



Final Report

The Endline Study of TMEA Funded Trade Systems for
Kenya Plant Health Inspectorate Services
(KEPHIS SC-PVP SYSTEM)

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27 January, 2022



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ACRONYMS

DANIDA	Danish International Development Agency
FGDs	Focus Group Discussions
KEPHIS	Kenya Plant Health Inspectorate Service
KIIs	Key Informant Interviews
KPIs	Key Performance Indicators
MoUs	Memorandum of Understanding
ODK	Open Data Kit
PCC	Project Coordinating Committee
PIT	Project Implementation Team
PL	Project Lead
PSC	Project Steering Committee
SC-PVP	Seed Certification and Plant Variety Protection System
TMEA	TradeMark East Africa
TOC	Theory of Change
TOR	Terms of Reference

EXECUTIVE SUMMARY

1. This endline study report provides an assessment of the TMEA-funded trade system project (KEPHIS SC-PVP¹ Systems Project). The overall aim of the study was to ascertain the end of project results, assess the trade system projects' performance, and provide findings, challenges, conclusions, and recommendations for the projects to draw lessons for future design and implementation. The evaluation team used both qualitative and quantitative techniques to collect and analyse data for the evaluation.
2. The evaluation team used the six OECD-DAC standard evaluation criteria of relevance, effectiveness, efficiency, impact, coherence, and sustainability to assess the KEPHIS SC-PVP Systems projects' achievement. Each criterion was provided with an overall assessment using a sliding scale of 1 (poor), 2 (fair), 3 (good), 4 (very good), and 5 (excellent), for details refer to Annex 1. Confidence levels of low (red), medium (yellow), or high (green) indicating the available level of evidence to support the evaluation team's assessment are also provided, for further details refer to Annex 2. The evaluation team collected secondary data through document review and primary data through survey, key informant interviews and focus group discussions with key respondents.
3. **Kenya Plant Health Inspectorate Service (KEPHIS)** is the state corporation mandated with protecting Kenya's agriculture from pests and diseases and assure on the quality of agricultural inputs and produce to prevent adverse impacts on the environment, the economy, and human health. With technical and financial support from TMEA, KEPHIS implemented the online Seed Certification and Plant Variety Protection (SC-PVP) System to improve on the services delivered to the customers by KEPHIS, which was previously being offered through manual systems that were associated with a lot of challenges. It was anticipated that the automation would increase compliance levels among seed stakeholders; improve efficiency and effectiveness and reduce transaction time and cost related to acquiring seed certificates from KEPHIS.

Assessment of Relevancy² of the SC-PVP System Projects Intervention

4. **The trade systems response to beneficiaries' needs and priorities:** The evaluation findings indicated that the KEPHIS SC-PVP system responded to the needs and priorities of the traders and KEPHIS by addressing the challenges faced under the manual systems that included: prolonged lead times in-process transactions, high transaction costs, and limited access to information by KEPHIS clients. The managerial challenges of information availability and generation of management reports for effective decision making, among others, were also addressed by the KEPHIS SC-PVP system. The evaluation findings revealed that prior to the KEPHIS SC-PVP systems intervention, traders had to travel and appear physically to apply for and be issued with a license/permit/certificate, which was time consuming and costly in terms of transport cost, printing costs, follow up costs and the manual approval process by the KEPHIS staff who had to be physically present to approve. With KEPHIS SC-PVP systems in place, the applications are made, processed and feedback provided online, which have reduced the cost and time related to

¹ Kenya Plant Health Inspectorate Service Seed Certification and Plant Variety Protection System (KEPHIS SC-PVP)

² Relevance is the extent to which the KEPHIS SC-PVP system project intervention objectives and design respond to beneficiaries' global, country, and partner/institution needs, policies, and priorities, and continue to do so if circumstances change.

acquiring the KEPHIS services, improved convenience, transparency and accountability in the services provided by KEPHIS.

5. **KEPHIS SC-PVP System Alignment to Partners' and Kenya National Strategies:** The evaluations findings revealed that the KEPHIS SC-PVP system was developed in partnership with beneficiary agencies, Government partners and aligned with their strategies, goals, and objectives that included being aligned to;
 - a) TMEA Theory of Change (ToC) and priorities of reducing transaction time and cost through effective trade systems and procedures to reduce trade barriers;
 - b) The National ICT Strategies and Policies of Kenya (e-governance) of using ICT to reduce the transaction time and cost of doing business;
 - c) WTO Trade Facilitation Agreement of simplifying trade procedures;
6. **KEPHIS SC-PVP systems promoted environmental protection** by reducing paper work and carbon emissions through minimizing physical movements and reduced use of paper.
7. **Adhered to diversity (including gender and different sizes of traders):** The trade systems do not discriminate against gender or size of business because it was based on first-come-first serve basis.
8. Overall, the TMEA funded trade system (KEPHIS SC-PVP system) responded to beneficiaries needs of reducing the trading time and costs incurred in processing trade documents; enhanced availability and sharing of trade information and documents among the users and KEPHIS and improved on the level of transparency, convenience, accountability, and enhanced traceability in the trade cycle which indicates that the projects' relevance was very good.

Assessment of Effectiveness³ of the KEPHIS SC-PVP System Intervention

9. In general, key components and activities of SC-PVP system automation included system development and deployment, development of the System integration interfaces, implementation of support services, development and implementation of change management plan, and development and implementation of the monitoring and evaluation (M & E) framework resulted into the realization of outputs as indicated in the table below Table 1.

Table 1: KEPHIS SC-PVP System Activities and Output Realization

ACTIVITIES			OUTPUTS		
Targeted Activities	Realised Activities	Partially Realised Activities	Targeted Outputs	Realised Outputs	Partially Realised Outputs
34	31	3	11	11	0
%	91%	9%	%	100%	--

The three ongoing partially realised activities include user acceptance tests, integrations with other systems (UPOV, Finance, Kentrade and PRISMA), and post automation sensitization.

³ Effectiveness is the extent to which the KEPHIS SC-PVP system project intervention achieved, or is expected to achieve, its objectives, and its results, including any differential results across groups

10. In general, the average time taken by the different trade actors (seed inspector, seed merchants and seed sellers) to acquire a seed certificate issued by KEPHIS reduced from 25 days before automation in 2018 to 3 days after automation in 2021, which was a 88% reduction against the target of 30%. Specially, the time taken by the different actors reduced as follows; seed inspectors from 29 to 1 day (97% reduction), seed merchants from 36 to 7 days (81% reduction) and seed sellers from 10 to 1 day (90% reduction).
11. Overall, the costs incurred by the different trade actors to acquire a seed certificate issued by KEPHIS reduced from US\$39 before automation in 2018 to US\$3 after automation in 2021, which was a 92% reduction against a target of 15%. Particularly, the costs incurred by the different actors reduced as follows; seed inspectors from US\$10 to US\$1 (97% reduction), seed merchants from US\$68 to US\$5 (93% reduction) and seed sellers from US\$39 to US\$4 (90% reduction).
12. The KEPHIS SC-PVP system enabled the tracking of certified seeds from production to the market. It is easier to produce accurate statistics because of the automated system. The system has greatly minimized physical interactions and the inconveniences associated with it.
13. The KEPHIS SC-PVP system centralised seed inspection activities are across the country. With SC-PVP System, KEPHIS staff are able to carry out field visits and electronically issue seed certificates immediately upon compliance, which could not be possible with the manual application process.
14. The evaluation findings showed that 88% of the traders and 71% of KEPHIS Staff interviewed indicated that the KEPHIS SC-PVP system had improved on transparency in the administration of Seed Certification and Plant Variety Protection System and procedures. Overall, the effectiveness of the KEPHIS SC-PVP Systems Project was very good.

Table 2: Comparisons of Key Performance Indicators (KPIs) before and after Project Intervention

#	KPIs/MEANS OF VERIFICATION	BASELINE (BEFORE INTERVENTION)	RESULTS AT ENDLINE (AFTER INTERVENTION)	PERCENTAGE CHANGE	TARGET
1.	Overall average time taken to process a seed certificate /permit /licence	25 days	3 days	88%	30%
2.	Overall average cost incurred to process a seed certificate/ permit/license	US\$39	US\$3	92%	15%
3.	Revenue collected and accounted for through the SC-PVP system.	Data not obtainable ⁴	Data not obtainable	-	25% increase
4.	Percentage of trade actors satisfied with the quality of service delivery by SC-PVP system.	0	71%	71%	Not indicated
5.	Percentage of trade actors indicated improved perceived degree of transparency in the administration of SC-PVP system and procedures.	0	88%	88%	Not indicated
6.	Percentage of trade actors indicated improved perceived degree of accountability in the administration of SC-PVP system and procedures.	0	84%	84%	Not indicated
7.	Percentage of trade actors indicated	0	97%	97%	Not

⁴ Data could not be obtained because it was said to be sensitive.

#	KPIs/MEANS OF VERIFICATION	BASELINE (BEFORE INTERVENTION)	RESULTS AT ENDLINE (AFTER INTERVENTION)	PERCENTAGE CHANGE	TARGET
	improved perceived degree of Convenience in the administration of SC-PVP system and procedures.				indicated

Assessment of Impact⁵ of the KEPHIS SC-PVP system Project Intervention

15. One of the trade barriers in the East African region is the high cost and time to import or export goods due to documentary and border compliance requirements. To clear goods to cross the border, they must comply with the necessary accompanying documents requirements. By the KEPHIS SC-PVP System reducing the time and cost to acquire permits/licences/certificates, they contribute to reduction in trade barriers which is one of the strategic outcomes of TMEA. To acquire a seed certificate issued by KEPHIS reduced from 25 days before automation in 2018 to 3 days after automation in 2021, and costs incurred reduced from US\$39 before automation to US\$3 after automation in 2021. This therefore, implies that the reduction in time and costs attributed to the KEPHIS SC-PVP has contributed to the reduction in trade barriers as articulated in the TMEA TOC.

16. Generally, the KEPHIS SC-PVP system has contributed to the positive impact of reduced operational cost due to reduced physical movements, reduced paper use; improved document management due to e-storage; increased predictability of time, costs and administration associated with trade procedures which consequently reduces trade costs and barriers to trade. Evaluation evidence revealed that the use of SC-PVP System has improved governance in the administration of KEPHIS Trade Systems and procedures as shown by 71% of the traders interviewed who indicated that they were satisfied with service delivery as a result of SC-PVP System; 88%, 84% and 97% indicated that transparency, accountability and convenience respectively had improved in in acquiring KEPHIS services as a result of the use of SC-PVP and therefore the trade systems overall impact was very good.

Assessment of Efficiency⁶ of the KEPHIS SC-PVP System Project Intervention

16. The findings by the evaluation team showed that overall, the KEPHIS system projects’ efficiency was very good. TMEA provided US\$680,000 to fund the activities of the KEPHIS SC-PVP system and the amount spent was US\$696,166, which was 102.4% of the budget. The evaluation findings revealed that the KEPHIS SC-PVP system project VfM economy was achieved through:

- i) Having most of the procurements for services and goods done through competitive processes that involved technical and financial proposals, which ensured that TMEA got the best quality in the market while at the same time guaranteed that the services and goods were obtained within market rates.
- ii) Procurement contracts had budget caps that ensured costs did not go beyond what was agreed without the necessary written approvals.

⁵ The impact is the extent to which the KEPHIS SC-PVP system project intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects.

⁶ Efficiency is the extent to which the respective THE KEPHIS SC-PVP system project intervention delivers, or is likely to deliver, results in an economic and timely way.

- iii) TMEA Procurement procedures were adhered to and TMEA played a central role in the procurement of services and goods, which ensured that both goods and services procured met the required quality standards.
- iv) The funds were used to implement the intended activities that produced the expected results.

Assessment of Sustainability⁷ of the KEPHIS SC-PVP system Project Intervention

17. Overall, KEPHIS SC-PVP system projects' sustainability was very good. The evaluation team assessed and found that the KEPHIS SC-PVP system projects' net benefits would continue even after the cessation of TMEA's support based on the following:

- i) There was stakeholder engagement and involvement to manage the KEPHIS SC-PVP System through training and sensitization of both internal staff and external stakeholders; and through governance structures such as project Steering Committees and Project implementation Committees.
- ii) The KEPHIS SC-PVP system was hosted within the ICT department/section and budgeted for post-TMEA support.
- iii) There was full-time staff and a Technical Assistant that provided support to the system users and knowledge transfer.
- iv) There was good political will and commitment within the trade agencies and the business community.
- v) The KEPHIS SC-PVP system was scalable and extendable on a needs basis.
- vi) The KEPHIS is legally constituted and had the necessary legal mandates and capacity to sustain the results.

Assessment of Coherence⁸ of the Trade Systems Projects Intervention.

18. Overall, the KEPHIS SC-PVP system projects' coherence was excellent in that they were consistent with the followings:

- i) TMEA Theory of Change (ToC) and Priorities: which emphasizes reducing transaction time and cost through effective trade systems.
- ii) The Kenya National ICT Strategies and Policies (e-governance) of using ICT to reduce the transaction time and cost of doing business.
- iii) Kenya National Electronic Single window (KNEWS) under KENTRADE and the Kenya Revenue Authority Integrated Customs Management System (KRA iCMS): The customs systems would enhance the customs management process for import/export declarations which is a critical part of the international trade processes, which is linked through the KNEWS to KEPHIS system to facilitate trade.
- iv) EAC Region Model ICT Policy Framework objectives of Member States digitizing Government processes and services to reduce transaction cost, time and ensure efficient and quality public service delivery.

⁷ Sustainability is the extent to which the net benefits of the KEPHIS SC-PVP system project intervention will continue or are likely to continue.

⁸ Coherence: is the extent to which the KEPHIS SC-PVP system project intervention was compatible with other interventions in a country, sector, or institution.

- v) One-Stop Border Posts (OSBPs) and Integrated Border Management that aims at minimizing delays at borders.
- vi) Elimination of Non-Tariff Barriers (NTBs) to trade in the East African Community (EAC) initiative that is contributing to a reduction in transport costs and time along key corridors in the East Africa Region.
- vii) Single Customs Territory (SCT) that is contributing to trade facilitation in the EAC through the free circulation of goods with minimum internal customs border controls.
- viii) Standards and SPS Programme that promotes standards and SPS harmonization, and improvement of the technical capacities in the EAC Partner States to facilitate trade.
- ix) Authorized Economic Operators (AEO) Scheme that sought to enhance trade by reducing the cost of doing business through simplifying customs procedures and reducing clearance time.
- x) Electronic Cargo Tracking System (ECT): that enables electronic monitoring of cargo in transit, which has contributed to the reduction in clearance time and cost at borders.
- xi) WTO Trade Facilitation Agreement of simplifying trade procedures.

Table 3 provides the summarized performance of the KEPHIS SC-PVP system intervention.

Table 3: Summarized Assessment of the TMEA Funded KEPHIS SC-PVP system

#	Criteria	Relevance	Effectiveness	Efficiency	Impact	Sustainability	Coherence	Overall Assessment
i)	Assessment	4	4	4	4	4	5	4
ii)	Confidence level							

19. From the findings, the evaluation team recommends the following for adoption in similar projects within the ICT for Trade portfolio:

Table 4: Recommendations based on the evaluation findings.

#	RECOMMENDATIONS ON IMPROVING TMEA FUNDED TRADE SYSTEM PROJECTS EFFICIENCY	ACTION POINT
i)	Consultants/ contractors should have local support team to continue providing the required services even if there are restrictions in movements such as lock downs. For example, the developer for the KEPHIS SC-PVP system was a foreigner and COVID 19 pandemic got them out of the country and this to some extent delayed addressing some of the change requests that would have been handled faster had they been physically present or had a local partner/team to step in.	TMEA
ii)	Consultants/ contractors should be conversant with the English language as a requirement to communicate effectively during project execution. The evaluation team found evidence that the communication with the contractors was not effective due to language and cultural differences. This at times resulted in system delays.	TMEA
iii)	Systems developers need to have experts with knowledge on processes being automated (such as seed certification, tea trade processes, etc) to avoid misunderstanding between the developers and the process owners. For	TMEA

	instance, some of the KEPHIS stakeholders to some extent believed that the developer was not well conversant with the SC-PVP processes, a factor that partly contributed to numerous change requests.	
	RECOMMENDATIONS ON IMPROVING TMEA FUNDED TRADE SYSTEM PROJECTS EFFECTIVENESS	
iv)	The trade systems need to provide for complaint raising and feedback mechanism so that stakeholders can raise the complaints through the system, to enable partner implementing agencies to respond promptly to complaints.	TMEA, KEPHIS
v)	Update the Monitoring Plans with targets that are specific and measurable and baselines to enable clear assessment of the results: The evaluation findings indicated that some indicators in the monitoring plans had no baselines nor targets or the targets were not specific (e.g. >1) which made the assessment of the results difficult. There is need for the key performance indicators to have clear baselines and targets.	TMEA, KEPHIS
vi)	The development of the mobile application should be finalized so that the tablets and mobile phones can be used in the field.	TMEA, KEPHIS
	RECOMMENDATIONS ON IMPROVING TRADE SYSTEM PROJECTS DESIGN, MANAGEMENT AND IMPLEMENTATION	
vii)	Engage and support new trade systems agencies in the region: TMEA should continue supporting other trade agencies by automating their key trade processes in the region to reduce the time and cost of doing business by replicating what has worked well in the trade systems projects already supported by TMEA.	TMEA
Viii)	Review the internal procurement and decision-making policies: To increase on efficiency and effectiveness in the implementation of projects by partner agencies. Some partner agency stakeholders felt that TMEA procurement/decision making processes were to some extent longer compared to their own processes, implying that had they been in charge of procurement, the processes would have moved faster.	TMEA
ix)	Engage all the stakeholders right from project initiation to avoid the challenges the integration phase faced. The trade agencies could develop their own integrated payment platforms/applications to deal with the limitations of using MPESA including cash seal, which is being addressed by having the traders pay directly in bank then upload the pay slip as proof of payment.	TMEA, KEPHIS
x)	The system design should be modified in such a way that the top management can be able to access the system to monitor in real time the activities going on in the field. Furthermore, the current system design should also be modified to permit users to copy reports and paste them in another format such as excel, to enable them carry out further analysis and comprehension.	TMEA, KEPHIS
	RECOMMENDATIONS ON IMPROVING TMEA FUNDED TRADE SYSTEM PROJECTS SUSTAINABILITY	
xi)	Training of trainers to increase awareness to the target stakeholders about the system use and their benefits: TMEA should continue to support the training of trainers to carry out sensitization activities and refresher training about the regulatory requirements, system use and the benefits at local levels. This is because the traders are scattered all over the country in addition to having new traders on board. Training and refresher courses should be part of the operational policy of the Partner Agency to ensure they continue post TMEA support.	TMEA, KEPHIS

