INCENTIVISING TECHNOLOGY UPTAKE AMONG SMALL ENTREPRENEURS THROUGH GRANTS

THE M-SAWA PROJECT

MEDA

In partnership with Canada
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### ACRONYMS

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<th>Abbreviation</th>
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<tr>
<td>BA</td>
<td>Business Association</td>
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<td>BDS</td>
<td>Business Development Services</td>
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<td>CAD</td>
<td>Canadian Dollars</td>
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<td>EAP</td>
<td>Environmental Action Plan</td>
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<td>EPTPSD</td>
<td>Equitable Prosperity through Private Sector Development</td>
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<td>ESG</td>
<td>Environmental Sustainability Grant</td>
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<td>GAC</td>
<td>Global Affairs Canada</td>
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<td>GEM</td>
<td>Gender Equality Mainstreaming</td>
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<td>KDB</td>
<td>Kenya Dairy Board</td>
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<td>KDFF</td>
<td>Kenya Dairy Farmers Federation</td>
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<td>KII</td>
<td>Key Informant Interview</td>
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<td>ILO</td>
<td>International Labour Organization</td>
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<td>LAPSSET</td>
<td>Lamu Port-South Sudan-Ethiopia-Transport</td>
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<td>LF</td>
<td>Lead Firm</td>
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<td>M-SAWA</td>
<td>Maendeleo Sawa</td>
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<td>MEDA</td>
<td>Mennonite Economic Development Associates</td>
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<td>MDG</td>
<td>Millennium Development Goal</td>
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<td>NGO</td>
<td>Non-Governmental Organization</td>
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<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
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<td>PMI</td>
<td>Project Management Institute</td>
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<td>PPE</td>
<td>Personal Protective Equipment</td>
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<td>SE</td>
<td>Small Entrepreneur</td>
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<td>SIG</td>
<td>Sustainability Innovation Grant</td>
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<td>SDG</td>
<td>Sustainable Development Goals</td>
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<td>SME</td>
<td>Small and Medium Enterprise</td>
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<td>TAG</td>
<td>Technology Adoption Grant</td>
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<td>USD</td>
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<td>WFP</td>
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ABSTRACT

The purpose of this summary paper was to evaluate subsidized technology uptake through grants implemented by Mennonite Economic Development Associates (MEDA) through the M-SAWA project in Kenya; specifically, the Small Entrepreneurs Technology Adoption Grant (SE TAG). This paper seeks to address three specific evaluation questions:

- To what extent has the TAG project achieved its goal, objectives, and key result indicators?

- What was the impact of the TAG project on the target beneficiaries? Were there any unintended consequences or unexpected results that may have occurred during or after the course of intervention?

- What are the key lessons learnt and key recommendations to improve future project interventions and policy development?

Data capture involved review of secondary qualitative and quantitative data from project reports and other related works, and key informant interviews (KII). In line with the three broad research questions noted above, the project had surpassed its targets as of March 31, 2022 by 66% for total beneficiaries and 20% for targeted females. Secondly, the TAGs have resulted in enhanced production and productivity, reduced losses, enhanced profitability, competitiveness, sustainability, and inclusion in the economic activities for the target beneficiaries. Key learnings include that increases in discount amounts positively correspond to technology uptake.

The paper makes the following conclusions: a discount model provides a better option for promoting technology uptake compared to full subsidies; use of environmentally friendly technologies improves users’ resilience and adaptability to environment and climate change issues contributing to increased profitability; and the model has contributed positively to transformation of women’s roles in agricultural value chains and economic participation.

The paper makes the following recommendations: employ competitive pricing schemes to provide incentives to Lead Firms (LFs) to aggressively market technologies; robust technology quality control measures should be put in place tied with the warranties to ensure sustainability of equipment; use of 50% discount generally has shown better uptake compared to lower levels of support; and some technologies work in a complementary way and should therefore be promoted as a package.
ACKNOWLEDGEMENTS

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<td>Graphic Design</td>
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The Equitable Prosperity through Private Sector Development (EPTPSD) Project, also referred to as the Equitable Prosperity or Maendeleo Sawa (M-SAWA) project was implemented by Mennonite Economic Development Associates (MEDA) in Kenya from 2015 to 2022. The M-SAWA project was made possible with the generous support of the Government of Canada, through Global Affairs Canada (GAC).

