implementation. Based on the project scope and the findings, the program approach was the best possible because no individual organization was likely to address the range of expertise and resources required by such a program. In addition, the interventions were implemented with relatively efficient strategies. However, an analysis of the program's theory of change found weaknesses related to the identification, incorporation and elaboration of key assumptions and risks along the different impact pathways.
3. The program was time-efficient - key activities were managed and impacts achieved within the broader program timelines. Despite unforeseen challenges of the COVID-19 pandemic, it still achieved over 90% of its targets within a highly constrained and difficult implementation environment and a shorter time span. The project managed to accomplish a majority of its key objectives, including successfully developing the HMIS platform, training and certifying farmers and pack houses, and conducting studies and stakeholder engagements for successful advocacy. The program enhanced, achieved, or was on track to achieve its targets for horticulture trade and investment promotion, advocacy, and logistics toward improved environment and opportunities for market access.
4. Critical to the program's success was the high level of coordination by the consortium in ensuring that the relevant stakeholders were on board in addressing the sector's challenges to improve market access. This is likely to contribute to the sustainability of the interventions. The program experienced serious challenges at its launch which coincided with the COVID-19 in Kenya and was forced to either limit physical contact with the target beneficiaries or drop some activities, such as foreign travel and exhibitions. These challenges, however, are deemed not to have compromise the program's effectiveness unduly, but the rush to catch up with activities in the second year after pandemic control restrictions eased probably compromised the efficiency of resource utilization and effectiveness of delivery.
5. A few systemic changes are delineable from the program interventions. The program is considered to have contributed positively in enhancing production and market capacity of farmer groups and pack houses through training and certification. It also lobbied stakeholders in non-traditional production areas to catalyzing interest and action in export horticulture. Most notably, the lobbying of the KAA, Kenya Airways and other stakeholders in the freight and logistics value chains culminated in Kenya Airways flying cargo planes from Moi International Airport and Kisumu International Airport. The KAA also released land at the old Kisumu Airport to pave way for a private company to establish a cargo transit shed. At the Eldoret International

Airport, direct exports of cut flowers to the European market resumed in November 2021, in partnership with Ethiopian Airlines. The evaluation also finds evidence of adaptive implementation and working methodologies resulting from experience with COVID-19 pandemic. Adjustments were made for the highly contact-intensive activities and those that relied on meetings. The project team appreciated the value and efficiency of virtual meetings and working groups more, which led to the development of a number of project documents that ensured smooth running of the project once launched.

6. Sustainability challenges. Key weakness of the program, and perhaps significant contributors to weaker performance, include:
    - Short-termism. The two-year duration (effectively, one year due to COVID-19), which proved too short for partners to effectively and efficiently implement or track progress of the envisaged interventions. The short term nature of the project meant that the interventions were rushed and beneficiaries had only limited interaction with the project. The implementation time may not have been sufficient to embed the gains and cultivate ownership.
    - Maintaining functional and capable farmer groups. It is unclear whether farmer groups trained and certified would become more effective mediators of production and marketing.
    - Whereas the program developed and activated the HMIS portal to support all stakeholders (private and public sectors), the availability of adequate capacity and resources to actively manage and maintain the platform is unclear.
7. Strategies to enhance the project sustainability
    - Support from the government. Project sustainability is demonstrated in the case of the Moi South Lake Road, in which KHMAP lobbied the Government and got KERRA to upgrade the road to class C for ease of its future rehabilitations in serving the target horticultural zone. In addition, KHMAP engaged the Meru County Government in addressing market access challenges through a Memorandum of Understanding (MoU) between the county and fresh produce logistics team that is aimed at creating a structured approach to make trade workable.
    - Spillover effects. The activities and gains went beyond the implementing Consortium. The program implementation involved partners who have the same goals and are affected by similar problems; this led to developing supportive services with minimal resources. The participatory nature of the project built a community support that enhances the likelihood of stakeholders taking ownership, feel valued and endeavor to sustain the gains made. Moreover, the synergies created from the highly successful stakeholder engagements and coordination has set the basis for establishing smooth inter-modal transport systems that will spur trade, create efficiency, and improve compliance with international standards.
    - The program built the capacity of Associations' staff. A well-trained and highly skilled staff, as well as effective leadership, is a valuable asset in developing and preserving projects. Additionally, M&E training and reference manuals developed by the program are available for future use; the manual will enhance the capacity of the Associations for M&E, thus improving their overall organizational effectiveness.

5.2 Key Lessons

Several lessons are derivable from the program's experience with and impact of the pandemic relevant to future implementation efficiency, among others:

3. It is important for programs to clearly identify, incorporate and elaborate assumptions, risks, and sustainability factors in their TOCs. Had this been done properly at program design, the effect of unforeseen circumstances, such as the pandemic, would have been anticipated and effective mitigation measures put in place.
4. It is important that program design, financing and implementation are highly flexible and adaptable. This equally applies to program financiers and implementers. In particular, there is a need to plan and implement capacity building or similar programs over longer time horizons, including providing room for time extensions to adjust to unforeseen circumstances. After

observing and experiencing the realities of COVID-19 in the first year of implementation, the program should ideally have been extended into the third year to make up for lost time.