CHAPTER 1 : BACKGROUND

20. This endline evaluation report presents the (i) key background information including the scope and objective of this evaluation, (ii) the evaluation approach and methodology (iii) evaluation findings, (iv) conclusion (v) challenges (vi) lessons learnt (vii) recommendations and (viii) Annexes.
21. **TradeMark East Africa (TMEA)** is a multi-donor funded, not-for-profit organization, established in 2010 to promote regional trade and prosperity in East Africa. TMEA combines a regional approach with national-level interventions and works closely with East Africa institutions (e.g., East African Community (EAC) Secretariat, Corridors Authorities), national governments, and private sector and civil society organizations. TMEA has its headquarters in Nairobi - Kenya with offices and operations in Burundi, Rwanda, South Sudan, Tanzania, Uganda, The Democratic Republic of Congo (DRC), Ethiopia, and the Horn of Africa. TMEA has recently revised its strategic focus in line with national, regional, and global priorities as defined in its new Corporate Strategy (2017 – 2023).
22. TMEA's Theory of Change (TOC) is anchored on two strategic outcomes: (i) Reduced Barriers to Trade; and (ii) Improved Business Competitiveness. To this end, TMEA has been working with several trade agencies in the region to unlock informational and administrative barriers to trade. This is through the automation of various trade processes aimed at creating a digitalized trade environment in the region to facilitate trade. Therefore, in 2018 TMEA supported Kenya Plant Health Inspectorate Services (KEPHIS) to improve on its efficiency and effectiveness in the management of its trade systems and procedures.
23. The Kenya Plant Health Inspectorate Services (KEPHIS) is the state corporation mandated with protecting Kenya's agriculture from pests and diseases and assure on the quality of agricultural inputs and produce to prevent adverse impacts on the environment, the economy, and human health. With technical and financial support from TMEA, KEPHIS implemented the online Seed Certification and Plant Variety Protection (SC-PVP) System, which automates the administration of trade regulatory documents particularly those related to the process of seed certification and plant variety protection. TMEA's support included development, deployment, and integration of SC-PVP system; systems support services such as technical assistance, short code services, seed labels, and stickers and backup server; user trainings and user sensitizations to equip users with the necessary skills to utilize the system and therefore increase its usage. Specifically, the objective of this intervention was to increase efficiency in the administration of agricultural trade regulatory documents by KEPHIS and its stakeholders.
24. TMEA applied a bottom-up approach to the trade system intervention by directly supporting the partner agencies to automate their business processes and provide better access to trade information/documents. This was anticipated to reduce the time and cost taken to comply with multiple trade requirements by the traders and partner agency staff, hence improving the efficiency of trade facilitation agencies in processing applications for permits/licenses/certificates in a more transparent and accountable manner while complying more to the trade regulations and procedures.

25. Specifically, the trade system (KEPHIS SC-PVP system) intervention aimed at achieving the following specific results:

- i) Reducing time taken to issue a seed certificate
- ii) Reducing cost (direct and indirect) associated with the acquisition of seed certificates
- iii) Increasing transactions and volumes of goods and services offered by the KEPHIS
- iv) Improving on compliance to trade regulations and procedures;
- v) Enhancing availability and handling of information.

26. It is against this background that this endline evaluation of the TMEA funded trade system (KEPHIS SC-PVP system) was conducted and this report indicates the extent to which the TMEA support intervention met its objectives.

1.1 Purpose of the Endline Evaluation and Scope

27. The purpose of this evaluation was to:

- i) Assess whether the project (KEPHIS SC-PVP system) met its intended outcomes and impacts;
- ii) Assess what the benefits/changes are to the intended users and beneficiaries of the intervention (KEPHIS SC-PVP system).
- iii) Assess the achievements, challenges, and best practices to inform similar projects in the future.
- iv) Review the recommendations of the project Formative Evaluation and Annual Review reports, and assess the extent to which these were implemented.
- v) Ensure accountability towards TMEA, Project donor(s), and the beneficiaries of the projects.
- vi) Identify key lessons learned, challenges, and the flexibility of the project to adapt and respond to the changes and sustainability of ICT in the sectors in which the project is implemented.

1.2 Objectives of the Endline evaluation

28. The objectives of the evaluation of KEPHIS SC-PVP system were to:

- i) Examine and analyse the short-term and end of project's (KEPHIS SC-PVP system) results as articulated in its results chain and monitoring plans (MPs) and compare the relevancy, efficiency, effectiveness, governance and inclusiveness, sustainability, impact, and coherence of the implemented projects.
- ii) Extract and document lessons learnt and best practices at each level of project implementation and develop an endline study report that will be useful for TMEA, implementing partner, and donors in implementing similar ICT for Trade projects.
- iii) Based on the identified lessons, provide solid and useful recommendations for adoption in similar projects within the ICT for Trade portfolio.

1.3 Key Evaluation Questions

29. To meet the evaluation objectives, the evaluation team sought to answer the following key evaluation questions based on the six OECD/DAC evaluation criteria.

1.3.1 Relevance

- i) To what extent did the KEPHIS SC-PVP system project intervention respond to beneficiaries' needs and priorities (any difference made by the interventions)?
- ii) To what extent was the KEPHIS SC-PVP system project intervention developed in partnership with Government partners and aligned with the strategies, goals, and objectives of those organizations?
- iii) Did the KEPHIS SC-PVP system project intervention promote green sustainable growth as defined by the Danish International Development Agency (DANIDA)?
- iv) Did the KEPHIS SC-PVP system project intervention adhere to diversity (including gender and different sizes of traders)?

1.3.2 Coherence

- i) To what extent was the KEPHIS SC-PVP system project intervention coherent with other projects within and outside the TMEA Programme?

1.3.3 Effectiveness

- i) To what extent has the KEPHIS SC-PVP system project intervention achieved and/or exceeded targeted outputs, short-term and intermediate outcomes as per the monitoring plan and the logical framework/results chain?
- ii) What are the major factors that influenced the achievement or non-achievement of reduction in trade cycle transaction time and cost?
- iii) To what extent was the articulated KEPHIS SC-PVP system project intervention results chain and the underlying assumptions complete, consistent and appropriate?

1.3.4 Efficiency

To what extent did the KEPHIS SC-PVP system project intervention represent Value for Money (VfM)?

1.3.5 Impact

To what extent did the KEPHIS SC-PVP system project intervention contribute or is likely to contribute to a reduction in time and cost of the trade cycle as articulated in TMEA's Theory of Change?

1.3.6 Sustainability

To what extent will the KEPHIS SC-PVP system project intervention net benefits continue after the cessation of TMEA's support?

CHAPTER 2 : EVALUATION APPROACH AND METHODOLOGY

30. The evaluation team used mixed methodologies including qualitative and quantitative methods to achieve the evaluation objectives in line with the TORs. In addition to the six OECD/DAC evaluation criteria of relevance, effectiveness, efficiency, coherence, sustainability, and impact, the evaluation team used insights from contribution analysis to explore attribution using the KEPHIS SC-PVP system project intervention results chain and TMEA theory of change (TOC).
31. The evaluation team collected secondary data through a desk review of the project documents and other documents relevant to the trade system projects and the evaluation (Refer to Annex 10 for details of the list of the documents reviewed).
32. Primary data was collected through key informant interviews (KIIs), Focus Group Discussions and Survey (Refer to Annex 9 for details of the stakeholders consulted). The evaluation team also obtained the actual transaction systems' time stamps data from the respective trade systems.
33. The evaluation team used a stratified random sampling technique to obtain representative samples. This was because the required endline data covered a heterogeneous population (i.e., producers, brokers, buyers/exporter, warehousemen and other stakeholders) from which representative samples could only be drawn after stratification. Thereafter, a random sampling method was used to avoid systematic bias; and because it was easy to measure the sampling error. In addition, purposive sampling was used where the population was finite and particular sections of the population were targeted (especially the TMEA project Staff (IC4T) and KEPHIS staff to provide specific information on the end line evaluation).
34. Table 2-1 shows the KEPHIS SC-PVP system project intervention population, sample size and response rate.

Table 2-1: KEPHIS SC-PVP system project population, sample size, and number of responses.

Population	Sample size	Number of responses	Response rate
367	61	62	102%

35. The evaluated KEPHIS SC-PVP system project intervention was operational and had a total population size of 367 and a sample size of 61 at a confidence level of 95% and a 5% margin of error. Overall, the number of responses were 62 out of a sample size of 61, thus a 102% response rate. The high response rate was ensured through supervision and sampling with replacement and cooperation of the stakeholders. Bias was avoided by selecting the next respondent in the list in case the targeted respondent was not available for interview.
36. The evaluators used questionnaires, key informant interview guides, and focus group discussion guides to collect data from the KEPHIS SC-PVP system project intervention staff and system users (beneficiaries) during fieldwork. The survey questions were rated and measured on a Likert Scale point of 1 to 3 as shown in table 2-2. In addition, open-ended questions were used to probe and get information from the respondents.

Table 2-2: Likert Scale and Measurement

Measurement	Likert Scale ⁹		
	1	2	3
Perception measurement	Increased	Remained the same	Reduced

37. The primary data (survey data) collected from the respondents were analysed using excel. The data was validated by triangulating with data from other sources (document review, KIIs, and FGDs). This analysis was used to assess whether the KEPHIS SC-PVP system project intervention reduced transaction time and costs, resulting in improved efficiency in service delivery and contributing to the impacts of reduced cost of trade in East Africa.

38. **Baseline Time and Cost:** Establishment of the time and cost baselines involved gathering evidence from multiple sources i.e., KEPHIS baseline survey reports, PAR document, monitoring plan, progressive and annual reports, and interviewing the respondents during the evaluation field data collection by the consultants. The data was validated through cross-verification /triangulation. Where there was consistency in the findings, the KEPHIS baseline data was used. Where there was inconsistency, the most appropriate data was used as the baseline (Refer to attached Annex 5 for evaluation baseline time before automation; Annex 6 for evaluation baseline cost before automation). The main reason for the differences in some of the baseline data between the field survey and the documents reviewed was mainly due to data sources. Some of the baseline data from the documents reviewed did not take into consideration the time and costs incurred by the traders to move from their premises and wait to submit the applications (indirect time and costs).

39. **Time and Cost after Automation and Intervention benefits:** The evaluation team obtained data on time after automation by collecting data from the traders, systems time stamps, and relevant project documents, and validated it through triangulation. The actual time obtained from the systems was used as the time after automation and used in the computation of the time reductions (refer to Annex 5 for evaluation time after automation). Cost after automation was obtained by triangulating data from both the field survey interviews and the desk review (refer to Annex 6 for evaluation cost after automation).

40. The evaluation team exercised quality assurance throughout the whole evaluation process per the OECD/DAC criteria and guidelines. These included training data collectors to meet the expectations of the evaluation. The collected data were reviewed daily by the evaluation team by having review meetings and taking appropriate actions. The data collected was cleaned and evaluated before analysis. In addition, stakeholders were allowed to comment on the findings, conclusions, recommendations, and gender issues; and the report reflects the relevant comments and acknowledges any substantive disagreements.

41. In addition to the OECD/DAC criteria, the evaluation team also used insights from contribution analysis¹⁰ to assess the progress made to achieve the TMEA-funded trade system project (KEPHIS

⁹ A 3-point Likert scale was used in the questionnaire for the respondents to choose one option that best describes their view or findings about the trade systems.

¹⁰ John Mayne (2008), Contribution Analysis, an Approach to Exploring Cause and Effect, ILAC Brief 16.

SC-PVP system) project intervention results and focused specifically to establish the extent to which the observed results (whether positive or negative) were as a consequence of the SC-PVP project intervention.

2.1. The KEPHIS SC-PVP system project intervention results chain

42. The evaluation team used the KEPHIS SC-PVP system project intervention results chain to assess the extent to which the inputs and the results mapping for the project with its assumptions were valid and/or comprehensive and contributed to the high-level outcomes.
43. The key underlying hypotheses for the KEPHIS SC-PVP system project intervention were that:
- i) Automating the availability and handling of information by KEPHIS reduces trade cycle transaction costs and time.
 - ii) Simplifying and expediting information flows through automation between trade actors improves efficiency and effectiveness in the management of the trade cycle.

2.2. The KEPHIS SC-PVP system project intervention Management and Implementation

44. The assessment of management and implementation of the KEPHIS SC-PVP system project intervention was done by assessing and analysing the performance of the KEPHIS SC-PVP system by examining issues such as the governance structure, administrative procedures, financial management, change management, stakeholder involvement, and implementation of the KEPHIS SC-PVP system activities through document review (refer to Annex 10 for details of documents reviewed) and interaction with stakeholders (refer to Annex 9) for details of stakeholders engaged.
45. The evaluation established that there was a clear governance and management structure made of the Project Steering committee (PSC), Project Coordination Committee (PCC), and the Project Implementation Team (PIT). Interaction with stakeholders revealed that these committees were well-constituted such that they had representation from financiers (TMEA) and both partner agency (KEPHIS) and system users on board, an approach that promoted acceptance and ownership of the KEPHIS SC-PVP system amidst challenges faced such as numerous change requests, the impact of COVID 19 and somehow long TMEA internal procurement and decision-making processes that to some extent affected the implementation of some project activities. This notwithstanding, evaluation findings from most of the respondents revealed that the PCC was not very visible on the ground in most of the agencies.
46. Overall, the evaluation team established that the KEPHIS SC-PVP system project intervention was managed and implemented well as evidenced by the fact that the KEPHIS SC-PVP system project intervention was operational and had achieved at least 100% of the expected outputs (refer to table 3-2 and Annex 4 for details) by fully implementing 91% of the activities and partially 9% of the activities (refer to **Table 3-1** and **Annex 3**).

2.3 Evaluation Limitations:

47. This endline study was limited to ascertaining the results and assessing the effectiveness, efficiency, relevance, sustainability, impact, and coherence of the KEPHIS SC-PVP system project intervention, based on the OECD DAC principles for evaluating development assistance in line with the TORs of KEPHIS SC-PVP system in Kenya. The evaluation team generally received the

necessary cooperation and openness from TMEA, KEPHIS, and the project beneficiaries and we wish to record our appreciation for all the assistance provided.

48. In addition, during the data collection period, there were restrictions on meetings and gatherings in Kenya due to the Covid-19 pandemic and therefore, interviews were carried out using online platforms.

CHAPTER 3 : EVALUATION FINDINGS

49. This section of the report provides the evaluation findings at the time the endline study was conducted based on the evidence from the review of the available KEPHIS SC-PVP system project intervention documents and other relevant literature¹¹ and extensive interviews with project staff and the project beneficiaries (internal and external stakeholders). The evaluation team organized the findings according to the six OECD-DAC criteria for evaluating development assistance and in line with the evaluation requirements in the TORs. Overall, the evaluation findings indicated that the set of activities in the KEPHIS SC-PVP system project intervention could be categorized into 3 main components:

i) **Systems development, deployment, and integration including needs assessment**

50. Under this component, the activities implemented included identifying and assessing the systems' needs; mapping, designing, and programming the system; systems testing, piloting, data migration, and go-live. The integration of the developed system to other existing internal systems within the agencies such as finance systems as well as external systems residing with other government and private agencies that either relate to, dependent on successive processes to enable information sharing between the supported agencies and systems operated by other agencies and stakeholders. These include integration to the Import and Export Certification Phytosanitary system, a short messaging service, MPESA, and a payment aggregator, etc to enable direct information sharing between the respective agencies and their stakeholders.

iii) **Systems support services included:** providing technical assistance, workstation, mini-data centre, internet, backup services, short code services, among others.

iii) **Change Management activities included:** technical training of the technical personnel to manage the system, user acceptance tests, user trainings to cover both internal and external stakeholders and sensitization focused on system awareness and mind-set change on the part of the system users.

¹¹ KEPHIS SC-PVP system Project Appraisal Reports, ICT strategies and Policies, Activity plans, project monitoring plans, Results chain, Project quarterly and annual reports, budgets/ expenditure and realized activities and results on time; management structures, training reports, and system transaction data, GOK, Regional and Global ICT strategies, DANIDA Green Growth strategies and Policies, GOK Green Growth strategies and policies, TMEA green growth TMEA green growth strategies, trade related carbon emission data, GOK gender strategies and policies and TMEA gender strategies and policies.

3.1. Relevance:

Relevance: is the extent to which the KEPHIS SC-PVP system project intervention objectives and design responded to the beneficiaries', global, country, and partner/institution needs, policies, and priorities, and continue to do so if circumstances change.

63. The relevance section of this report assessed the extent to which the KEPHIS SC-PVP system project intervention responded to the beneficiaries' needs and priorities including being aligned to the TMEA strategy/TOC, ICT policies, and strategies of Kenya Government and partner agencies. It also assessed whether the trade systems were developed with partners and aligned with the strategies, goals, and objectives of those organizations, promoted green sustainable growth, and adhered to diversity (including gender and different sizes of traders).

64. To assess the automated trade (KEPHIS SC-PVP) system project's relevance, the evaluation team answered the following questions:

- i) To what extent did the KEPHIS SC-PVP system project intervention respond to beneficiaries' needs and priorities (any difference made by the interventions)?
- ii) To what extent was the KEPHIS SC-PVP system project intervention developed in partnership with Government partners and aligned with the strategies, goals, and objectives of those organizations?
- iii) Did the KEPHIS SC-PVP system project intervention promote green sustainable growth as defined by the Danish International Development Agency (DANIDA)?
- iv) Did the KEPHIS SC-PVP system project intervention adhere to diversity (including gender and different sizes of traders)?

Response to beneficiaries' needs and priorities

65. Assessment of how the KEPHIS SC-PVP system responded to beneficiaries needs and priorities:

Literature review and interaction with stakeholders revealed that while the KEPHIS seed certification process is very well defined both in practice and the law, its activities have largely been coordinated manually which brought about a number of challenges not limited to the inefficiency of service delivery; duplication of records, and inefficient traceability and monitoring of certified seed. In addition to the plant variety protection process, the seed inspection activities in the various regions and the seed export and import processes were not being centrally managed or coordinated.