We would like to thank M-SAWA's many partners, staff and MEDA's generous private supporters.

1. INTRODUCTION

About the M-SAWA Project

The Equitable Prosperity through Private Sector Development (EPTPSD) Project, also referred to as the Equitable Prosperity or Maendeleo Sawa (M-SAWA) Project is a seven-year, $28.7 million CAD initiative funded/implemented by Mennonite Economic Development Associates (MEDA) (supporters, partners, and investors) with funding from Global Affairs Canada (GAC) implemented from 2015 to 2022.

M-SAWA aimed to contribute to Kenya’s economic growth and increase job creation by improving the business, environmental and gender performance of small and medium enterprises (SMEs) and small entrepreneurs (SEs) in 20 select counties along the Lamu Port-South Sudan-Ethiopia Transport (LAPSSET) and Northern Corridors in the following 3 project focus sectors: Agriculture/Agribusiness, Construction/Allied Industries, and Extractives. In support of this goal, MEDA offered matching grants to lead firms (LFs), business associations (BAs) and SMEs. The project worked with 2 categories of SMEs – LFs and other SMEs benefiting from business development services (BDS), access to investment/financing, and participation in BAs/SME alliances. LFs are defined as SMEs with strong supply and/or distribution chain linkages with SEs which were engaged to implement initiatives supporting the growth of the LF along with its suppliers/distributors. In this context, LFs are ‘inclusive businesses’ that play pivotal roles in moving their industry and other value chain actors forward.
The MEDA M-SAWA Learning Series

This paper is part of a series of learning documents developed by MEDA focused on identifying and sharing key lessons learned over the life of the M-SAWA project. There are a total of 9 documents in this series, each focusing on a key project element, namely:

1) Best practices and lessons learned in delivery of Business Development Services (BDS)
2) Collaboration between Business Associations and Lead Firms
3) The impact of COVID-19 on SMEs and Lead Firms
4) The impact of Technology Adoption Grants (TAGs)
5) Access to Finance for Women-led SMEs
6) Business Case for Gender Equality Mainstreaming (GEM)
7) Use of Environmental Action Plans (EAPs) with SME Partners
8) Impact of Environmental Sustainability Grants (ESGs)
9) Promoting Investment in the SME sector in Kenya
This learning paper focuses on the best practices and lessons learned from the implementation of the Technology Adoption Grants through MEDA’S M-SAWA project.

2. METHODOLOGY

This paper sought to answer the following specific questions:

1) To what extent has the TAG project achieved its goal, objectives, and key result indicators?

2) What is the impact of the TAG project on the target beneficiaries? Were there any unintended consequences or unexpected results that may occur during or after the course of intervention?

3) What are the key lessons learnt and key recommendations to improve future project interventions and policy development?

To conduct the study, MEDA engaged an external consultant to support the MEDA team in conducting this assignment. Based on the objectives of the study, an inception report with evaluation matrix detailing all the evaluation questions and sources of data was developed. The evaluation matrix supported the collection of useful, valid, and reliable data that directly targeted the objectives of the evaluation and evaluation questions. The paper was developed based on a desktop review of related literature/papers, reports and documents, beneficiaries’ phone verification interview reports, and key informant interviews (KII) as detailed below:

**Desk Review:** This involved literature review and review of qualitative and quantitative secondary data provided by MEDA. A document map was developed to identify available information based on the evaluation questions. The reports reviewed included project reports and reports from phone verification interviews conducted with SE clients receiving the technologies.

**Key Informant Interviews:** Telephone interviews were conducted with MEDA staff to provide clarification and to offer verification of the data provided.