5.3 Key Recommendations

Support for complex capacity and market systems development programs, like KHMAP, need to be spread over at least five years to be effective. The evaluation findings suggest that two years was too short and insufficient time to implement the program effectively. Even for programs that strongly demonstrate relevance and effectiveness in supporting the industry, two years is not adequate time to effectively monitor and track progress at the outcome and impact level. The evaluation strongly recommends that TMEA considers extending the program for an additional three years and increasing the level of support to give consortium partners enough time to implement it effectively, track progress, and realize the outcomes.

Future programs should focus more on cultivating effective linkages between farmer groups and off-takers. This will assist in assessing how any enhancements in market access impacted on produce quality, volumes, prices, revenues and incomes of target farmers' groups and pack houses based on training offered and certifications acquired.

Greater focus and resources be placed on strengthening organizational structures of farmer groups for effective, sustainable and impactful capacity building effort. While anticipated in the program design, the COVID disruptions and short duration of the program did not permit organizational capacity strengthening. This should be a priority for current and future programs of a similar nature because the sustainability of any gains from training and market development strongly hinges on the effectiveness of farmer organizations as critical value chain partners.

Future capacity building training should afford trainees adequate time for effective coverage and delivery of content and practical learning through appropriate pacing of delivery and practical exercises. The preferred approach of a standard 3-day session and uniform content, irrespective of the pack house type, size and needs, should be discouraged because each pack house is unique in its establishment, business activities, quality of staff, and pressing needs that require different treatment.

Undertake organization and training capacity assessments prior to training to understand the context and needs. Furthermore, training evaluations should be designed and analyzed to offer insights on trainee experience beyond the generic satisfaction surveys.

Better and more innovative targeting of pack houses for capacity building. Resources would be better utilized on small-medium pack houses that likely face greater challenges with low staff capability, and are more likely to gain larger benefit from the training. For sustainability, future interventions should incorporate intra-industry advocacy to encourage pack houses, specifically the large establishments, to allocate adequate resources for similar staff training.

Better anticipation of and preparedness for natural and health disasters, such as COVID-19 pandemic. The COVID-19 pandemic delayed intervention implementation of highly meeting-intensive activities because such risks, assumptions and their impact were never anticipated in the program documents or the TOC. Future program design should identify, incorporate and elaborate realistic assumptions and risks in the TOC to cover such situations.

Strengthening information and M&E systems of the Associations. Despite the training and capacity support, the Associations are still far from establishing effective M&E systems, specifically recording, gathering and collating, storing, organizing, analyzing, and reporting data and information. These are key ingredients to successful program design, implementation and evaluation. It is recommended that the training continue using the M&E manuals and be expanded to broader areas, including the collection, storage, analysis and reporting of industry and market data and information. In-house capacity should also be built to maintain and manage the HMIS portal.

Related to the M&E systems of the Associations is the need for **program sponsors to reduce the amount and frequency of reporting**, especially for small and short programs like KHMAP. The quarterly reporting and other intervention documentations demand too much time and effort among an already thin program staff. If such extensive reporting were to continue commensurate resources should be provided to bolster the ranks of the program M&E departments.

6. Case Summaries

6.1 Loitoktok Fresh Growers

Loitoktok Fresh Growers is a farmer group in Kimana, Kajiado County, formed in 2000 with over 300 members. The group is contracted by Veg Pro Group Ltd to grow and sell French beans for export. Veg Pro collects about 30 tons of French beans from the group every week.

In 2021, FPEAK facilitated the training and capacity building of the farmer group on GLOBAL G.A.P. standards to prepare its members for certification. The group's management mobilized members for the training and ensured they attended the training workshops, while FPEAK and its partners provided the trainers and training materials. The group's chairman reported that the activities implemented by FPEAK were completely new to the group, and very relevant to its core business. The topics they considered most relevant were safe handling and application of pesticides, Pre-harvest Interval (PHI), and monitoring chemical residues before harvesting. These were vital in reducing rejection of produce at pack houses. None of the activities carried out were considered less relevant.

The activities were implemented promptly and as planned, with the main objective of obtaining certification. The main contributing factor to achieving the outcomes was teamwork by the group during the project. Key outcomes realized from the training was improved knowledge and information on buying or procuring the right agrochemical for pests and diseases control.

The most notable impacts were increased output and sales volumes, better quality of produce, and increased awareness of market requirements. In addition, 75 members were certified with GLOBAL G.A.P. The group attributes most of the changes to the project interventions. These changes contributed to the group selling produce worth approximately Ksh. 52 million in 2021.

The group chairman indicated that the group has been practicing what they learned through the intervention activities. The group plans to continue training members to transfer knowledge from those trained through the program and ensure member continued to practice what they learned. On certification, only a small proportion of members were certified, and not the group. It was unclear from the interview how the gains made will be sustained given the low rate of certification of members and non-certification of the group.