66. Resultantly, there was the inability to track seed lots of certified seeds from production to the market, difficulty in producing accurate and adequate statistics on certified seeds in the country, duplication of data and effort in the seed certification programs, lack of country wide visibility in the seed certification process as the activities were localized to the regions as well as the inability of farmers and other stakeholders to verify data among others. However, the evaluation findings indicate that the SC-PVP system has to large extent positively responded to the needs of the KEPHIS stakeholders as follows: -

67. Streamlining decentralized seed activities and processes: Findings from the evaluation showed that the plant variety protection process (protecting the rights of the breeders/discoverers of new plant varieties through grant of rights to the owners of such varieties, registering them while maintaining acceptable quality standards) , the seed inspection activities in the various regions,

and the seed export and import processes were not centrally managed or coordinated, thus presenting challenges such as the inability to track lots of certified seeds from production to the market, difficulty in producing accurate and adequate statistics and other market data on certified seeds in the country, duplication of data and effort in the seed certification programs, lack of country wide visibility in the seed certification process as the activities were localized to the regions and there was the inability of farmers and other stakeholders to verify data.

68. It has been established that to a large extent, the SC-PVP system has streamlined the management and issuance of certificates and renewal of annual registrations by the different stakeholders. For example, as a result of the implementation of the seed seller’s registration, the seed sellers among others can receive field inspection applications and requests for seed processing electronically by merchants. In addition, the seed sellers are able to generate field inspection reports, processing inspection reports as well as view requests for sampling and testing. Furthermore, the implementation of the finance module has enabled the KEPHIS staff to view invoices generated by various clients.

69. It is worth noting that this module has a client account management section that provides the history of transactions by the different clients. This implies that there is more accountability and transparency in the client fees management as confirmed by the majority of the survey respondents who said that transparency (88%) and accountability (84%) had increased in the management and administration of the seed certificates as a result of SC-PVP system compared to the previous system as illustrated in figure 3-1 and figure 3-2 respectively. The respondents attributed the increase in transparency and accountability to KEPHIS SC-PVP system procedures being clear and easy to understand, the system shows stage/progress for requested action/service, application and obtaining certificates being very fast, all the requirements and the costs to be paid are indicated in the system among others. This finding is supported by the findings from the key informant interviews (with KEPHIS staff) in which all the 17 staff (100%) interacted with said that transparency had increased. They associated the increment to a number of reasons including; that the process is online and all attachments are shared, including payments, thus no room of compromise, all information is in the system and any staff with authority can access information and that all reports can be seen by all interested parties.

Figure 3-1: Perceived degree of transparency in KEPHIS due to SC-PVP system.

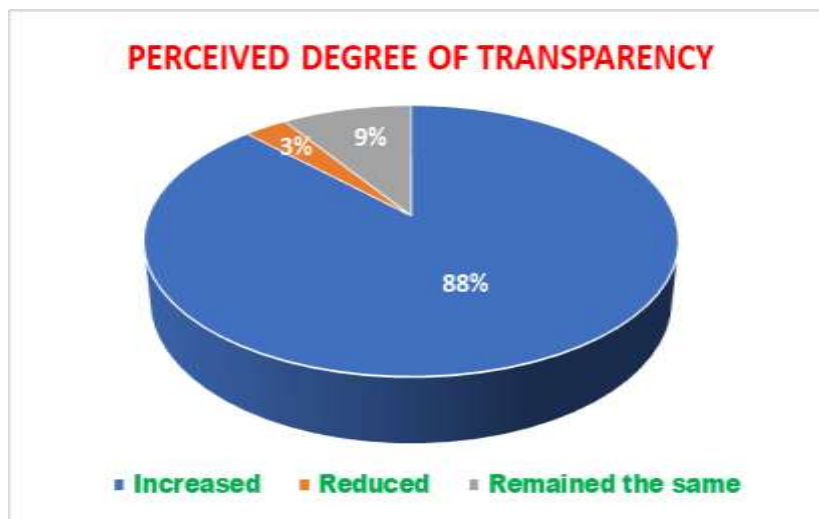
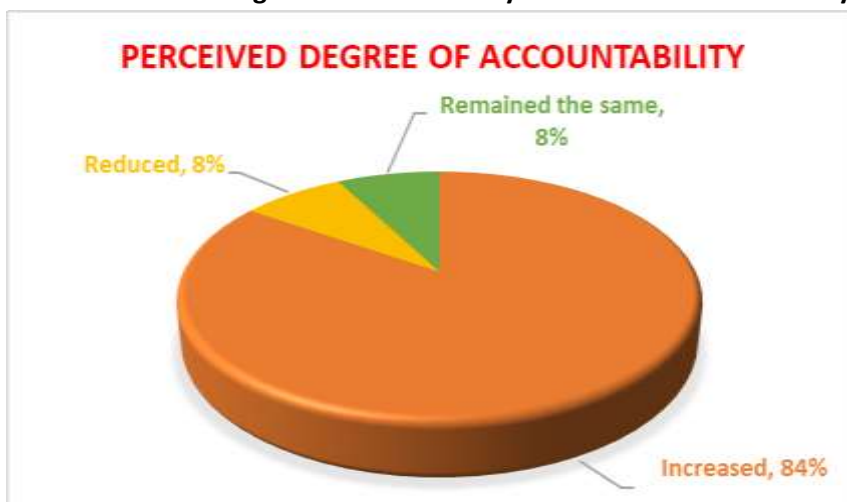
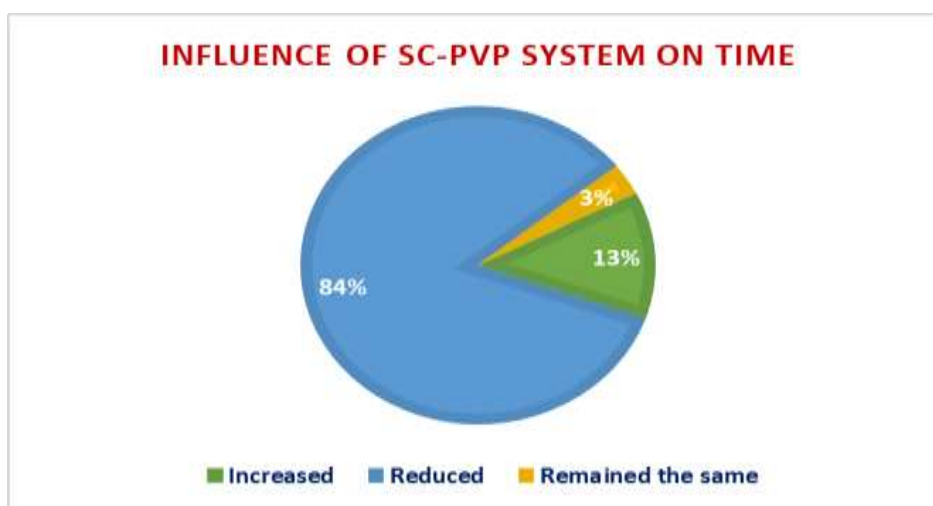


Figure 3-2: Perceived degree of accountability in KEPHIS due to SC-PVP system


70. Furthermore, KEPHIS inspectors, unlike in the previous manual system where they had to wait for the physical delivery of field inspection applications, are now not only able to view all applications for field inspection from seed merchants but also to generate field inspection reports online that are accessed in real-time by the merchants. This has reduced time and costs in terms of transport and stationery for both the seed merchants and KEPHIS while at the same time improving access to information for informed decision making. This has gone a long way in facilitating centralization of the seed certification information, improving efficiency and service delivery as well as allowing tracking and monitoring of certified seeds throughout the country. This finding is supported by the traders’ survey findings in which 84% (26/31) of the respondents¹² said that the time taken to acquire a Seed Certificate at KEPHIS as a result of using the SC-PVP System has reduced (average of 3 days) compared to the previous system (average of 25 days) as illustrated in figure 3-3.

Figure 3-3: Influence of SC-PVP system on time taken to acquire a seed certificate/license/permit


71. **Eliminated duplication of records/data and simplified complex and bureaucratic processes:** The evaluation findings revealed that the manual platform was excessively bureaucratic requiring that

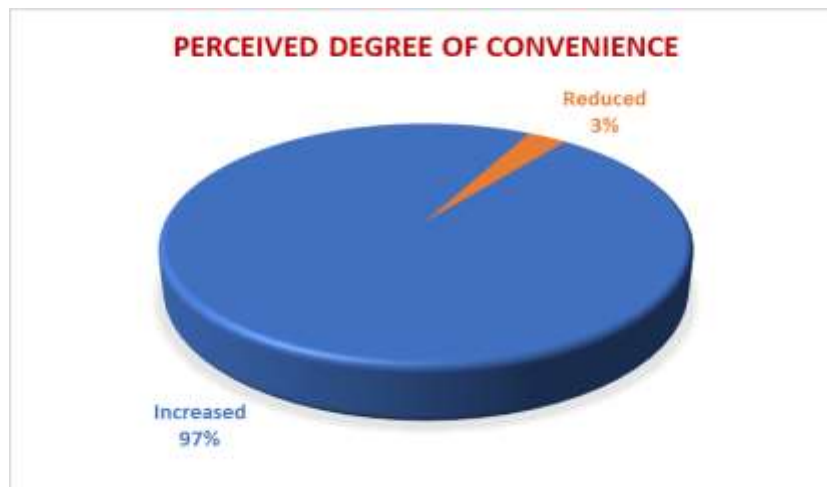
¹² Seed inspectors (2/4), seed merchants (8/9), and seed sellers (16/18)

each process step was handled one at a time, with multiple players involved in a single process. This contributed to unnecessary time losses from periods of inaction (the period between the last approver and next approver, the period when the preceding/succeeding process couldn't commence until one step of the application was completed). Further time losses were experienced when relevant approving officers were not physically present at their offices to approve and issue certificates/licenses/permits and applications had to wait for their return. In addition, the paperwork to be submitted and the steps to be followed in manual processing were repetitive, resulting in longer processing times due to duplications.

72. However, the evaluation findings established that the SC-PVP system has to a large extent simplified and eliminated repetitive steps required in each process and multiple clearance officers needed to handle any given transaction. Unlike in the manual system, the automated system allows parallel processing of activities. It was disclosed that the development and deployment of the seed merchant registration, seed seller registration, seed grower registration among other modules have greatly contributed to increased transparency, accountability, and predictability in the delivery of services to the stakeholders.
73. The system minimizes physical interactions which in turn lowers incidences of rent-seeking behaviour, abuse, and harassment. For instance, seed merchants are now able to apply for field inspections and view field inspection reports from their comfort locations. They do not need to travel to KEPHIS offices, thus saving on time as well as costs in terms of transport. In addition, the seed merchants are now in a position to view all registered seed growers, something that was not possible with the manual system due to storage and duplication challenges. In the same spirit, unlike the manual system, the seed merchants are now able to apply and renew their licenses online, although the new users are currently using the manual system since the application platform for new entrants is still undergoing enhancement.
74. This has reduced time and costs in terms of transport and stationery for both the seed merchants and KEPHIS while at the same time improving access to information for informed decision-making. This is supported by the traders' survey report in which the majority 97% (34/35) respondents¹³ indicated that the SC-PVP system had increased the levels of convenience in accessing seed certificates/licenses/permits issued by KEPHIS as summarized in figure 3-4.
75. The traders cited the less time taken for application, ease of following up on registered crops, no travel and reduced work, reports readily available electronically immediately on completion of a task, and saving on time and money as some of the reasons for the increased convenience. This finding is supported by the data gathered from interaction with key informants (KEPHIS staff) that revealed that all the key informants (17) agreed that KEPHIS SC-PVP system had increased on the level of convenience in the process of traders acquiring seed certificates compared to the previous system. They said that applicants (seed sellers, seed merchants) can apply at their comfort and officers can process with little interaction, clients access certificates issued in the system at good convenience regardless of working hours. Time wastage and physical interaction has been reduced thus reducing risks of COVID-19 spread, one can serve clients even from home and equally clients don't need to be at KEPHIS premises to get the service among others, hence the increased convenience as opposed to the previous manual system.

¹³ Seed inspectors (4/4), Seed Merchants (14/14) and Seed Sellers (16/17)

Figure 3-4: Perceived degree of convenience in accessing a seed certificate through the SC-PVP system



76. Improved traceability and monitoring of certified seeds: Findings by the evaluation team revealed that before automation (SC-PVP System), traders were finding it difficult to track and trace lots of certified seeds from production to the market due to inefficiencies associated with the manual systems. The development and deployment of the seed sticker & labelling module upon completion will go a long way in tracking and controlling the production of seeds up to the market. Besides, the implementation of the finance module has enabled the KEPHIS staff to view invoices generated by the various clients. It is worth noting that this module has a client account management section that provides the history of transactions by the different clients. This implies that there is more accountability and transparency in the client fees management.

77. Minimized physical movement of documents and trade actors: The evaluation findings indicate that before the SC-PVP system was put in place, most trade services in KEPHIS were manual, basically paper-based and involved repetitive steps in each procedure that required face to face interactions to submit applications and collect issued permits/licenses/certificates. The information could only be transmitted in printed forms; hence, they could be bulky, making transportation a challenge, and could be exposed to elements of harsh weather. Furthermore, the archiving of this information presented an issue of the storage facility (systems of archiving). The manual archives tend to hold information that could not be reused or transmitted to other business areas to support decision-making. Nevertheless, the SC-PVP system to a large extent has increased efficiency in the administration of agricultural trade documents regulated by KEPHIS.

78. The efficiency gains are being realized through a reduction in time taken and costs incurred in the administration and acquisition of agricultural trade regulatory documents. The system allows for online application and registration of certification and annual registration renewal by seed sellers, seed growers, and seed merchants, application for field seed inspection by growers, generation of seed inspection reports by KEPHIS, access to seed inspection reports by merchants among others without the need of physical movement of documents and actors to KEPHIS offices. Thus, the system has contributed to improved efficiency through minimizing physical movements of trade actors and documents in the inspection and certification processes.

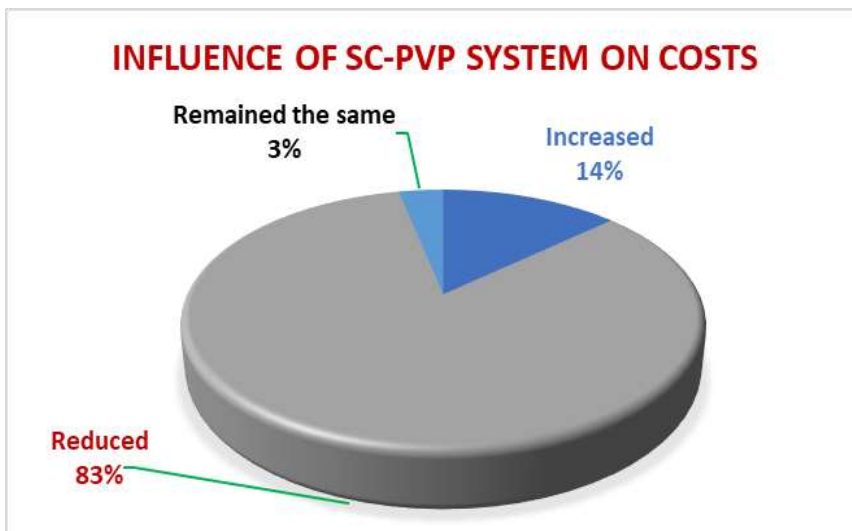
79. Reduced transaction costs: The evaluation findings established that before the SC-PVP system the manual applications required traders to make physical visits to KEPHIS to submit applications

and collect permits/licenses/certificates. This had cost implications as travel costs had to be factored in. Furthermore, there are other transactional costs such as follow-up costs, paper, printing charges, etc. Extra transactional costs resulting from process inefficiencies were further compounded by the fact that traders did not have access to timely and reliable trade-related information, important in ensuring compliance in the acquisition of relevant trade documents.

80. However, the SC-PVP system has minimized most of the transaction costs such as travel costs, follow-up costs, printing charges, etc. Paper usage in the submission of applications has been minimized since applications are handled and submitted online. This has also had a positive impact on the printing, travel, and storage costs on the side of KEPHIS. For example, the implementation of the seed grower’s module has relieved the seed growers in terms of costs and time that were spent to physically deliver applications and renew their licenses.

81. They are now able to receive electronic notifications from KEPHIS regarding annual registration renewals and thereafter be in a position to renew their annual registration by accompanying their renewal applications with the payment receipt that is electronically uploaded. Moreover, they are equally in a position to view field inspection reports. This is in line with the survey findings in which the majority of the traders interviewed (83%) indicated that the SC-PVP system had reduced the costs of accessing a seed certificate/license/permit issued by KEPHIS as summarized in figure 3-5. The traders associated the reduction in cost incurred to factors such as no more transport and stationary cost incurred to head to KEPHIS premises during application for seed certification and field inspection, licences don't need to be delivered via courier services, pay cyber services which is less compared to travelling to the offices among others.

Figure 3-5: Influence of KEPHIS SC-PVP system on costs of accessing a seed certificate/license/permit



82. Similarly, KEPHIS inspectors unlike in the previous manual system where they had to wait for the physical delivery of field inspection applications, are now not only able to view all applications for field inspection from seed merchants but also are in a position to generate field inspection reports online that are accessed on real-time by the merchants. This has reduced time and costs in terms of transport and stationery for both the seed merchants and KEPHIS while at the same time improving access to information for informed decision making.

83. In addition, Seed merchants are now able to apply for field inspections and view field inspection reports from their comfort. They do not need to travel to KEPHIS offices, thus saving on time as

well as costs in terms of transport. In addition, the seed merchants are now in a position to view all registered seed growers, something that was not possible with the manual system due to storage and duplication challenges. In the same spirit, unlike the manual system, the seed merchants are now able to apply and renew their licenses online, although the new users are currently using the manual system since the application platform for new entrants is still undergoing enhancement.