The findings of this paper were developed based on a mixture of quantitative and qualitative data. This mixed method approach allowed the evaluation team to assure the validity of the research by cross verifying data between the various target groups and sources to establish consistency of the research findings. Use of case information in the reports also provided an opportunity to assess and uncover deeper meaning and understanding of the data. The qualitative data
was analysed through coding and using thematic analysis based on the project indicators and the evaluation matrix.

The evaluation was not without limitations. However, these limitations were well managed by the evaluation team. Telephone interviews limited capturing of visual cues, thus, the key informant interview was designed to be longer and more in-depth.

3. BACKGROUND

One of the key mechanisms used to deliver benefits to project clients in M-SAWA was Lead Firm (LF) Matching Grants, including the Small Entrepreneur Technology Adoption Grants (SE TAGs). The purpose of the SE TAGs was to provide a temporary incentive to SEs through price discounts to encourage the purchase of improved or more environmentally responsible technologies for use in their businesses. The maximum value for the SE TAGs was initially approximately $75 USD or 25% of the full product purchase price per SE, whichever is less, but was increased to 50% during the project period based on low initial uptake and feedback from beneficiaries. The SE TAGs were implemented by the LF, with some LFs implementing complementary activities through an Impact Acceleration Grant (IAG) to facilitate SE trainings on the relevance and need for the technologies and support its uptake through networking, organizing field days, and marketing.

This approach provided benefits at both the SE and LF level. At the SE level, the adoption of the subsidized technologies allowed SEs to enhance their production competitively and sustainably for immediate and long-term economic benefits. In addition, the uptake of this technology enhanced supply chain production supports for LFs directly linked to these SEs, thus creating robust value chain development systems with broader positive benefits to the LFs and wider economic development. For instance, acquisition of subsidized tarpaulins by Transu Limited (one of the LFs) allowed the SEs to reduce post-harvest losses incurred due to farmers losing sorghum dried on the ground and helped to improve the quality of produce, as it avoided the mixing of produce and supplied sorghum to Transu. This enabled SEs to earn more income and, in the end, Transu increased volumes collected and improved its revenue.

4. RESULTS AND DISCUSSION

To address the research questions laid out in the introduction, this paper applied questions related to project relevance, efficiency, impact, and sustainability.
1. Relevance: Did the Project Do the Right Thing?

1.1 What value and for whom did this project add?

In line with its value propositions, the objective of providing the TAG grants was to fully harness the use of appropriate gender equitable, environmentally safe inputs, and/or technologies by women and men SEs to enhance the profitability, competitiveness, and sustainability of SEs for equitable economic and employment growth. The project used different strategies in promoting technology adoption, among them is the use of demonstrations for target beneficiaries to witness first-hand benefits of the technology for informed decision making. Secondly, the project offered incentives in the form of discounts to facilitate technology uptake.

High capital cost has been identified as one of the major constraints in technology adoption, and the use of discounts is an important factor in increasing technology adoption in rural areas with low-income levels, particularly among rural women. Silva and Broekel (2017) note that “though farmers perceive technology as a good thing, only about 50% move from the awareness stage to the adoption phase partly due to inadequate resources among other factors.” Adoption of environmentally friendly technology is a key factor for enhanced efficiency, effectiveness, competitiveness, and future positioning for SEs.

To help assess the effectiveness of the TAG program, MEDA drew on interviews conducted directly with SEs receiving technologies. As of 31st March 2022, MEDA had conducted 813 phone interview discussions across 12 Counties. The gathered data showed that 84% of the small entrepreneurs (44% women) spoke positively about the project’s focus on promoting green technologies through discounts by the LFs, with the technologies considered highly relevant in their businesses. It also suggested that the main value added by the technologies, and by extension the project, was its capacity to enhance efficiency, reduce losses, and enhance total production for increased profitability for the project beneficiaries.