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6.2 Wautu River Self-Help Group

Wautu River Self-Help Group (SHG) was formed in 2019 and is located in the Wautu area of Makueni County. The group is currently contracted by Keitt Exporters to grow French beans for export. The company collects up to 2 tons of French beans per week from the group. Before KHMAP, the group was facing challenges of high product rejection by pack houses and needed certification.

In 2021, FPEAK sought to build the capacity of the SHG through training for GlobalG.A.P. certification. Through their group management structures, the group mobilized members for the training and ensured they attended the training workshops while FPEAK and its partners provided the trainers and training materials. The SHG found most aspects of the training new to them and activities very relevant to the group's core business. The topics they considered most relevant were safe handling and application of pesticides, Pre-harvest Interval (PHI), and monitoring chemical residues before harvesting. These were vital in reducing rejection of produce at pack houses. The activities were implemented promptly and as planned, with the main objective of obtaining certification. Effectiveness, teamwork, and a keen interest in the project were the key contributing factors to the achievement of the outcomes.

The most notable outcomes of the intervention were improved quality of farm produce, reduced or no rejection of produces sold to off-takers and pack houses, increased knowledge, buying or procuring the right agrochemical, and following the right procedure in pesticide/herbicides application. In addition, 12 of its 25 members gained GLOBAL.G.A.P. certification. These changes

led to increased volumes and sales by the group – implying increased revenues from higher sales of and better prices for good quality produce. The group sold French beans valued at approximately Ksh. 15.2 million in 2021.

Indications are that the activities and gains made are likely to continue beyond the life of the program. The group's chairman indicated that the SHG is practicing what they learned through the project. The group plans to continue training members to transfer knowledge from those trained through the program and ensure they practice what they learned. However, the group has not attained certification, with less than half of the members certified as individual farmers. The group's chairman reported that the project ended before the remaining members completed the certification process. The Chairman was unclear how the gains made will be sustained going forward given the partial certification of members and not the group.

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6.3 Forever Green Growers Ltd

The pack house is involved in the export of horticultural crops, such as French beans. In the year 2021, FPEAK facilitated the training of the pack house on food safety awareness, i.e. implementation and maintenance of the Food Management System. The training was conducted in October 2021. The pack house provided training facilities, materials, and meals for the trainees, and ensured that the trainees attended the workshops. FPEAK and its partners provided trainers' to facilitate the training.

The pack house reported that the interventions were completely new and very relevant to its core business operations. The most relevant training topic was food safety, and none of the activities was considered irrelevant. The activities were intended at creating awareness on food safety and effective and economical ways of managing the pack house. According to the pack house, the activities were implemented promptly and as planned, and most of the intended outcomes were effectively achieved. Moreover, in its assessment, compared to similar activities it had engaged, the implementation of the activities was highly efficient.

The training intervention contributed to increased awareness of market requirements. In addition, the pack house obtained quality/management standards certification. These gains and activities are likely to be sustained beyond the project. The pack house reported that it is still practicing what was learned through the project and plans to conduct annual training going forward, while maintaining its certification status.

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6.4 Summary of Key Findings from the Cases

Relevance: the KIIs indicate that about 70% of the interventions were completely new to the beneficiaries and the rest mostly new. The project activities were very relevant to the beneficiaries' core businesses. The topics considered most relevant by farmer groups were safe handling and application of pesticides, Pre-harvest Interval (PHI), and monitoring chemical residues before harvesting. These were vital in reducing rejection of produce at pack houses. For the pack house, food safety and management protocols were the most relevant.

Effectiveness: The main objective for the farmer groups was obtaining standards certification while the pack house was more interested in knowledge about food safety and effective and economical ways of managing the pack house. The activities were implemented promptly and as planned.

Impact: Some of the positive outcomes from the interventions included:

- Improved quality of farm produce
- Reduced or no rejection of produces sold to off-takers and pack houses
- Increased knowledge and awareness about food safety and effective and economical ways of managing pack houses
- Buying or procuring the right agrochemical
- Following the right procedure in pesticide/herbicides application
- increased awareness of market requirements
- GLOBAL.G.A.P. certification of individual farmers

These changes combined to increase the production and sale of higher volumes of better quality produce, which implies increased revenues from higher sales of and better prices for good quality produce. Whether the higher revenues led to higher profits is unclear because the interview never delved into the additional cost of implementing the changes.

Sustainability: The interviews generally suggest that the gains and activities from the project are likely to continue beyond the program. All the beneficiaries interviewed were practicing what they learned through the training and certification process, and there were plans in place to continue the training and knowledge sharing. However, while some group members were certified with GLOBAL.G.A.P., no farmer group was certified. The interviewees indicated that the project came to a close before the certification process was completed for most members. This could be attributed to the short implementation time frame coupled with disruptions from COVID 19 pandemic, which delayed or slowed down key aspects of the implementation. The beneficiaries reported putting in place various strategies to sustain the activities and the gains made; the pack house plans to conduct annual trainings, while farmer groups plan to retrain members (transfer of knowledge) and continue practicing what they learned from the trainings.

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