84. **In conclusion**, the evaluation findings indicate that the KEPHIS SC-PVP system responded to the beneficiaries needs and priorities by reducing the average time by 88% from 25 days before KEPHIS SC-PVP system to 3 days after the KEPHIS SC-PVP system and the average costs such as transportation, follow up cost, printing, stationery by 92% from US\$39 before KEPHIS SC-PVP system to US\$3, that were associated with the processing and acquisition of permits/licenses/certificates, which improved efficiency in service delivery by KEPHIS. Furthermore, there is more transparency and accountability due to the ability of the different stakeholders to access trade information online and also be able to trace their activities including fees management and documentation by KEPHIS, which was not the case with the manual system.

KEPHIS SC-PVP system intervention partnership & alignment with partners' strategies

85. The evaluation findings indicated that the KEPHIS SC-PVP system project intervention was developed with the partner (KEPHIS) and aligned with the strategies, goals, and objectives of the partner agency by having a coordinating and governance mechanism that included representatives from TMEA (the sponsor), the partner agency (KEPHIS), and the beneficiaries that included the private sector. This was to ensure successful implementation and sustainability of the project post the TMEA support period. Top-level and middle-level management of the partner agency were involved in the project, through the project governance and reporting structures consisting of a Project Steering Committee (PSC), Project Coordination Committee (PCC), and Project Implementation Team (PIT).

Alignment to the National Government's ICT Strategies and Policies (e-governance)

86. The evaluation team found that the successful implementation of the KEPHIS SC-PVP system project intervention took into consideration the good political-will of the government and the relevant governmental authorities/institutions for the full support and participation of the business community, which enhanced the projects relevancy. The findings further indicated that the TMEA supported automation project was in line with the national Single Window (SW) initiatives and the GOK ICT Strategies and policies.

87. The evaluation findings showed that the KEPHIS SC-PVP system project intervention in Kenya was in line with the Kenya National ICT Policy¹⁴ strategies of using e-Government as a tool to reduce transaction costs for the Government, citizens, and the private sector through the provision of products and services electronically to improve:

- i) Internal efficiency and quality of public service delivery and transparency and accountability;

¹⁴ National Information & Communications Technology (ICT) Policy, Ministry of Information & Communications (2006)

- ii) Collaboration between Government agencies and enhance efficiency and effectiveness of resource utilization;
- iii) Kenya's competitiveness by providing timely information and delivery of Government services.

Response to EAC Region ICT Policy

88. The evaluation findings further revealed that the TMEA supported automation project (KEPHIS SC-PVP system project intervention) was in line with EAC Model ICT Policy Framework¹⁵ objectives of Member States digitizing Government processes and Services to reduce transaction cost, time and ensure efficient and quality public service delivery.

Relevancy to Global WTO Trade Facilitation Agreement (TFA)

89. The evaluation team found that the KEPHIS SC-PVP system project intervention was in line with the WTO TFA which contains provisions for expediting the movement, release and clearance of goods, including goods in transit. The agreement also set out measures for effective cooperation between customs and other appropriate authorities on trade facilitation and customs compliance issues. The evaluation team further noted that the WTO TFA also emphasized that simplifying trade procedures could lead to greater involvement by small and medium-sized enterprises in international trade and that shorter delivery times and greater predictability of deliveries enables poor countries to increase their participation in global value chains. The agreement further emphasized that by reducing delays at the border, TFA implementation would increase the volume of goods passing through customs and reduce the incidence of corruption, both of which should help developing country governments collect more revenues.

Promoting green sustainable growth

90. To a large extent, the KEPHIS SC-PVP system project intervention promoted green sustainable growth as defined by the Danish International Development Agency (DANIDA) in terms of environmental conservation, productivity, and access to advanced technology and innovation. This was attributed to the fact that automation has greatly reduced the use of paper as well as contributed to the reduction of carbon dioxide (CO₂) emissions since the clients are now working from the comfort of their homes/offices. The International Transport Forum (ITF) estimated that international trade-related freight transport currently accounted for around 30% of all transport-related CO₂ emissions from fuel combustion, and more than 7% of global emissions.

Incorporating diversity (including gender and different sizes of traders)

91. **Gender Issues:** The KEPHIS SC-PVP system project intervention was designed to serve all stakeholders using the systems that included both the male and the female equally. It was further revealed that the project was implemented in line with the national gender policies of Kenya that provide for non-discrimination based on gender. To this end, it is worth concluding that gender issues were considered during the projects life cycle right from engaging both genders during the baseline/needs assessment that was conducted to analyse the initial gaps/traders' needs, User Requirements Specification that was prepared to capture KEPHIS and

¹⁵ EAC Model ICT Policy Framework, EACO (2015)

Stakeholders' requirements, the development and testing of the systems. Change Management that involved system sensitization and awareness training that aimed at creating awareness about the trade systems, building technical capacity and knowledge transfer among others.

92. **In conclusion**, the KEPHIS SC-PVP system project intervention indirectly incorporated gender issues during its implementation given the fact that the system was designed in such a manner that it can be accessed by a registered user irrespective of their gender. However, there is a need for deliberate consideration of gender to increase the number of women involved.
93. **Different sizes of traders:** The literature review and interaction by the evaluation team with the agency project staff, management team, PIT and PSC members revealed that the KEPHIS SC-PVP system project intervention indirectly took into consideration the different sizes of traders. It was explained that the system was designed and accessible to all stakeholders irrespective of their status in terms of business size. Nevertheless, it was disclosed that some small to medium users, had a misconception that the automated system (KEPHIS SC-PVP system) was meant for big (established companies), hence, there is a need for more awareness creation to bring everyone on board irrespective of their business size.
94. **Alignment to TMEA Theory of Change (ToC) and Priorities:** The evaluation findings indicated that the KEPHIS SC-PVP system project intervention was designed and structured to respond to specific needs of all parties, in the private and public sectors of automating the key trade processes in the KEPHIS to reduce the cost and time related to the use of the manual processes. The findings further indicated that the KEPHIS SC-PVP system project intervention specifically of automating document processing aimed at improving trade system and making it effective was critical to the success of TMEA's outcomes of having Effective Trade Systems and Procedures that resulted in reducing trade barriers and thus contributing to increased trade. The KEPHIS SC-PVP system project intervention was structured within a framework, which reduces trade barriers to the private sector by automating documentation processes, which resulted in enhanced transparency, accountability, and savings in terms of cost and time while transacting business.
95. The evaluation findings established that the KEPHIS SC-PVP system project intervention was designed and aligned with TMEA thematic focus areas, particularly TMEA's Strategic Objective of reducing trade barriers. The KEPHIS SC-PVP system project intervention fits within this thematic area and hence within the TMEA institutional and strategic outlook defined in its theory of change; thus, there was an existing framework to support the project within TMEA.
96. **Conclusion:** Overall, the evaluation findings revealed that the KEPHIS SC-PVP system project intervention relevancy was very good because it responded to the needs and challenges of the stakeholders; was aligned to the strategies, goals, objectives and priorities of the partner agency; and conformed to the Kenya ICT Strategies and Policies (e-governance) and the EAC ICT Policies geared towards reducing trade barriers and improving business competitiveness.

3.2. Effectiveness

Effectiveness: is the extent to which the KEPHIS SC-PVP system project intervention achieved, or is expected to achieve, its objectives, and its results, including any differential results across groups.

97. This section of the report assessed the KEPHIS SC-PVP system project intervention effectiveness by establishing:

- a) The Extent the KEPHIS SC-PVP system project intervention achieved and/or exceeded targeted outputs, short-term and intermediate outcomes as per the monitoring plan and the logical framework/results chain.
- b) Major factors that influenced the achievement or non-achievement of reduction in trade cycle transaction time and cost.
- c) The extent of the articulated KEPHIS SC-PVP system project intervention results chain and the underlying assumptions were complete, consistent, and appropriate.

3.2.1 Results achievement by KEPHIS SC-PVP system project intervention

98. The evaluation team used the KEPHIS SC-PVP system project intervention activity plan, monitoring plan, and Result Chains (RCs)¹⁶ /results framework to assess and ascertain the extent to which the KEPHIS SC-PVP system project intervention achieved and/or exceeded targeted outputs, short-term and immediate outcomes.

99. **KEPHIS SC-PVP system Project Activity Implementation Assessment:** Overall, the literature review and interactions by the evaluation team with stakeholders such as the members of PIT, PSC, and PLs revealed that the KEPHIS SC-PVP system project intervention had implemented 91% of the project activities (refer to table 3-1 and Annex 3) to achieve 100% of the targeted outputs (refer to Table 3-2 and Annex 4). This was attributed to the evidence that showed that the KEPHIS SC-PVP system project intervention inputs in form of information management systems, software, hardware, and financial assistance were mainly procured by TMEA that consequently supported the implementation of the planned activities.

100. These inputs included: development of the KEPHIS SC-PVP system, development of the integration interfaces to enable the automated system to be integrated with other systems both internally and externally, implementation of system support services to ensure that the system continues running without any interruptions, development and implementation of the change management plan to among others enable the stakeholders access and use the automated system, hosting services, supply and installation of ICT Infrastructure, development and implementation of the M&E framework to help track progress among others. Only three (9%) of the activities are partially realised and they include user acceptance tests, and integrations with other systems (UPOV, Finance, Kentrade & PRISMA) and post automation sensitization.

¹⁶ KEPHIS SC-PVP monitoring plans and Results Chains

Table 3-1: KEPHIS SC-PVP system Activities Realization as of September 2021

Targeted Activities	Realized Activities	Partially realized activities	Assessment (1-Poor and 5- Excellent)	Confidence level (low-red, medium -yellow, and High-green)
34	31	3	4	High
%	91%	9%	4	High

Source: KEPHIS SC-PVP system Project activity work plan, Quarterly Project Reports, Annual Performance Reports, and Project monitoring plans.

101. Evidence collected by the evaluation team revealed that the activities supported by TMEA were relevant and achieved the expected outputs after implementation. The activities were found to be adequate to achieve the expected outputs as illustrated in **table 3-2**.

Table 3-2: KEPHIS SC-PVP system Outputs Realization as of September 2021

Targeted Outputs	Realized Outputs	Assessment (1-Poor and 5- Excellent)	Confidence level (low-red, medium -yellow, and High-green)
11	11	4	High
%	100%	4	High

Source: KEPHIS SC-PVP system project activity work plan, Quarterly Project Reports, Annual Performance Reports, and Project monitoring plans.

3.2.2 Assessment of the results achieved by the KEPHIS SC-PVP system project intervention

102. Assessment of the extent of achievement of targeted results by the KEPHIS SC-PVP system:

The evaluation evidence showed that the KEPHIS SC-PVP System as of September 2021 had achieved at 100% (11/11) of its intended outputs (refer to table 3-2 and Annex 4) as a result of successfully implementing 91% (31/34) of the planned activities (refer to Table 3-1 and Annex 3). The evaluation findings further revealed that 5 processes had been re-engineered and 5 systems modules (Plant Breeding Rights (for seed breeders), Seed Grower Management (merchant management of growers), Seed Labelling (tracing and controlling the production of seeds), National Performance Trials (for conducting tests for new seed varieties to ensure they meet international requirements) and seed administrative tools (for internal management) had been developed and deployed. Under the seed certification, the seed merchant registration, seed seller registration, seed grower registration and field inspections were complete and functional while the seed inspection module and seed sticker & labelling are still in progress. Additional evidence indicated that a total of 816 traders (118 Seed Merchants, 534 Seed growers, and 164 Seed Sellers) were registered and actively using the system.

103. **Assessment of short-term outcomes by KEPHIS SC-PVP system:** The evaluation team used the achieved KPIs against the set target for each of the short-term outcomes to establish the extent to which the KEPHIS SC-PVP system had realized its short-term outcomes (refer to **table 3-7** for details). This was ascertained through a review of the KEPHIS SC-PVP system project documents such as the quarterly, annual reports, and Results chain in addition to interacting with different

stakeholders such as the PIT and PSC members, Project management, and the PL. Overall, the findings revealed that the KEPHIS SC-PVP system project started on 1/7/2018 and is expected to end on 30/6/2022 and was progressing towards the achievement of its short-term outcomes based on the results chain. The evaluation findings revealed that to a large extent, the KEPHIS SC-PVP system has so far achieved 4 of the 5 intended short-term outcomes based on the results chain and the monitoring plans.

104. Evidence from the beneficiary survey conducted by the evaluation team revealed that overall, 97% of the traders (seed merchants, seed sellers, and seed inspectors) indicated that the KEPHIS SC-PVP system had increased the convenience of services rendered through the Seed Certification and Plant Variety Protection System thereby contributing to improved access and use of Kenya Plant Health Inspectorate Services (KEPHIS) trade regulatory services. In addition, the literature review revealed that a total of 908 traders were trained and 816 were trained and were able to complete the Seed certification process successfully on the Seed Certification and Plant Variety Protection System, thereby contributing to improved competency in accessing and Using the new Seed Certification and Plant Variety Protection System.
105. Additional evaluation evidence indicated that the KEPHIS SC-PVP system was integrated with the Import and Export Certification Phytosanitary system to allow plant inspectors to consolidate, monitor, and process seed applications. Furthermore, Integration to a short messaging service, MPESA, and a payment aggregator had also been done to enable KEPHIS to notify its stakeholders on the progress of their applications as well as allow payments to be made online without necessarily visiting KEPHIS offices or banks respectively, thus signifying improved capability of Kenya Plant Health Inspectorate Services (KEPHIS) to network & connect with other Trade Actors.
106. Similarly, evaluation evidence showed that the KEPHIS SC-PVP system change management plan had been implemented. Literature showed that over 15 stakeholder engagements forums were held as of December 2019 and a total of 908 stakeholders (Seed sellers, seed growers, seed merchants, seed breeders, and sub-county agricultural officers) had been trained, and pre-launch sensitization had been carried out. Furthermore, trainings of internal and external system users were carried out in Nakuru, Nairobi, Mombasa, Embu, Kisumu, and Kitale regions; the trainings were tailored for each region that is for the various actors namely, merchants, seed sellers, seed growers, and plant breeders. The trainings aimed at creating awareness about the seed certification system, build technical capacity and knowledge transfer. In addition, the second prototype workshop was held to test the functionality of the system with internal and external (selected) stakeholders. KEPHIS staff and stakeholders checked whether their functionality was captured accurately and were also able to gauge the readiness of the system. Refer to table 3-3 and Annex 7 for details.
107. Further evaluation evidence indicated that the KEPHIS SC-PVP system support services were implemented. Literature review and interviews with the KEPHIS stakeholders showed that a total of 5 (including the signing of the KEPHIS Support and Maintenance contract and setting up of a mini-Data centre Support and Maintenance contract) support services had been implemented by December 2020.

Table 3-3: KEPHIS SC-PVP Systems Project Short -Term Outcomes Realization

#	SHORT-TERM OUTCOME	KPIs/MEANS OF VERIFICATION	BASELINE (BEFORE KEPHIS SC-PVP SYSTEMS)	TARGET	RESULTS AT ENDLINE (AFTER SC-PVP SYSTEM)	PERCENTAGE	ASSESSMENT	CONFIDENCE LEVEL
1.	Improved Access and use of Kenya Plant Health Inspectorate Services (KEPHIS) trade regulatory services	Perceived degree of convenience of services rendered through the Seed Certification and Plant Variety Protection System	0	Not indicated	Overall, 34/35 Seed inspectors (4/4) Seed merchants (14/14) Seed sellers (16/17)	Overall, 97% Seed inspectors- 100% Seed merchants -100% Seed sellers- 97%	4	High
2.	Improved capability of Kenya Plant Health Inspectorate Services (KEPHIS) to network & connect with other Trade Actors.	Number of e-Documents share between SC-PVP system and other External Trade agencies	0	Not indicated	4		4	High
3.	Improved competency in Accessing and Using the new Seed Certification and Plant Variety Protection System	Number of Trained Trade Actors	0	Not indicated	908		4	High
		Number of trained Trade Actors able to complete the Seed certification process successfully on the SC-PVP System	0	Not indicated	816		3	Medium
4.	Improved	Number of Joint	0	Not	3		4	High

#	SHORT-TERM OUTCOME	KPIs/MEANS OF VERIFICATION	BASELINE (BEFORE KEPHIS SC-PVP SYSTEMS)	TARGET	RESULTS AT ENDLINE (AFTER SC-PVP SYSTEM)	PERCENTAGE	ASSESSMENT	CONFIDENCE LEVEL
	coordination and cooperation between Kenya Plant Health Inspectorate Services (KEPHIS) and other trade actors.	Agency procedures as a result of the integration with the SC-PVP System		indicated				
5.	Improved Compliance & Enforcement of Kenya Plant Health Inspectorate Services (KEPHIS) Trade Regulations	The ratio of Compliant to Non-Compliant transactions	0		Not obtained			
6.	Overall						4	

108. **Assessment of intermediate outcomes by KEPHIS SC-PVP system:** The evaluation team used the achieved KPIs against the set target for each of the intermediate outcomes to establish the extent to which the KEPHIS SC-PVP system had realized its intermediate outcomes. This was ascertained through a review of the KEPHIS SC-PVP system project documents such as the quarterly and annual reports, monitoring plans, and Results chain in addition to interacting with different stakeholders such as the PIT and PSC members, Project management, and the PL. Overall, the findings revealed that the KEPHIS SC-PVP system project started on 1/7/2018 and is expected to end on 30/6/2022 and had achieved its intermediate outcomes based on the results chain.

109. The evaluation findings revealed that to a large extent, the KEPHIS SC-PVP system achieved both of its intermediate outcomes. Evidence from the traders' survey conducted by the evaluation team revealed that the KEPHIS SC-PVP system has greatly contributed to improved efficiency and effectiveness in the management of Kenya Plant Health Inspectorate Services (KEPHIS) Trade Systems and procedures. Overall, the traders indicated that KEPHIS SC-PVP system has resulted into a 88% reduction (from 25 days before KEPHIS SC-PVP system to 3 days after the KEPHIS SC-PVP system) in time taken to complete and acquire a Seed certificate against the target of 30%

reduction and a 92% reduction in costs incurred (from US\$39 to US\$3) to acquire a Seed certificate against the target of at least 15% reduction.

110. This notwithstanding, the evaluation team is yet to receive the data on the number of transactions that are accounted for through the system and also the number of permits issued from KEPHIS.