Further, 22% of the SEs, of which 57% are women, indicated that they were appreciative of the project and would need more discounts to increase their adoption. One respondent who adopted fruit fly traps technology indicated that “the technology was so effective and other farmers who did not benefit from the project are in need so that the technology works collectively to reduce insect’s invasion in their community.” The use of technologies such as fruit fly traps and hermetic bags are crucial in promoting integrated pest management with reduced use of chemicals, thus enhancing sustainability of the productive resources and are environmental sensitive which is in line with the M-SAWA
project objectives. Moreover, technology adoption reduces drudgery common in agricultural production thus, enhancing the economic empowerment of women by decreasing the time and level of effort needed to conduct agricultural tasks often left to women.

However, data collected shows that the approach is not without challenges. There were instances of beneficiaries enrolled for technologies they did not immediately need. Several farmers indicated that “they enlisted for shade nets/potting sleeves, yet the watering holes are too far for the technology to be utilized,” another indicated that “he enlisted for fruit fly traps, yet he preferred spraying.” Others indicated they “no longer need the technologies due to the increased cost of farming” whilst others indicated that “they enlisted for fruit fly traps and the traps no longer have insecticides, hence they do not use them.”

Simonsonhn and Loewenstein (2006) note other challenges in the implementation of subsidy approaches, noting that in the beginning some subsidy recipients may anchor on subsidized prices and be unwilling to purchase products at market prices post-subsidy. Further, some farmers “enlisted for the technologies without proper knowledge and waited for training on utilization.” These issues notwithstanding, it was felt that overall, the TAG approach was relevant to the needs of targeted SEs including enhancing production and productivity, reducing losses, enhancing profitability, competitiveness, sustainability, and inclusion in the economic activities. It has also been shown that the technologies promoted are crucial for promoting shared prosperity and sustainability in the target sectors.

1.2 Did this project answer real needs in the intervention areas?

The challenge of achieving prosperity for all in a sustainable environment as envisioned by the UN Sustainable Development Goals (SDGs) remains a reality in Kenya and more so in the rural areas where agriculture is the economic mainstay. The World Bank reports that in Sub-Saharan Africa, women contribute 40% of the agricultural labour force and that closing the gender gap could increase yields on women-run farms by 20-30%. This alone could raise total agricultural output in developing countries by 2.5-4%. Nonetheless, women own fewer assets (land, livestock, human capital), and have less access to inputs (seeds, fertilizer, labour, finance), appropriate technologies and services (training, insurance) than men (World Bank, 2017). Women need specialized agricultural training, equitable access to technology, and customized support to ease their workload as farmers. The right resources and technologies could help rural women maximize economic opportunities, increase productivity, and improve
food security, education, and healthcare since women tend to reinvest in their households.

Interview respondents from the SE TAG project felt that the issues the project sought to address were coherent with needs on the ground. With reference to the SDGs, the project seeks to reduce women marginalization by increasing access to equitable technologies to enhance their participation in economic activities that lead towards shared prosperity. Project reports showed an increased level of achievements for women’s access to equitable technologies contributing to empowerment whereby, out of “the 415 SEs surveyed in Year 7
(1st April 2021 to 31st March 2022), 77% of the SEs (44% women) reported to have access to environmentally safe inputs and technologies compared to the Year 6 (1st April 2020 to 30th March 2021) report where 51% of 600 SEs (24% women) had access to similar technologies. To provide a specific example, MEDA implemented a 2 year project with LF Amiran Kenya, a one stop shop for all agricultural products in Kenya, whose customer base ranges from small-scale farmers to SMEs and largescale farmers. They partnered with MEDA to offer subsidized drip kits to SEs in Siaya and Kisumu Counties and recorded “improvement in total female participation with the highest success recorded in Siaya County in the 15 months of working together (50% male, 50% female).”

Poverty, women marginalization, and unsustainable production/consumption are key challenges in rural Kenya. By attempting to tackle these problems, the project was instrumental in promoting shared sustainable prosperity for all. One respondent narrated how her “neighbor keeps borrowing her tarpaulin, which is of high quality.” She viewed this positively as a way of being a model farmer in her community. This borrowing not only indicates a basis for shared prosperity, but also highlights that the subsidy works. The borrowing is necessitated by the fact that the neighbours have realized the benefits of the promoted technologies and are striving to save money to access the same.