111. Furthermore, the consulted traders revealed that the KEPHIS SC-PVP system has significantly contributed to improved governance in the administration of the Kenya Plant Health Inspectorate Services (KEPHIS) Trade Systems and procedures. This is attributed to the fact that overall, 71% of the respondents indicated that they were satisfied with the quality of service delivery by KEPHIS Seed Certification and Plant Variety Protection Department, 88% indicated that the KEPHIS SC-PVP system had improved on transparency in the administration of Seed Certification and Plant Variety Protection System and procedures, and 84% indicated that accountability in the administration of Seed Certification and Plant Variety Protection System and procedures had increased as detailed in **table 3-4** below and **Annex 7**.

Table 3-4: KEPHIS SC-PVP Systems Project Intermediate Outcomes Realization

#	INTERMEDIATE OUTCOME	KPIs/MEANS OF VERIFICATION	BASELINE (KEPHIS SC-PVP SYSTEMS)	TARGET	RESULTS AT ENDLINE WITH SC-PVP SYSTEMS)	PERCENTAGE	ASSESSMENT	CONFIDENCE LEVEL
1.	Improved Efficiency and Effectiveness in the management of Kenya Plant Health Inspectorate Services (KEPHIS) Trade Systems and procedures	Time Taken to acquire Seed certificate (days)	Overall:	30%-time reduction	Overall 3 days	Overall, 88%	5	
			Seed inspector 29 days		1	97%		
			Seed merchant-36 days		7	81%		
			Seed seller-10 days		1	90%		
		Cost incurred to acquire Seed certificate (US\$)	Seed inspector: US\$10	15% cost reduction	US\$1	85%	5	
			Seed merchants: US\$68		US\$5	93%		

#	INTERMEDIATE OUTCOME	KPIs/MEANS OF VERIFICATION	BASELINE (KEPHIS SC-PVP SYSTEMS)	TARGET	RESULTS AT ENDLINE WITH SC-PVP SYSTEMS)	PERCENTAGE	ASSESSMENT	CONFIDENCE LEVEL
			Seed seller- US\$39		US\$4	90%		
		c) Revenue collected and accounted for through the SC-PVP System as a ratio of permits issued	0	25% increase in transaction rates	Not obtained			
2.	Improved governance in the administration of Kenya Plant Health Inspectorate Services (KEPHIS) Trade Systems and procedures	a) Percentage of Economic Operators satisfied with the quality of service delivery by KEPHIS SC-PVP System Department	0	Not indicated	Overall, 44/62	Overall, 71%	4	
					Seed inspectors: 6/7	86%		
					Seed merchants: 19/23	83%		
					Seed sellers: 19/32	59%		
		b) Perceived degree of Transparency in the Administration of Seed Certification and Plant Variety Protection System and procedures	0	Not indicated	Overall: 28/32	Overall 88%	4	
					Seed inspectors: 5/6	83%		
					Seed merchants: 10/13	77%		
					Seed sellers 13/13	100%		
		c) Perceived degree of		Not indicated	Overall 22/26	Overall, 84%	4	

#	INTERMEDIATE OUTCOME	KPIs/MEANS OF VERIFICATION	BASELINE (KEPHIS SC-PVP SYSTEMS)	TARGET	RESULTS AT ENDLINE WITH SC-PVP SYSTEMS)	PERCENTAGE	ASSESSMENT	CONFIDENCE LEVEL	
		Accountability in the Administration of Seed Certification and Plant Variety Protection System and procedures	0		Seed inspectors (3/3)	100%			
					Seed merchants (9/12)	75%			
					Seed sellers (10/11)	91%			
		d) Perceived degree of Convenience in the administration of Seed Certification and Plant Variety Protection System and Procedures.			Overall 34/35	Overall, 97%			
					Seed inspectors: 4/4	100%			
					Seed merchants: 14/14	100%			
					Seed sellers: 16/17	97%			
	Overall							4	

3.2.3 Major factors that may influence reduction in trade cycle transaction time and costs

161. These major factors include availability of the internet and the appropriate devices to use to log in and use the system. Outages of the systems also need to be avoided. In addition, the users of the system need to be competent. Furthermore, the KEPHIS has service delivery timeliness, which needs to be reviewed to take into considerations the benefits and efficiency brought about by SC-PVP System.

162. There was a challenge of COVID 19 that interfered with the project implementation in terms of restricted staff movements of the developer, leading to loss of time.

3.2.4 Extent KEPHIS SC-PVP system results mapping with its underlying assumptions were valid and/or comprehensive.

163. The assessment of the extent to which the KEPHIS SC-PVP system intervention outputs, outcomes and impact mapping with its underlying assumptions were valid and/or comprehensive were based on the following evidence adduced through the analysis of the KEPHIS SC-PVP intervention initiation and implementation processes: The evaluation team's approach to assess the extent to which the KEPHIS SC-PVP system intervention results (outputs, outcomes and impact) mapping and its underlying assumptions were valid and/or comprehensive, was based on contribution analysis method that addressed causality in the KEPHIS SC-PVP system intervention results chain. That is, the extent to which the observed results (whether positive or negative, intended or unintended) were as consequence of the TMEA supported trade system project (KEPHIS SC-PVP system). During the analysis, the TMEA programme theory of change and the KEPHIS SC-PVP system intervention results chain were used to trace step-by-step how the KEPHIS SC-PVP system intervention led to the desired results. The analysis followed six steps, namely:

Step 1: Setting out the KEPHIS SC-PVP system intervention attribution problem

164. The KEPHIS SC-PVP system intervention Project Appraisal Report (PAR) set out the project activities and the expected results, which were analysed to determine the specific cause-effect questions and the assumptions. Therefore, the evaluation team in collaboration with TMEA agreed to address the attribution problem by providing answers to the following key evaluation question: "To what extent were the articulated KEPHIS SC-PVP system intervention results chain and the underlying assumptions complete, consistent and appropriate?"

Step 2: Reviewing the KEPHIS SC-PVP system intervention results chains and the TMEA theory of change and the assumptions:

165. The KEPHIS SC-PVP system intervention had a results chain, which was reviewed by the evaluation team and linked to the TMEA TOC as shown in Annex 11. The KEPHIS SC-PVP system intervention results chain provided a structured step-by-step sequence of how the intervention (KEPHIS SC-PVP system) was expected to produce the desired results (Refer to Annex 8 for the results chain). Whether the programme made an important contribution, would be indicated by the improved efficiency and effectiveness of trade processes and procedures by KEPHIS after automation. The factors and the assumptions that contributed to the projects results that were interrogated by the evaluation team are summarized in Table 1-1.

Step 3: Gathering the existing evidence on the Trade Systems Projects results chain:

166. To validate the project results chain, the evaluation team collected evidence in form of key performance indicators (KPIs). The evidence included the activities implemented (refer to Table 3-1 and Annex 3) and the results achieved (refer to Tables 3-2, 3-3, 3-4, and Annexes 4, 5, 6 and 7). The evidence was collected through literature review (refer to Annex 10), interviews and discussions with the TMEA project staff, partner agency (KEPHIS) staff and beneficiaries (traders) (refer to Annex 9). The collected evidence on the results chain was used to trace step-by-step how the KEPHIS SC-PVP system intervention led to the desired results in Annex 11.

Step 4: Assembling and assessing the contribution story

167. The findings from the data collected in Step 3 were analysed and assessed to identify strong and weak links in the KEPHIS SC-PVP system intervention results chain and the credibility of the contribution story. Specifically, these questions were answered by the evaluation team to test the link and credibility of the contribution of KEPHIS SC-PVP system intervention:

i) **Were the KEPHIS SC-PVP system intervention activities implemented?**

The evaluation evidence indicated that the activities were implemented as detailed in Table 3-1 and Annex 3 of this report.

ii) **Did the activities produce the anticipated outputs?**

Analysis and tracing of the activities to the outputs by the evaluation team revealed that the implemented activities produced the expected outputs (refer to Table 3-2, Annex 4, and Annex 11).

iii) **Did the outputs lead to the anticipated short-term outcomes?**

The evaluation team traced the outputs to the expected short-term outcomes and findings indicated that the outputs realised the anticipated short-term outcomes as indicated in tables 3-3, and Annex 7 and Annex 11).

iv) **Did the KEPHIS SC-PVP system intervention short term outcomes lead to the intermediate outcomes?**

The evaluation findings showed that the other short-term outcomes led to their respective intermediate outcomes of “Improved Efficiency and Effectiveness in the management of trade systems and procedures”; and “Improved governance in the administration of KEPHIS trade systems and procedures” as indicated in table 3-8, Annexes 4, 5 and 11.

Specifically, evaluation findings showed that the SC-PVP System Project’s 91%(331/34) of the planned activities (refer to Table 3-1 and Annex 3) were implemented and 100% (11/11) of its intended outputs were realised (refer to table 3-2 and Annex 4). The development and deployment of SC-PVP system improved access and use of KEPHIS trade regulatory services as was confirmed by 97% (34/35) of the traders interviewed who indicated that convenience of services rendered by KEPHIS had improved because of using SC-PVP system. The deployed system has been integrated with other trade systems such as the Import and Export Certification Phytosanitary system and M-PESA, which has improved capability of KEPHIS to network & connect with other Trade Actors. The KEPHIS internal and external users of the systems were trained and sensitized through a deliberate change management plan, which improved their competency in accessing, and using the System SC-PVP system, as stated by the 83% (30/36) traders interviewed who indicated that they were able to use the system because of the training they attended.

The improved access and use of KEPHIS trade regulatory services and improved capability of KEPHIS to network and connect with other Trade Actors led to improved coordination and cooperation KEPHIS and other trade actors, which coupled with improved competency of stakeholders in accessing and using the SC-PVP system which resulted in improved compliance and enforcement of KEPHIS Trade Regulations and subsequently improved the efficiency and effectiveness in the management of KEPHIS Trade Systems and procedures. This was evidenced by the reduction in the average time taken to acquire seed certificate that reduced from 25 days before automation (01/07/2018) to 3 days after automation (December 2020); and average costs incurred to acquire a

seed certificate which reduced to US\$3 in December 2020 after automation from US\$39 before SC-PVP System in July 20218.

Overall, the KEPHIS SC-PVP system results were achieved as stipulated in its results chain as outlined in Annex 11.

Assessment of the assumptions

The assumptions and other factors influencing the KEPHIS SC-PVP system were assessed and revealed to have contributed to the attainment of the anticipated results to a large extent.

- i) **Project resources would be availed in time and activities implemented:** The evaluation evidence indicated that the project budget was disbursed in time and the activities were implemented.
- ii) **Procurement process would be started and completed on time:** The evidence showed that the procurements were undertaken within the project timeframe despite some delays caused by COVID 19.
- iii) **The KEPHIS SC-PVP system would be deployed as planned:** The KEPHIS SC-PVP system was deployed within the project timeframe, although some components were yet to be accepted and or enhanced (e.g. application platform for new entrants).
- iv) **All the relevant automated trade transactions would be done electronically and mandatory;** When the KEPHIS SC-PVP system became fully functional, it became mandatory and manual systems phased out. Nevertheless, new traders still apply manually since the application platform for new entrants was still undergoing enhancement at the time of the evaluation (September 2021).
- v) **There would be constant internet supply to support the systems:** Apart from some remote parts of Kenya, most areas had reliable internet connectivity. It's also worth noting that just like any other system, the KEPHIS SC-PVP faced some internet failures and power outages, that in one way or the other affected the internet connected. Furthermore, while the project had a clear internet budget in addition to the trade agencies profiling their system users, users without smart phones are most likely to have faced a challenge in spite of KEPHIS having mobile service provision and assistance at its field offices.
- vi) **The targeted stakeholders would avail themselves for required trainings:** The stakeholders availed themselves for training as part of the change management programme. However, it is worth noting that the KEPHIS has gotten its stakeholders (traders) distributed all over the country, hence availing themselves had cost implications for both the agency and the traders in terms of transport to and from the training venue.
- vii) **There would be high levels of buy-in of new approach to doing business by the stakeholders:** The buy-in was good and is progressing.

Step 5: Seeking out additional evidence

From the contribution story in step 4, additional evidence in form of data from project documents, user/beneficiary perception, was gathered by the evaluation team through literature review and surveys, key informant interviews and focus group discussions respectively to augment the evidence in terms of the results which occurred, the key assumptions and other contributing factors.

Step 6: Revising and strengthening the contribution story

The evaluation team used the additional evidence collected to build a more substantive and credible evidence to validate the contribution story. For instance, it was found from the users /beneficiaries that the time and cost actually reduced and there was change in behaviour and practice of the trade systems users, which made evaluation team to conclude that the trade systems projects intervention contributed to the observed results.

In conclusion, analysis of the KEPHIS SC-PVP system intervention initiation and implementation processes revealed that to a large extent, the KEPHIS SC-PVP system intervention outputs, outcomes, and impact mapping with their underlying assumptions were largely valid and comprehensive.

3.3. Impact.

Impact: The impact is the extent to which the KEPHIS SC-PVP system intervention generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects.

The evaluation team assessed and ascertained the extent the KEPHIS SC-PVP system intervention contributed or was likely to contribute to a reduction in time and cost of trade cycle as articulated in TMEA's Theory of Change.

168. The evaluation team findings through document review and interviews with key stakeholders indicated that the TMEA supported trade system (KEPHIS SC-PVP system) was contributing to a reduction in time and cost of the trade cycle as articulated in the TMEA TOC. Evaluation evidence revealed that TMEA supported KEPHIS to automate its trade processes to enable traders to get information, submit applications and receive trade licenses/permits or feedback online. Before the system was automated, the traders had to travel to the KEPHIS offices to submit applications and wait for feedback, which took a lot of time and was costly. As of December 2020¹⁷, KEPHIS SC-PVP system had been deployed.

169. In addition, upon deployment of the KEPHIS SC-PVP system intervention, the KEPHIS embarked on change management through sensitization and awareness creation about the automated system to build confidence as well as increase the technical knowledge of the traders on using the automated system. Furthermore, there has been the integration of the KEPHIS SC-PVP system with other agencies and financial institutions, which has minimised physical movements to submit documents/applications, receive feedback, make inquiries, or get trade information. With the automation, all these processes are done online which has enhanced the availability and handling of information, simplified and expedited information flows between traders and the supported trade agencies, thus resulting in a reduction in trade cycle transaction time and costs.

170. **The evaluation findings indicated that KEPHIS SC-PVP Systems project has to a large extent contributed to the reduction in time and cost of the trading cycle as articulated in the TMEA Theory of Change.** The evaluation evidence¹⁸ revealed that before the KEPHIS SC-PVP system,

¹⁷ KEPHIS SC-PVP Project Quarterly, Project Annual reports Project Monitoring Plans and Project Activity plans

¹⁸ Literature review, Interviews, Focus Group Discussions

most trade services in KEPHIS were manual, basically paper-based and involved repetitive steps in each procedure that required face to face interactions to submit applications and collect issued permits/licenses/certificates. The information could only be transmitted in printed forms, hence, they could be bulky, making transportation a challenge, and could be exposed to elements of harsh weather. Furthermore, the archiving of this information presented an issue of the storage facility (systems of archiving). The manual archives tend to hold information that could not be reused or transmitted to other business areas to support decision-making. In addition, the KEPHIS SC-PVP processes were characterized with excessively bureaucratic requiring that each process step had to be handled one at a time, with multiple players involved in a single process. This contributed to unnecessary time losses from periods of inaction (the period between the last approver and next approver, the period when the preceding/succeeding process couldn't commence until one step of the application was completed). In addition, time losses were experienced when relevant approving officers were not physically present at their offices to approve and issue certificates/licenses/permits and applications had to wait for their return. This had cost implications in form of travel costs, follow-up costs, printing charges, etc. Extra transactional costs resulting from process inefficiencies were further compounded by the fact that traders did not have access to timely and reliable trade-related information, important in ensuring compliance in the acquisition of relevant trade documents.

171. Data from literature review, interviews, FGDs and KIIs indicated that seed merchant registration processes (application to submission of application by the client, submission of applications to seed merchant premise inspection by KEPHIS, premise inspection to actual report generation by KEPHIS, premise inspection report generated to approval of the application by KEPHIS and approval to issuance of the certificate of registration) took up to 36 days and US\$68 was spent by the seed merchant, seed seller registration processes (seed seller application to submission by client, submission of applications to seed seller premise inspection by KEPHIS, premise inspection to approval of application by KEPHIS, and approval to issuance of the certificate of registration by KEPHIS) took up to 10 days and the seed seller spent up to US\$39 while Seed field Inspection (by the Seed inspector) processes (Field Inspection Application to Submission by client and Submission of application to first field inspection) took up to 29 days and the seed inspector spent up to US\$10.
172. However, evaluation findings revealed that the development and deployment of the KEPHIS SC-PVP system has to a large extent contributed to the reduction of time spent and costs incurred in the process of acquiring a seed certificate from KEPHIS. It was revealed that the development and deployment of the KEPHIS SC-PVP Systems project resulted into the enhancements (re-engineering of a number of previous manual processes/modules namely; seed seller, seed grower, seed merchant, field inspection, national performance trials, plant breeding, and testing of the labelling and stickers). This consequently resulted into elimination of all the manual seed merchant registration processes save for the premise inspection by KEPHIS, all seed seller registration processes save for premise inspection by KEPHIS and all field inspection processes save for the actual premise inspection by KEPHIS staff there by contributing to reduction in time spent and costs incurred previously in the form of transport, follow ups, printing and currier cost. In addition, the KEPHIS SC-PVP system is integrated with the Import and Export Certification Phytosanitary system to allow seamless transactions to enable plant

inspectors to consolidate, monitor, and process seed applications. Furthermore, change management activities were conducted to sensitize the stakeholders and build their technical capacity to use the system.

173. As a result, the use of the SC-PVP system has reduced the KEPHIS trade cycle time and costs incurred by the trade actors. For example, seed merchant registration time has reduced by 81% from 36 days to 7 days and costs incurred reduced by 93% from US\$68 to US\$5, seed seller registration time has reduced by 90% from 10 days to 1 day and costs by 90% from US\$39 to US\$4 and field seed inspection (seed inspectors) time has reduced by 97% from 29 days to 1 day and costs by 93% from US\$10 to US\$1.

174. In conclusion, the KEPHIS SC-PVP system eliminated most of the manual processes characterized with physical movement of traders and document, bureaucratic processes, duplication, repetition and printing in the process of acquiring a seed certificate. This therefore, implies that the reduction in time attributed to the KEPHIS SC-PVP system had a positive impact on reduction of costs associated with transport, printing and bureaucratic trading processes thereby contributing to the reduction in trade cycle time and costs of doing business as articulated in the TMEA TOC.