1.3 Importance of the technologies to target beneficiaries and their specific needs

Despite identifying the value proposition and need, the evaluation also focused on identifying whether or not the approach adopted by the project was relevant to meeting the above. The green technologies adoption drive led to increased efficiency and effectiveness of processes for better incomes towards reducing the level of the prevalent poverty in the rural areas. More so, the technologies are key platform for ensuring sustainability of resource use with direct individual benefits to farming communities by supporting increased productivity, production, profitability, and wealth creation. Additionally, green technology works to reduce the negative impacts of humans on the environment.

SE TAGs promoted by the M-SAWA project as of 31st March 2022, cumulatively totalled 51 distinct technologies targeting various sectors and levels of diverse value chains. The first category was at the production level, and technologies promoted included drip irrigation kits, fruit fly traps, hygro-mix planting media, knapsack sprayers, Bio/organic fertilizer, personal protective equipment (PPE), New Castle Disease vaccine packages, palleted urea fertilizers, reusable drenching syringes, shade nets, conservation agriculture hand tools [hoes, fork hoes (jembe), and shovels], sprayers, moisture meters, and solar lanterns for mining, among others. This set of technologies sought to promote best practices.
for increased production and productivity. The technologies also support clean production to avoid negative environmental impacts. For instance, reusable drenching syringes are easy to clean, store, and are durable, thereby reducing waste and production costs.

The second category of technologies targeted the post-harvest level, including stainless steel colanders, hermetic bags, poly-air vegetable crates, aluminium milk cans, lactometers, weighing scales, shear rollers, sieve racks, and tarpaulins. These technologies are useful in harvesting and handling of produce to enhance efficiency and minimize damage and losses from biological, chemical, and physical agents. The third category is at the value addition stage and include coffee making cans, cooler boxes, biodigesters, bio-based dryers, and hyacinth packaging materials, among others, to improve additional earnings for SEs.

At the processing level, many of the SE TAG beneficiaries pointed out that the increased access to green technologies assisted them in tackling context-specific based problems at the individual level. These include “pests & diseases in crops and livestock; inadequate access to micro irrigation water; and inadequate capital for purpose of farm inputs.” In summary, the project promoted technologies important to beneficiaries in enhancing production and productivity, reducing post-harvest losses, enhancing value addition, and promoting best practices for sustainable production systems. For instance, Transu Limited, one of the LF beneficiaries dealing in the aggregation of cereal produce within the Western region, implemented the tarpaulin technology. There were 1,168 SEs who benefited from 2,839 subsidized tarpaulins through M-SAWA to assist in curbing post-harvest losses experienced from drying sorghum on the ground – a practice that compromised quality and quantity of end produce delivered to the LF.

1.4 Are the project objectives still relevant given achievements so far?

Overall, the SEs receiving TAG grants felt that the project should continue working on the same issues, with 22% of the SEs, of which 57% are women, indicating that they would need more discounts to increase their adoption of the green technologies. Particularly beneficiaries of Newcastle Disease Vaccine packages acknowledged the discounts and requested “for more” since the disease is periodic. Furthermore, from the SE interview discussions, it was evident that the beneficiaries still need additional support to achieve some level of stability. The majority indicated that they “strongly believed that it would be better for a continuation of the interventions for a reasonable period and cycles for full impact to be seen for entire communities rather than the few farmers enrolled for the program.”
The request for continued support was to enhance levels of awareness; nonetheless, some beneficiaries reported that neighbours who were not a part of the project have purchased technology packs being promoted after seeing the benefits accrued by the direct project beneficiaries. This finding provides qualitative evidence in support of the relevance of the technologies and the project’s implementation approach, which sought to create a demonstration effect and encourage targeted SEs and others in their community to purchase products on their own once seeing the benefits.