175. Overall, the evaluation evidence shows that the KEPHIS SC-PVP system intervention contributed to a reduction in time and cost of the trade cycle and linked to the TMEA strategic objectives of reducing trade barriers through automation, which ultimately increases trade as articulated in TMEA’s Theory of Change and was very good.

3.4. Efficiency:

Efficiency: the extent to which the KEPHIS SC-PVP system intervention delivered, or is likely to deliver, results in an economic and timely way.

The evaluation team analysed and ascertained the extent the KEPHIS SC-PVP system intervention took into consideration Value for Money (VfM).

176. This section of the report assesses the extent to which the KEPHIS SC-PVP system intervention resources/inputs such as funds, expertise, time, etc) were converted into results (outputs, outcomes, and impacts) in the most cost-effective way possible, within the intended timeframe, or a timeframe reasonably adjusted due to the demands of the evolving context¹⁹, as compared to feasible alternatives.

177. The findings by the evaluation team indicated that TMEA provided US\$ 680,000 to fund the activities of the KEPHIS SC-PVP system and the amount spent was US\$696,166 which was 102.4% of the budget as detailed in **Table 3-5**. There were no significant variations between the expenditure and the budget which was good.

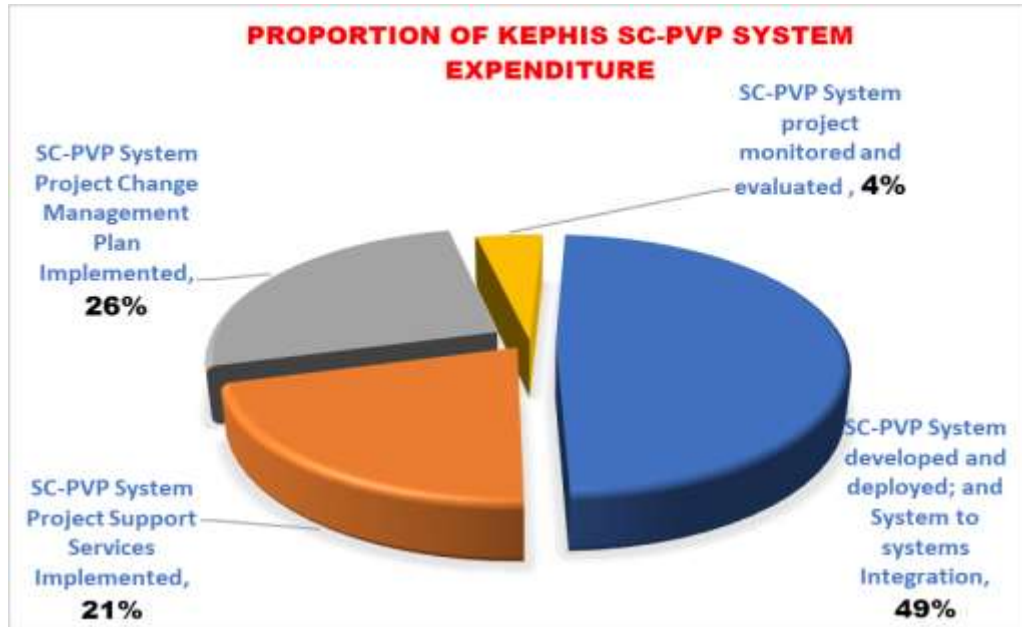
Table 3-5: KEPHIS SC-PVP system Budget, US\$

Total Amount Budgeted (US\$)	Total Amount Spent (US\$)	% Expenditure over budget
680,000	696,166	102.4%

¹⁹ Evaluation of development programmes - OECD (2019)

178. The evaluation findings indicated that TMEA directly contracted the consultants and the funds were used to develop, deploy and integrate the trade systems; provide the support services; to carry out change management activities; and monitoring and evaluation activities. The **figure 3-6** below shows the proportion of KEPHIS SC-PVP system expenditure.

Figure 3-6: Composition of the KEPHIS SC-PVP system Expenditure



179. Further evaluation findings indicated that TMEA managed the project funds directly and carried out the procurement of goods and services. However, there were “in-kind” counterpart contributions from the partner agencies in form of office space and availing staff members to work full time in the project and other related utilities such as internet services, among others, for the use by the project implementation team. In addition, partner agency staff were involved in activities that included organizing change management activities such as workshops, seminars, and meetings with stakeholders.

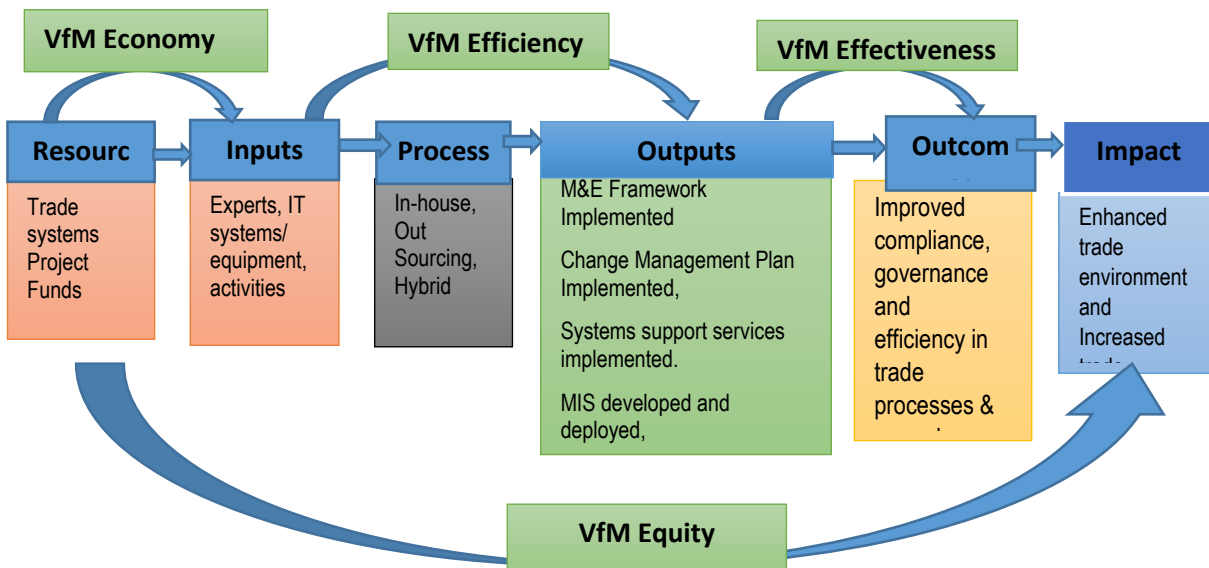
3.4.1. Value for Money (VfM) Assessment

180. The evaluation team assessed Value for Money (VfM) according to the 4Es as provided for in TMEA Revised Strategy (2017 -2023) and the trade systems project Appraisal Reports (PAR) by analysing the value for money Economy, Efficiency, Effectiveness, and Equity (4Es).

181. VfM Economy was examined by assessing whether the KEPHIS SC-PVP system funds were used to procure inputs such as the deployed systems, equipment, and consultants at the right price and appropriate quality. VfM Efficiency was examined by assessing whether the KEPHIS SC-PVP system converted inputs into outputs in a timely way while maximizing quality and quantity. VfM Effectiveness was examined by assessing whether the KEPHIS SC-PVP system outputs were achieving the desired outcomes. VfM Equity was examined by assessing whether the KEPHIS

SC-PVP system ensured that the benefits were fairly distributed. The VfM assessment approach is illustrated in the figure 3-7 below.²⁰

Figure 3-7: The Value for money assessment



3.4.2 Assessment of KEPHIS SC-PVP system Project Efficiency

205. The evaluation evidence showed that TMEA provided US\$680,000 out of which US\$696,166 was used to implement activities of KEPHIS SC-PVP project that included developing, deploying and integrating the trade systems; providing support services; carrying out change management activities and monitoring and evaluation as indicated in the Table 3-6 below.

Table 3-6: KEPHIS SC-PVP Systems Project Activities and Output Expenditure as of September 2021

#	Activities Implemented	Output Realised	Amount Spent (US\$)
1.	i) Requirements Gathering and Needs Analysis ii) Quality Assurance iii) Systems development and deployment iv) System to system integration	SC-PVP System developed and deployed; and System to systems Integration	339,388
2.	i) Technical Assistance Services ii) Short Code Service iii) Seed labels and stickers iv) Backup Server	SC-PVP System Project Support Services Implemented	146,754.00
3.	i) Sensitizations ii) Trainings iii) Launch	SC-PVP System Project Change Management Plan Implemented	180,023.97
4.	Monitoring and Evaluation	SC-PVP System project monitored and evaluated	30,000.00
5.	Total		696,165.97

²⁰ Adapted from DFID's Approach to Value for Money (VfM), 2011

208. **Assessment of SC-PVP System Project VfM Economy:** The evaluation evidence indicated that the total expenditure for the SC-PVP System Project was US\$696,166 and quality at appropriate price was ensured through competitive bidding that involved technical and financial proposals; and the procurements had budget caps that ensured costs did not go beyond what was agreed unless authorised. Overall, VfM economy for the SC-PVP System project, was very good.
209. **Assessment of SC-PVP System Project VfM Efficiency:** Evaluation findings showed that SC-PVP System project started on 01/07/2018 and was expected to end on 31/06/2022. Further findings indicated 31 activities were completed out of the 34 activities (91%) that produced 11 out of the 11 expected outputs (100%) as shown in Annex 3.3 and Annex 4.3. The implementation of the pending activities was ongoing with the budgets allocated and the endline evaluation has also been realised, which indicates a very good VfM Efficiency.
210. **Assessment of SC-PVP System Project VfM Effectiveness:** The evaluation findings indicated that the allocated budget was used to implement the completed activities (91%) or committed to implement ongoing activities (9%), which fully realized 100% of the expected outputs. . The implementation of the SC-PVP System through the TMEA support resulted in the reduction time to acquire a seed certificate in KEPHIS by 88% against target of 30%, and the cost incurred by the traders reduced by 92% against a target of 15%, indicating Very good VfM effectiveness.
211. **Assessment of VfM Equity:** The evaluation team assessed VfM Equity by examining whether the trade system projects ensured that the benefits were fairly distributed. The evaluation findings from the document reviewed and the persons interviewed showed that both men and women were using the system without discrimination or gender-related difficulty in all the partner agencies. The trade system uses the principle of first-come first-serve regardless of gender or the size of transaction. Out of the trade systems users interviewed by the evaluation team during data collection, 30% were women indicating that both men and women were using the automated trade systems, as shown in Table 3-13. However, there is need to involve more women in tea trade.

Table 3-7: Composition of Respondents by Gender

Gender	Female	Male	Total
Number	24	38	62
%	39%	61%	

212. In addition, evaluation findings indicated that the KEPHIS SC-PVP system was accessible for use by all stakeholders irrespective of their business size as long as they had the necessary equipment and internet connectivity, which shows the value for money equity, was very good.

3.5. Sustainability

Sustainability: is the extent to which the net benefits of the KEPHIS SC-PVP system project intervention will continue or are likely to continue.

213. In this section of the report, the evaluation team assessed whether the KEPHIS SC-PVP system project intervention net benefits will continue even after the cessation of TMEA's support. Sustainability was assessed based on the following:
214. **Stakeholder Engagement and change management:** The evaluation findings showed that the KEPHIS SC-PVP system project intervention had change management strategies. This involved

engaging stakeholders through sensitizations and trainings. This was very important in implementing the KEPHIS SC-PVP system since the system developed was mainly about changing KEPHIS's trade practices and behaviours. The evaluation further indicated that to ensure the sustainability of the KEPHIS SC-PVP system project intervention, **908** internal and external stakeholders were trained on how to use the trade system and on ways of complying with the trade formalities and operations.

215. However, there was a need for refresher trainings to enhance the technical competence of the users. Evaluation evidence indicated that the stakeholders that were trained had the technical competency and this was enhanced by having resident Technical Assistants (TAs) to ensure knowledge transfer to the key stakeholders to manage the automated trade system (KEPHIS SC-PVP system) without TMEA interventions in the future. In addition, the evaluation findings indicated that the technologies being used to implement the automated trade system were the latest and were projected to be up to date for years to come and any upgrades and changes to them would not affect the upgrading or enhancements of the system.
216. **Financial Sustainability:** The evaluation findings indicated that the partner agency (KEPHIS) had a realistic and sustainable funding mechanism to implement the automated trade system beyond TMEA support. The evaluation evidence further indicated that the supported agency had ICT department/section (data Centre) that hosted the automated trade system and there were plans to budget for the automated trade system activities in its (KEPHIS) annual budget frameworks. Furthermore, arrangements were in the final stages to charge a small fee per transaction (maintenance fees) to sustain the KEPHIS SC-PVP system beyond the project support.
217. **Structural Sustainability:** Evaluation evidence showed that the KEPHIS SC-PVP system project intervention was hosted in the department/section with established governance and management structures. Further evaluation evidence indicated that KEPHIS had full-time technical staff that were implementing, managing, and offering technical support as and when required by the different stakeholders.
218. **Social-Political Sustainability:** The evaluation team found that the KEPHIS SC-PVP system project intervention had a good political will. This included an in-house support right from the partner agency's top and middle management. In addition, the governance structures such as PSC and PIT had representation from the supported agencies and the private sector, and other stakeholders to ensure social-political sustainability.
219. **Strong Partner Trade Agency/Institutions:** The evaluation team found that the TMEA trade system project was implemented and managed in partnership with the relevant, competent, and appropriate trade agency (KEPHIS) in the sector, an element that was very critical for sustainability of the initiatives and results achieved. The evaluation team further found that KEPHIS had the necessary mandates and therefore could sustain the results.
220. **Scalability of Automated System (KEPHIS SC-PVP system) Developed:** Evaluation evidence indicated that the TMEA's modular/ phased approach to building and implementing automated trade system meant that the system built was scalable and extendable and could be extended on a needs basis to other agencies thus making it sustainable even when transaction traffic increases. This is evidenced by several system integrations and interfaces already executed that will go a long way in ensuring the sustainability of the automated trade system (KEPHIS SC-PVP system).

221. Overall, the evaluation findings indicated that the net benefits of the KEPHIS SC-PVP system project intervention of reducing cost and time will continue even after the TMEA project support ceases and therefore its sustainability was very good.

3.6. Coherence:

Coherence: is the extent to which the KEPHIS SC-PVP system project intervention is compatible with other interventions in a country, sector, or institution.

The evaluation team assessed the extent to which the KEPHIS SC-PVP system project intervention was coherent with other projects within and outside the TMEA Programme.

222. The coherence section of this evaluation report assessed the extent to which the automated trade system (KEPHIS SC-PVP system) was consistent with other projects within and outside the TMEA programme. The evaluation team noted that the KEPHIS SC-PVP system project intervention was coherent to other existing interventions within KEPHIS, TMEA programme, and other interventions within the country particularly those aimed at reducing time and costs in the trade processes thereby contributing to the reduction in trade barriers through digitization and harmonization of export and import processes and these included:

223. **Consistency with the TMEA Theory of Change (ToC) and Priorities:** The evaluation findings indicated that the KEPHIS SC-PVP system project intervention was designed and structured to respond to specific needs of trade stakeholders in the private and public sectors to reduce the cost and time related to the use of the manual processes. The findings further indicated that the KEPHIS SC-PVP system project intervention specifically of automating document processing aimed at improving trade systems and making them effective, which was critical to the success of TMEA's outcomes of having Effective Trade Systems and Procedures that result in a reduction to barriers to trade and thus contributing to Increased Trade. KEPHIS SC-PVP system project intervention was structured within a framework, which reduces trade barriers to the private sector by automating documentation processes, which results into enhanced transparency, accountability, and savings in terms of cost and time while transacting business.

224. **Alignment to the Kenya ICT Strategies and Policies (e-governance) and Kenya National Electronic Window System (KNESW):** The evaluation findings showed that the KEPHIS SC-PVP system project intervention was in line with the Kenya National ICT Policy²¹ strategies of using e-Government as a tool to reduce transaction costs for the Government, citizens, and the private sector through the provision of products and services electronically. This is aimed at improving: Internal efficiency and quality of public service delivery and transparency and accountability; Collaboration between Government agencies and enhancing efficiency and effectiveness of resource utilization; and Kenya's competitiveness by providing timely information and delivery of Government services.

225. **Trade Logistic Information Pipeline (TLIP):** Furthermore, the finding suggest that the KEPHIS SC-PVP system project intervention was consistent with the Trade Logistic Information Pipeline (TLIP) that is meant to provide a channel for sharing trade documents and information with trading partners and countries.

²¹ National Information & Communications Technology (ICT) Policy, Ministry of Information & Communications (2006)

226. **EAC Regional ICT Policy:** The evaluation findings further revealed that the TMEA supported automation trade system project (KEPHIS SC-PVP system) was in line with EAC Model ICT Policy Framework²² objectives of Member States digitizing Government processes and Services to reduce transaction cost, time and ensure efficient and quality public service delivery.
227. **Consistency with WTO Trade Facilitation Agreement (TFA):** The evaluation team found that the automated trade system project (KEPHIS SC-PVP system) was in line with the WTO TFA, which contains provisions for expediting the movement, release, and clearance of goods, including goods in transit. The agreement also set out measures for effective cooperation between customs and other appropriate authorities on trade facilitation and customs compliance issues.
228. The evaluation team further noted that the WTO TFA also emphasized that simplifying trade procedures could lead to greater involvement by small and medium-sized enterprises in international trade and that shorter delivery times and greater predictability of deliveries enable poor countries to increase their participation in global value chains. The agreement further emphasized that by reducing delays at the border, TFA implementation would increase the volume of goods passing through customs and reduce the incidence of corruption, both of which should help developing country governments collect more revenues.
229. **One-Stop Border Posts (OSBPs) and integrated Border Management:** TMEA and the EAC Partner States including Kenya introduced OSBPs programme across the region that increased physical access to markets for both formal and informal traders. The OSBP like the automated projects plays key roles that include: reducing transit times for traders and transporters leading to more effective use of available resources and assets at a lower cost; improving competitiveness for goods in the region due to reduced processing times at the borders; enhancing the reliability of the supply chain through streamlined and harmonised procedures resulting in predictable movements of cargo and also developed better operational controls through shared and improved exchange of information among agencies.
230. **Elimination of Non-Tariff Barriers (NTBs) to trade in the East African Community (EAC):** The KEPHIS SC-PVP system is in line with the Elimination of the Non-Tariff Barriers (NTBs) initiative, which is contributing to reduction in transport costs and time along key corridors in the East Africa Region.
231. **Single Customs Territory (SCT):** KEPHIS SC-PVP system is in line with SCT. The SCT has contributed to trade facilitation in the EAC through the free circulation of goods with minimum internal customs border controls to enhance trade facilitation by eliminating trade barriers and reduce cost of doing business and promoting intra-EAC trade and investments.
232. **Standards and SPS Programme:** This programme supported by TMEA promotes standards and SPS harmonization, improves the technical capacities and quality infrastructure in the EAC Partner States to facilitate trade by reducing the cost and time of clearing consignments at the customs borders. In turn, this programme was contributing to improved market access and competitiveness of the products exported/imported because they can be tested locally at lower cost and the average clearance time and cost reduced.

²² EAC Model ICT Policy Framework, EACO (2015)

233. **Authorized Economic Operators (AEO) Scheme:** AEO is defined as an individual, a business entity, or a company that is involved in international trade and is duly authorized by the Commissioner for Customs to transact business with Customs under special arrangements. The establishment of AEO was meant to enhance trade facilitation and promote partnership between Customs and business as per the World Customs Organization's SAFE Framework of standards. The AEO project was an initiative that was supported by TMEA that sought to enhance trade by reducing the cost of doing business through simplifying customs procedures and reducing clearance time. AEO promotes faster clearance of goods through Customs within the region and compliant traders were benefiting from the special treatment at the regional level throughout the cargo clearance process.
234. **Electronic Cargo Tracking System (ECT):** ECTS enables electronic monitoring of cargo in transit and was designed to ensure that cargo was not diverted. It consists of an electronic seal, which is monitored by cargo owners, transporters, and customs agents and can be accessed online, which allows cargo owners and customs agents to get real-time information on the location of the cargo. The benefit made by ECT was the use of advance information by clearing and forwarding agencies that start processing customs entries before the arrival of transit trucks at border posts. When trucks arrive, they are cleared immediately since document formalities were completed. This system has contributed to the reduction in clearance time and cost of cargo clearance at borders.
235. In conclusion, the KEPHIS SC-PVP system was designed and implemented to contribute to improved efficiency, effectiveness, governance, and management of trade processes and procedures and there is evidence of this effect in form of reduced time, indirect costs, increased transparency, and accountability. The evaluation evidence showed that KEPHIS SC-PVP system was consistent and complementary to other projects within and outside the TMEA Programme, especially those that have been implemented to increase efficiency and effectiveness in the management of trade processes among government and the private sector. Therefore, the coherency of the KEPHIS SC-PVP system was excellent.

CHAPTER 4 : CONCLUSION

4.1. Relevance

236. The evaluation findings revealed that the KEPHIS SC-PVP system relevance was overall very good because it responded to beneficiaries' needs and priorities of reducing trading time and costs; improving on the level of transparency, convenience, accountability in the trade cycle; and were aligned to the TMEA Theory of Change (ToC) and priorities. Further findings also indicated that the KEPHIS SC-PVP system conformed to Kenya and the EAC ICT Strategies, Policies (e-governance), and the WTO Trade Facilitation Agreements. The KEPHIS SC-PVP system was integrated with other trade facilitation agencies and financial institutions for purposes of collaboration and coordination of trade activities geared towards reducing trade barriers and increasing trade.

4.2. Effectiveness

237. The evaluation evidence indicated that the KEPHIS SC-PVP system intervention effectiveness was very good because it reduced the trade cycle transaction costs and time-related to processing and acquiring trade documents through automation. In addition, the automation of

the trade processes resulted into the realization of all the outputs and also had improved transparency, convenience, and accountability in the trade cycle, efficiency, and effectiveness of the KEPHIS. The Project (KEPHIS SC-PVP system) Design and implementation was aligned to best practices and the projects governance model was appropriate for the effective management and delivery of the project results.

4.3. Impact

238. The evaluation team found sufficient evidence that showed that the TMEA supported automated trade system (KEPHIS SC-PVP system) was contributing to a reduction in time and cost in the trade transactions cycle due to improved trade systems and procedures, which reduced trade barriers. Overall, there is improved effectiveness and efficiency and a high perceived degree of improvement in satisfaction, transparency, accountability, and convenience in service delivery by KEPHIS as indicated by the stakeholders surveyed. The automated system has minimized physical movements, enhanced access, availability, and handling of information, simplified and expediting information flows between traders and trade agencies, thus contributing to a reduction in time and cost of trading in line with the TMEA TOC.

4.4. Efficiency

239. The evaluation team found that the KEPHIS SC-PVP system efficiency was good. The project resources were used for the intended purpose of automating key trade cycle processes that produced the expected results of reduced time and cost of rendering and acquiring the services from the partner trade agencies and improved transparency, convenience, and accountability in the trade cycle. The KEPHIS SC-PVP system achieved results within the project timeframe. Although the project procurements were through competitive tendering based on technical and financial proposals, the processes took longer than expected. There is also a need to identify all the necessary project scope and plan adequately at project inception to avoid budget addenda at the implementation stage.

4.5. Sustainability

240. The evaluation findings indicated that the KEPHIS SC-PVP system sustainability was very good. The automated trade system was developed while engaging the stakeholders through sensitizations and training which improved its ownership and uptake. Both internal and external users are competent to use the system. The trade system was hosted within the ICT department/section of KEPHIS with full-time staff and plans to budget and support them post TMEA Project. There was good political will and commitment of the KEPHIS and the business community supported by the governance structures that will sustain the automated trade systems.

4.6. Coherence

241. The KEPHIS SC-PVP system was consistent with other projects within and outside the TMEA programme, and other interventions within the country particularly those aimed at reducing time and costs in the trade processes thereby contributing to the reduction in trade barriers through digitization. These include the TMEA Theory of Change (ToC), which was designed and structured to respond to specific needs of using effective trade systems and procedures to reduce trade barriers. Others are the Kenya ICT strategies and policies of using ICT to reduce the transaction time and cost of doing business; the EAC Region ICT Policy Framework objectives of

Member States digitizing Government processes and Services to reduce transaction cost, time and ensure efficient and quality public service delivery.

CHAPTER 5 : CHALLENGES

242. The evaluation team noted the following challenges during the trade system projects implementation:

- i) **Delay by the developer to address the complaints/queries /issues raised by the traders** resulted in frustrations among the traders and consequently increased the cost and time of doing business. This was attributed to the red tape in the internal procurement and decision-making processes of TMEA for the procurement/ inclusion of change requests that the developer termed as out of scope. In addition.
- ii) **There was disconnect between the requirements gathering process (what the members expected) and what eventually was developed.** This was attributed to the challenge of change management (the fear of the unknown) in that for three months after the pilot study, the developer did the requirements gathering among selected users whose feedback was believed to have affected the initial pilot study findings, hence leading to changes in the system as opposed to the original members' expectation in the pilot report. However, this resistance was managed through change management in form of system awareness creation through trainings, workshops, and identification of champions to train their users and the individual company level.
- iii) **There was a challenge of a lot of change requests being made** and this was partly attributed to the fact that stakeholders were trained differently based on their role in the seed and plant trade value chain which approach did not take into consideration that at the end of the day each of the stakeholder's input in the system would affect the other. A scenario that would have been avoided through joint training.
- iv) **There was a challenge of COVID 19 that** interfered with the project implementation in terms of restricted staff movements due to lockdowns leading to loss of time. However, where possible, this was mitigated by working remotely.
- v) **There was a challenge in direct engagement with the system developers, more so on matters that required their physical presence** in that they were in India and even if they wanted to come, the situation was worsened by COVID 19 travel restrictions.
- vi) **Inadequate IT infrastructure** such as tablets and laptops to simplify field inspection by KEPHIS staff.
- vii) **System outages** due to unreliable internet connectivity and inadequate storage capacity.

CHAPTER 6 : LESSONS LEARNED

253. The evaluation team identified the following lessons learned from the evaluation:

- i) **Stakeholder engagements through consultative and inclusive robust change management strategies is critical for project success** through building stakeholder trust and project ownership by the stakeholders. The effective engagement of the partner agency, relevant government agencies and the private sector enhances political will and improves project ownership.

- ii) **Strong project governance structures with a Project Steering Committee (PSC) consisting of selected top management of key stakeholder groups and Project Implementation Committee (PIT) comprising of technical personnel from key stakeholders is crucial for project success** because it ensures that their concerns are technically discussed and taken into consideration during project design and implementation. The members of PIT and PSC can also be used during sensitizations and awareness creation, which enhances ownership.
- iii) **Planning for risks and delays in project implementation due factors beyond project control** such as electioneering activities allows projects to have realistic milestones given predictable effects of election-related delays.
- iv) **Projects’ flexibility and ability to positively respond and adapt to evolving local and international realities** such as the COVID-19 pandemic enhances resilience, which minimises disruptions of implementation of activities due to changing realities on the ground.
- v) **Dealing with public sector institutions** and developing trade systems that are responsive to their needs requires having dedicated work force from both the client and the developer working closely with each other. Also, while dealing with government partners, it is strategic to train them at a location out of the vicinity of their work stations to increase attendance and the buy-in.
- vi) **Providing for resident Technical Assistants (TAs) and reliable technical support** services in project design and implementation enhances knowledge transfer, which ensures projects’ technical sustainability.
- vii) **Blending consultant’s team with resident local experts minimizes interruptions** during projects’ implementation due to restrictions on physical movements because of pandemics, etc.
- viii) **Identifying and taking lessons learnt during project implementation** improves project success.

CHAPTER 7 : RECOMMENDATIONS

254. The evaluation team recommends the following actions for adoption in similar projects within the ICT for Trade portfolio in order to maximize and improve on the performance of the trade systems Projects and the benefits they offer to the stakeholders:

Table 7-1: Recommendations

#	RECOMMENDATIONS ON IMPROVING TMEA FUNDED TRADE SYSTEM PROJECTS EFFICIENCY	ACTIO N POINT
i)	Consultants/ contractors should have local support team to continue providing the required services even if there are restrictions in movements such as lock downs. For example, the developer for the KEPHIS SC-PVP system was a foreigner and COVID 19 pandemic got them out of the country and this to some extent delayed addressing some of the change requests that would have been handled faster had they been physically present or had a local partner/team to step in.	TMEA
ii)	Consultants/ contractors should be conversant with the English language as a requirement to communicate effectively during project execution. The evaluation team found evidence that the communication with the contractors was not effective due to language and cultural differences. This at times resulted in system delays.	TMEA
iii)	Systems developers need to have experts with knowledge on processes being	TMEA




	automated (such as seed certification, tea trade processes, etc) to avoid misunderstanding between the developers and the process owners. For instance, some of the KEPHIS stakeholders to some extent believed that the developer was not well conversant with the SC-PVP processes, a factor that partly contributed to numerous change requests.	
	RECOMMENDATIONS ON IMPROVING TMEA FUNDED TRADE SYSTEM PROJECTS EFFECTIVENESS	
iv)	The trade systems need to provide for complaint raising and feedback mechanism so that stakeholders can raise the complaints through the system, to enable partner implementing agencies to respond promptly to complaints.	TMEA, KEPHIS
v)	Update the Monitoring Plans with targets that are specific and measurable and baselines to enable clear assessment of the results: The evaluation findings indicated that some indicators in the monitoring plans had no baselines nor targets or the targets were not specific (e.g. >1) which made the assessment of the results difficult. There is need for the key performance indicators to have clear baselines and targets.	TMEA, KEPHIS
vi)	The development of the mobile application should be finalized so that the tablets and mobile phones can be used in the field.	TMEA, KEPHIS
	RECOMMENDATIONS ON IMPROVING TRADE SYSTEM PROJECTS DESIGN, MANAGEMENT AND IMPLEMENTATION	
vii)	Engage and support new trade systems agencies in the region: TMEA should continue supporting other trade agencies by automating their key trade processes in the region to reduce the time and cost of doing business by replicating what has worked well in the trade systems projects already supported by TMEA.	TMEA
viii)	Review the internal procurement and decision-making policies: To increase on efficiency and effectiveness in the implementation of projects by partner agencies. Some partner agency stakeholders felt that TMEA procurement/decision making processes were to some extent longer compared to their own processes, implying that had they been in charge of procurement, the processes would have moved faster.	TMEA
ix)	Engage all the stakeholders right from project initiation to avoid the challenges the integration phase faced. The trade agencies could develop their own integrated payment platforms/applications to deal with the limitations of using MPESA including cash seal, which is being addressed by having the traders pay directly in bank then upload the pay slip as proof of payment.	TMEA, KEPHIS
x)	The system design should be modified in such a way that the top management can be able to access the system to monitor in real time the activities going on in the field. Furthermore, the current system design should also be modified to permit users to copy reports and paste them in another format such as excel, to enable them carry out further analysis and comprehension.	TMEA, KEPHIS
	RECOMMENDATIONS ON IMPROVING TMEA FUNDED TRADE SYSTEM PROJECTS SUSTAINABILITY	
xi)	Training of trainers to increase awareness to the target stakeholders about the system use and their benefits: TMEA should continue to support the training of trainers to carry out sensitization activities and refresher training about the regulatory requirements, system use and the benefits at local levels. This is because the traders are scattered all over the country in addition to having new traders on board. Training and refresher courses should be part of the operational policy of the Partner Agency to ensure they continue post TMEA support.	TMEA, KEPHIS

ANNEXES
Annex 1: Assessment Criteria

SCORE/RATING	RESULT DESCRIPTION
A++ (Excellent = 5)	Results Consistent and exceeded expectations/targets (>=100%)
A+ (Very good = 4)	Results Consistent with all expectations/targets (75-99%)
A (Good = 3)	Results Consistent with most of the expectations/targets (60-74%)
B (Fair = 2)	Results moderately meet expectations/targets (45-59%)
C (Poor = 1)	Results are not Consistent and substantially does not meet expectation /targets (0-44%)

Annex 2: Confidence Levels

These are the confidence levels that were used to determine the extent of the available level of evidence to support the evaluation team's assessment

#	CONFIDENCE LEVEL	CRITERIA	COLOUR	
1.	High	All the evidence needed to support the evaluation team's assessment was available.	Green	
2.	Medium	Most of the evidence needed to support the evaluation team's assessment was available.	Yellow	
3.	Low	Partial evidence needed to support the evaluation team's assessment was available.	Red	

Annex 3: KEPHIS SC-PVP system Project Activity Assessment

AGREED OUTPUT/ACTIVITIES	ACTIVITY STATUS AS OF DECEMBER 2021	ASSESSMENT	CONFIDENCE LEVEL
Seed Administration Module: Developed and deployed			
Inception and Functional Analysis	Completed	5	
Delivery of Prototype	Completed	5	
Final User Acceptance Tests	Partially completed	3	
Seed Testing Module: Developed and deployed			
Inception and Functional Analysis	Completed	5	
Delivery of Prototype	Completed	5	
Final User Acceptance Tests	Partially completed	3	
Monitoring and Implementation Plan Implemented			
Validation of baseline	Completed	5	
Project Evaluation	Completed	4	
System to System Integration developed and deployed			
Integration to Finance System and Kentrade	Partially completed	3	
Integration to UPOV	Partially completed	3	
System Support Service Plan Implemented			
Technical Assistant	Completed	5	
Hosting services	Completed	5	
Supply and Installation of ICT Infrastructure	Completed	5	
Change Management Plan Implemented			
Pre-automation sensitization	Completed	5	
Training of Internal Users	Completed	5	
Training of External Users	Completed	5	
System Launch	Completed	5	
Post Automation Sensitization	Partially completed	3	
Private Seed Entities: Developed and deployed			
Inception and Functional Analysis	Completed	5	
Delivery of Prototype	Completed	5	
Final User Acceptance Tests	Completed	5	
Seed Seller Module: Developed and deployed			
Inception and Functional Analysis	Completed	5	
Delivery of Prototype	Completed	5	
Final User Acceptance Tests	Completed	5	
Seed Grower Module: Developed and deployed			

AGREED OUTPUT/ACTIVITIES	ACTIVITY STATUS AS OF DECEMBER 2021	ASSESSMENT	CONFIDENCE LEVEL
Inception and Functional Analysis	Completed	5	
Delivery of Prototype	Completed	5	
Final User Acceptance Tests	Completed	5	
Plant Variety Protection (SCPVP) Developed and Deployed			
Inception and Functional Analysis	Completed	5	
Delivery of Prototype	Completed	5	
Final User Acceptance Tests	Completed	5	
Seed Certification Module Developed and Developed			
Inception and Functional Analysis	Completed	5	
Delivery of Prototype	Completed	5	
Final Acceptance Tests	Completed	5	
Overall		5	

Annex 4: KEPHIS SC-PVP system Project Output Assessment

OUTPUT	OUT STATUS AS OF SEPTEMBER 2021	SSME	IDEN CE	LEVEL
Seed Administration Module: Developed and deployed	Completed	5		
Seed Testing Module: Developed and deployed	Completed	5		
Monitoring and Implementation Plan Implemented	Completed	4		
System to System Integration developed and deployed	Completed	5		
System Support Service Plan Implemented	Completed	5		
Change Management Plan Implemented	Completed	5		
Private Seed Entities: Developed and deployed	Completed	5		
Seed Seller Module: Developed and deployed	Completed	5		
Seed Grower Module: Developed and deployed	Completed	5		
Plant Variety Protection (SCPVP) Developed and Deployed	Completed	5		
Seed Certification Module Developed and Developed	Completed	5		

Annex 5: KEPHIS baseline time before and after automation

AGENCY	USER	Time (Days) Before Automation	Time (Days) after Automation
KEPHIS	i. seed inspectors	9 days	1 day
	ii. seed merchants	14 days	7 days
	iii. seed sellers	15 days	1 day

Annex 6: KEPHIS Baseline Cost Before and after Automation

AGENCY	USER	Cost (US\$) Before KEPHIS SC-PVP System	Cost (US\$) After KEPHIS SC-PVP System
KEPHIS	i. seed inspectors	10	1
	ii. seed merchants	68	5
	iii. seed sellers	39	4