2. Efficiency: Was the project implemented in a timely and reliable manner?

2.1 To what extent have the resources allocated enabled the project to achieve results?

For the first few years of the project, the SE TAG project provided a 25% subsidy. However, the beneficiaries indicated that the total cost of the green technology equipment was too high. In fact, some LFs could barely sell 50% of their allocations. The project then responded by increasing the subsidy to 50%, resulting in an improved uptake. Nonetheless, beneficiaries are still requesting more support to enhance the technological uptake after realizing the benefits.

The discount system has been applied elsewhere by MEDA and others and it remains a challenge to identify the appropriate discount level. For instance, a comparative study by World Food Programme (WFP) on a project focused on Reducing Hunger in Mozambique, tested the level of discount needed to promote adoption of technologies among rural farming communities. The project presents three options of package A (25% discount), package B (43% discount), and control. The study showed that the average use of agricultural technologies before the voucher scheme was reported to be 30% for Package A farmers and 40% for Package B farmers. With the support of the program, the use of technology increased among beneficiaries’ farmers (78% for Package A and 80% for package B, against 41% for the control group). This study demonstrates that discounts are major promoters of technology uptake, and it is important to set an appropriate discount level to ensure uptake. Practitioners should strive to provide subsidies at levels with the highest marginal rate of return on adoption.

With regards to MEDA’s performance, against a target of 2,253 beneficiaries (for year 7 project targets) of which 40% are female, the project achieved 166% (3,752 of which 60% are female). This shift was partially realized due to an increase in the discount from 25% to 50% in Year 7. In addition to increasing the discount among, the project also shifted to working more directly with
technology suppliers to supply products to SEs within the LFs’ supply chains, which proved to be a more efficient model.

The increased performance in the 7th year compared favourably against Year 6 performance where the uptake was 57% of which 30% were women; and 22% of which 10% were women in the 5th year. Interview discussions with the LFs indicated that some firms could not sell all technological packages procured in the first stages of the project since beneficiaries complained of high contributory amounts. This clearly demonstrates the significance of increasing the discounts on technology adoption. The increase of the discount from 25% to 50% was necessitated by low uptake of the technologies in the previous year, indicating the high cost of the technology packages, aggravated by high taxes which pushed the package costs beyond the income level of the beneficiaries. For instance, prices of hermetic bags, palleted urea doubled due to taxes imposed on agricultural inputs. Nonetheless, resource allocation was adequate to achieving the project’s objectives based on the adjustments made throughout the project.

2.2 What measures were taken to ensure effective financial implementation, monitoring and reporting?

Towards realizing robust financial management and accountability, interviews with MEDA staff revealed an array of strategies employed in the implementation of the TAG grants. Firstly, the SEs sign commitment and purchase forms which are used to validate reports by the LFs. These forms are presented during reporting, together with master lists that are names of all beneficiaries tracked on an Excel spreadsheet. Sampled telephone interviews were conducted to cross examine the data.

From the beneficiaries’ telephone interviews, 10% (the 10% is a representation of the total technology issued for a given LF, for instance, Siongiroi was contracted to issue 250 modernized milking cans with 10% being a representation of the 250 reported to have received the subsidy) of the respondents/recipient of the subsidized technologies indicated that they had signed the forms and bought the technology packages at subsidized prices. This information forms the basis of LF reimbursement for the grant issued under the TAG addendum contract.

Essentially, LFs buy technology on behalf of MEDA, then, SEs pay the LFs and MEDA matches the grants. This data is periodically collected and updated during each reporting cycle. Even though there were attempts to enhance financial management, the project should aim at providing a more holistic assessment of all facets of the system.
2.3 To what extent did the management, decision-making, and relationships structures of the project support the successful implementation of the project?

For project learnings, there are multiple factors in the management process that contributed to making the TAG grant successful. Management was flexible enough to allow MEDA staff to promote the activities in various meetings with government officials. Management also allowed staff to attend trainings geared towards farmers to promote the grant program when LFs had challenges, thus assisting in uptake, especially in more marginalized counties such as Turkana County. For future projects using the LF model to implement tech grants, managers are encouraged to continue being flexible, treat each LF partner as unique with its own challenges, and address specific challenges as they arise.