Annex 7: KEPHIS Targets and Realized Outcomes

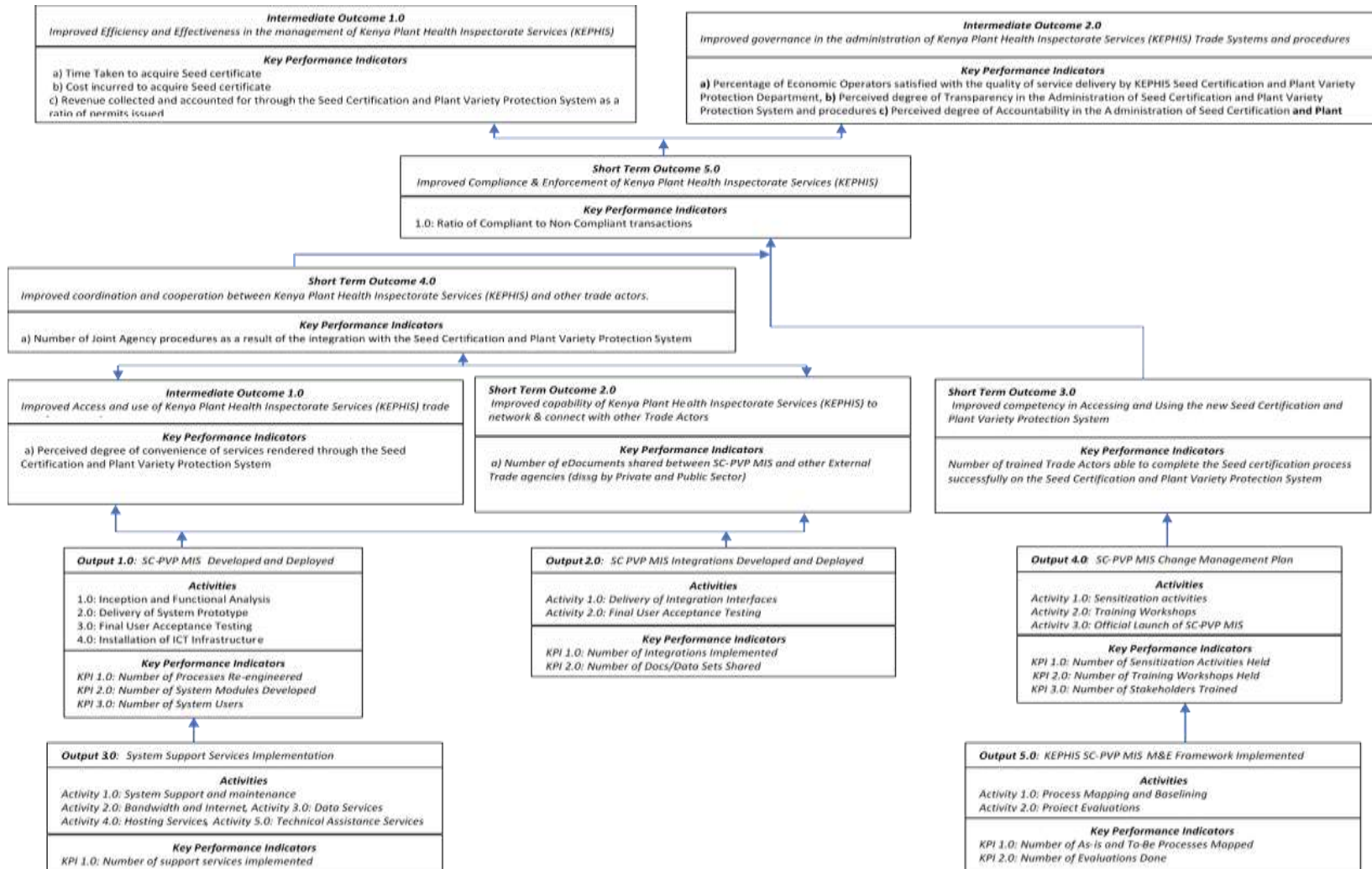
Outcomes	Objectives	KPI/MEANS OF VERIFICATION	BASELINE	TARGET	EVALUATION FINDINGS	PERCENTAGE	ASSESSMENT	CONFIDENCE LEVEL
Intermediate out comes	1.0. Improved Efficiency and Effectiveness in the management of Kenya Plant Health Inspectorate Services (KEPHIS) Trade Systems and procedures	a) Time Taken to acquire Seed certificate	Seed inspector 29 days Seed merchant-36 days Seed seller-10 days	30%-time reduction	Overall 3 days seed inspectors-1 day seed merchants- 7 days seed sellers-1 day	Overall, 88% (Reduction) seed inspectors-97% (Reduction) seed merchants-81% (Reduction) seed sellers-90% (Reduction)	5	High
		b) Cost incurred to acquire Seed certificate	Seed inspector-US\$10 ²³ Seed merchants-US\$68 Seed seller-US\$39	15% cost reduction)	seed inspectors Before: US\$10 After: US\$1 seed merchants-US\$5 seed sellers-US\$4	seed inspectors-93% Reduction seed merchants-93% Reduction seed sellers-90% Reduction	5	High
		c) Revenue collected and accounted for through the Seed Certification and Plant Variety Protection System as a ratio of permits issued	0	25% increase in transaction rates				Low

²³ Data from Endline

Outcomes	Objectives	KPI/MEANS OF VERIFICATION	BASELINE	TARGET	EVALUATION FINDINGS	PERCENTAGE	ASSESSMENT	CONFIDENCE LEVEL
	2.0. Improved governance in the administration of Kenya Plant Health Inspectorate Services (KEPHIS) Trade Systems and procedures	a) Percentage of Economic Operators satisfied with the quality of service delivery by KEPHIS Seed Certification and Plant Variety Protection Department	Does not exist	Not Available	Overall, 44/62 Seed inspectors (6/7) Seed merchants (19/23) Seed sellers (19/32)	Overall, 71% Seed inspectors - 86% Seed merchants- 83% Seed sellers-59%	4	
		b) Perceived degree of Transparency in the Administration of Seed Certification and Plant Variety Protection System and procedures	Does not exist	Not Available	Overall, (28/32) Seed inspectors (5/6) Seed merchants (10/13) Seed sellers (13/13)	Overall 88% Seed inspectors- 83% Seed merchants- 77% Seed sellers- 100%	4	
		c) Perceived degree of Accountability in the Administration of Seed Certification and Plant Variety Protection System and procedures	Does not exist	Not Available	Overall 22/26 Seed inspectors (3/3) Seed merchants (9/12) Seed sellers (10/11)	Overall, 84% Seed inspectors- 100% Seed merchants- 75% Seed sellers-91%	4	
Short term outcomes	1.0 Improved Access and use of Kenya Plant Health Inspectorate Services (KEPHIS) trade regulatory services	a) Perceived degree of convenience of services rendered through the Seed Certification and Plant Variety Protection System	Does not exist	Not Available	Overall, 34/35 Seed inspectors (4/4) Seed merchants (14/14)	Overall, 97% Seed inspectors- 100% Seed merchants -	4	

Outcomes	Objectives	KPI/MEANS OF VERIFICATION	BASELINE	TARGET	EVALUATION FINDINGS	PERCENTAGE	ASSESSMENT	CONFIDENCE LEVEL
					Seed sellers (16/17)	100% Seed sellers-97%		
	2.0 Improved capability of Kenya Plant Health Inspectorate Services (KEPHIS) to network & connect with other Trade Actors.	a) Number of eDocuments shared between SC-PVP MIS and other External Trade agencies (disseminated by Private and Public Sector)	0	Not indicated	4		4	
	3.0 Improved competency in Accessing and Using the new Seed Certification and Plant Variety Protection System	a) Number of Trained Trade Actors	0	Not indicated	908 stakeholders		4	
		b) Number of trained Trade Actors able to complete the Seed certification process successfully on the Seed Certification and Plant Variety Protection System	0		816		3	
	4.0 Improved coordination and cooperation between Kenya Plant Health Inspectorate Services (KEPHIS) and other trade actors.	a) Number of Joint Agency procedures as a result of the integration with the Seed Certification and Plant Variety Protection System	0	3	3		4	
	5.0 Improved Compliance & Enforcement of Kenya Plant Health Inspectorate Services (KEPHIS) Trade Regulations	a) Ratio of Compliant to Non-Compliant transactions	0	Does not exist				

Annex 8: KEPHIS SC-PVP system Results Chain



ANNEX 9: KEPHIS SC-PVP system List of Stakeholders Contacted
A). KEPHIS SC-PVP SYSTEM OPERATIONAL STAFF (KIIs)

#	NAME	TITLE	GENDER
1.	Wilson Saitienei	Seed Inspector/Analyst	Male
2.	John Wang'a	Senior Inspector	Male
3.	Kennedy Muteti	Inspector	Male
4.	Ayieko Joseph	Senior Seed Inspector	Male
5.	Bernard Muli	Inspector	Male
6.	Jared Ombaso	Accountant	Male
7.	Wabwayi Ndalira	Senior Inspector	Male
8.	Joash Atunga Nyaribo	Inspector	Male
9.	Chispine Onyango Owino	Senior Seed Inspector	Male
10.	Kiprono Gilbert Bett	Seed Officer	Male
11.	Kennedy Ariembi	Procurement Officer	Male
12.	Esther Philip	Inspector	Female
13.	Dennis Kisasati	Seed Certification Officer/Seed Inspector	Male
14.	Gentrix Juma	Chief Plant Examiner	Female
15.	Stellamaris Mulika	Seed Certification	Female
16.	Samuel Ogola	Biometrician	Male
17.	Erick Wanyonyi	Inspector	Male

B). LIST OF FOCUSS GROUP DISCUSSION PARTICIPANTS

AGENCY/ STRATA	NAME OF PARTICIPANT	TITLE	GENDER
PIT members	Carol Cavu Mutete	Seed Inspector – Hqts	Female
	Kennedy Wanyeki	ICT Administrator	Male
	Gentrix Juma	Plant Examiner	Female
PSC members	James Aboge	Head – ICT	Male
	Simon Maina	Head – SC&PVP	Male
	Duncan Onduu	Director STACK	Male
Management Staff	Thomas Kosiom		Male
	Chelangat Tonui Carol		Female
	Micheal		Male

C). LIST OF SURVEY RESPONDENTS

#	NAME	TITLE	NAME OF INSTITUTION/ ORGANIZATION	TYPE OF USER	GENDER
1.	Joyce Agufana	Ag Head of Production, Seed maize, Pasture and Sunflower	Kenya Seed Company	Seed Inspectors	Female
2.	Esther Philip	INSPECTOR	KEPHIS	Seed Inspectors	Female

#	NAME	TITLE	NAME OF INSTITUTION/ ORGANIZATION	TYPE OF USER	GENDER
3.	Jonah Kahwai	inspector	KEPHIS nakuru	Seed Inspectors	Male
4.	Kennedy Owino Osyo	SEED ANALYST	WESTERN SEED COMPANY LIMITED	Seed Inspectors	Male
5.	Fabian Ayoro	Production Manager	AgriSeedCo Ltd	Seed Inspectors	Male
6.	Grace Ndungu	Ms	Monsanto Kenya limited	Seed Inspectors	Female
7.	Edwin Too	Seed Analyst	Kenya Seed	Seed Inspectors	Male
8.	Rehema Chebet	OPERATIONS DEPARTMENT	OIL CROP DEVELOPMENT LTD - FAIDA SEEDS	Seed Merchant	Female
9.	Ken Koome	Farm Manager	Kevian Kenya Ltd	Seed Merchant	Male
10.	Margaret Maiyo	SALES OFFICER	KENYA SEED COMPANY LTD	Seed Merchant	Female
11.	Pauline Komu	Agronomist	Ultravetis Seed Company Ltd	Seed Merchant	Female
12.	Kibichii Laban	MR.	KENYA SEED COMPANY LTD	Seed Merchant	Male
13.	Kenneth	ICT Technician	Kenya Seed Company	Seed Merchant	Male
14.	Josephine	Admin	ROYAL SEED LTD	Seed Merchant	Female
15.	Eric Maghas Tegei	Quality Assurance Manager	Kenya Seed Co. Ltd	Seed Merchant	Male
16.	Jane Gatumia	Chief Production Officer	Simlaw Seeds Ltd	Seed Merchant	Female
17.	Ahmad Khater	Regional Director	Jubaili Agrotec Limitec	Seed Merchant	Male
18.	Antony Kibet	Procurement	Amiran Kenya ltd	Seed Merchant	Male
19.	Sylvester Kimaiyo	Processing and Logistics Officer	Agri Seedco Ltd	Seed Merchant	Male
20.	Leah Klori	Administrative Manager	Veterinary And Agronomic East Africa Ltd	Seed Merchant	Female
21.	Dorice Anjawa	Coordinator	Rural Outreach Program Africa	Seed Merchant	Female
22.	Anthony N.	Certification &	LEAFDE LIMITED	Seed	Male

#	NAME	TITLE	NAME OF INSTITUTION/ ORGANIZATION	TYPE OF USER	GENDER
	Ng'ethe	Processing Manager		Merchant	
23.	Florence Kairu	ICT Officer	Kalro	Seed Merchant	Female
24.	Daudi Aleri	Research Officer	Nationsli Miad	Seed Merchant	Male
25.	Caroline Naktari	Acconts Assistant	Kenya Seed Company Ltd	Seed Merchant	Female
26.	Grace Awuor	Technical Representative	Icm Solutions Ltd	Seed Merchant	Female
27.	Dennis	Research Assistant	East African Seed Company	Seed Merchant	Male
28.	Electine Wafula	Breeder	Afritec Seeds Ltd	Seed Merchant	Female
29.	Simon Kahanya	Assistant Production Manager	Aberdare Technologies Ltd	Seed Merchant	Male
30.	Sylvia	Supervisor	Kenya Seed Co. Ltd	Seed Merchant	Female
31.	Jamal	Mr	Badar Pharmacy	Seed Seller	Male
32.	Virginia Wanjau	Miss	Raremi Agrovet	Seed Seller	Female
33.	Daniel Kimathi	Director	Chemaluk Traders	Seed Seller	Male
34.	Beatrice Odongo	Director	Magos Farm Enterprises Ltd	Seed Seller	Female
35.	Meshack	Manager	Rijo Dispensing Chemist	Seed Seller	Male
36.	Rachel Maina	Sales And Marketing Consultant	Vegflo Seeds Africa Ltd Nairobi	Seed Seller	Female
37.	Sakong K Agastine	Proprietor-New Owner	Sakway Agrovet	Seed Seller	Male
38.	Crispus Maosi	Crispus	Ikonge Agrovet	Seed Seller	Male
39.	Enos Kipchirchir Rono	Proprietor	Farmers Agrovet	Seed Seller	Male
40.	Peter Muandi	Mr.	Kwanza	Seed Seller	Male
41.	Erick Mathai	Properietor	Farmvet	Seed Seller	Male
42.	Denis Osoro	Mr.	Dennis Osoro	Seed Seller	Male
43.	Kelvin	Mr.	Boresha Agrovet	Seed Seller	Male
44.	Hosea Serem	Manager	Serum Supplies	Seed Seller	Male
45.	Cheruiyot Kurgat	Paravet	Oasis Stores	Seed Seller	Male
46.	Winfred Wanjaa	Director	Winner	Seed Seller	Female
47.	Patrick Mutie	Multi Network Coordinator	Farm Input Promotions Africa	Seed Seller	Male
48.	Charles Wanyonyi	Director	Msafiri General	Seed Seller	Male

#	NAME	TITLE	NAME OF INSTITUTION/ ORGANIZATION	TYPE OF USER	GENDER
49.	Justus Keroke Josemo	Manager	Josemo	Seed Seller	Male
50.	Rop	Manager	Sirikwa Dairies	Seed Seller	Male
51.	Onyango John	Director	Jomarks Agrovet	Seed Seller	Male
52.	Faith Maingi	Director	Ukweli Agrovet	Seed Seller	Female
53.	Erick Ondara Okindo	Director	Erick Ondara Okindo	Seed Seller	Male
54.	Chebet Siwon	Director	Bomet Pioneer Agrovet	Seed Seller	Female
55.	Abraham Njinyu Mwangi	Director	Abraham Njinyu Mwangi	Seed Seller	Male
56.	Alice Wangari	Business Owner	Alice Wangari	Seed Seller	Female
57.	Evans Mukunza	Manager	Afyavet Agrovet Supplies	Seed Seller	Male
58.	Irine Cherotich	Owner	Irine Cherotich	Seed Seller	Female
59.	Evans Onyancha	Business Owner	Emo Agrovet	Seed Seller	Male
60.	Dickson Muia	Business Owner	Dickson Mule Muia	Seed Seller	Male
61.	Charity Njoki	Owner	Charity Njoki	Seed Seller	Female
62.	James Ileri	Director	Justine Mbogo	Seed Seller	Male

D: TMEA ICT4T List of Stakeholders Contacted

A). List of project Leads (KIs)

#	NAME	TITLE
1.	Alex Kipyegon	Project lead -KEPHIS SC-PVP

Annex 10: List of documents Received and Reviewed

#	AGENCY	DOCUMENTS REVIEWED
1.	KEPHIS	I. Updated Monitoring plan 29 th Sept 2021 II. Annual Project Performance Report (3) 2018/2019 III. Annual Project Performance Report (4) 2019/2020 IV. Business System Design V1.2. V. Final KEPHIS Project Charter VI. KEPHIS TMEA Financing Agreement VII. KEPHIS Inception Report V.1. VIII. KEPHIS SC PVP RC 1 IX. KEPHIS Seed Labeling System 03_01_HLD

#	AGENCY	DOCUMENTS REVIEWED
		X. Project 3535 Risk Report
		XI. Project monitoring plan 3535
		XII. Project workplan 3535
		XIII. Quarterly 3535 Report 2020 July-Sept
		XIV. Quarterly 3535 Report 2020 Oct-Dec
		XV. SC PVP Quality Assurance Inception Report
		XVI. SC & PVP infra-Assessment Report
		XVII. SCPVP Financials
		XVIII. SCPVP Training Report 18 th -13 th December 2019
		XIX. Signed KEPHIS PSA Addendum
		XX. System Requirements Specifications
		XXI. User Requirements Specifications
		XXII. KEPHIS PAR

ANNEX 11: Mapping of KEPHIS SC-PVP system Project Results and Linkage To TMEA's Theory Of Change