3. Effectiveness

In matching the intended results with objectives of the project, the level of beneficiaries’ satisfaction becomes a critical element. It assesses the perception of the beneficiaries regarding the achievements of the project objectives. For the SE TAG project, the effectiveness of the project in achieving its objectives has been exemplified by rich statements from the beneficiaries.

The results of a telephone interview survey conducted on 813 beneficiaries as of 31st March 2022 showed that 91% of the SEs, of which 44% were women,
were satisfied by the project. Additionally, 41% of SEs, of which 54% were women, reported that the technologies performed beyond their expectations. One beneficiary of the Jacto knapsacks sprayer pumps in Bungoma reported that the pump “is the best pump I have ever acquired, and I am very happy.” Another beneficiary stated that since “I purchased a Jacto knapsacks sprayer pump through support of the project for my livestock, it has served me so well that I have to save and buy another one even without the support from the project.”

Another beneficiary of fruit fly traps in Makueni town acknowledged the effectiveness of the kits and reported that “it’s extremely amazing how the traps help in preventing the insects to attack the fruits reducing losses. It will really help me earn more money and take better care of my household in a way I never imagined.” In Bungoma, one lady beneficiary said that “unlike previous years, the Newcastle disease vaccine package helped me save my poultry. I did not lose even one unlike the previous year and my neighbours who lost nearly everything during the wave. My neighbours need to be supported too to reduce the prevalence of the disease, I have become an envy of my village.” Furthermore, a different beneficiary of Jacto knapsacks sprayer pumps reported that “performance of pumps exceeded my expectations because they are multi-purpose and I can use it for several things.”

4. Were there any positive or negative intended or unintended consequences or unexpected results that may occur during or after the course of intervention?

Market and value chain distortion where one brand is subsidized is a potential threat for subsidy programs. However, given the numbers of the target beneficiaries, they are too low to cause significant disruptions in the value chain and the general market.

MEDA carefully considered the various prevailing market factors to ensure that it did not disrupt normal market operations to a significant extent. This was done through a fully vetted procurement process that had to be pre-approved from MEDA. In addition, the TAG grant did not subsidize the entire population of SEs involved in the project, but instead sought to target a certain percentage. This was to ensure that those receiving the subsidy would act as a model for others to see and adopt the technologies.

The project further revealed the following perception amongst stakeholders regarding access to gender equitable and environmentally safe inputs and technology by women and men SEs: cumulatively at the end of Year 7, 92% of stakeholders spoke positively about the project’s contribution in improving
SMEs’ profitability, competitiveness, and/or application of gender equitable and green business practices.

5. To what extent will activities be sustained by local beneficiaries/partners after the funding comes to an end?

MEDA continuously encourages collaboration and linkages to ensure sustainability of its initiatives, and in particular, discussions and linkages to government agencies and donors to bridge the gaps not fully filled by MEDA. MEDA also supported the roll out of warranty schemes for technology packages, such as the Jatco pump which has a useful product life of 10 years, to ensure sufficient time for beneficiaries to recoup and reinvest. Entrenching aftersales services in the contracts ensures that equipment is maintained after the project interventions are completed. Product quality verification is another strategy employed by MEDA to ensure the products are of sound quality and do not breakdown soon after purchase. For instance, metallic coffee drying tables are preferred since wooden ones are more prone to becoming damaged through extended exposure to weather elements. As noted above, sustainability was also built into the design of the model through training activities and promotion of the demonstration effect among neighbours.

In terms of potential for replication and scale-up, of key importance in the program is the success of the discount model. The project has shown that discounts stimulate uptake of technology, as observed in the project and other evaluation results, the discount level should be carefully considered and in the case of the technologies promoted by this project in the Kenyan market place a 50% discount was preferred since it enhanced the technology uptake. It was also observed that by increasing the discount level to 50%, the number of women who adopted the technologies increased. This is key in ensuring prosperity is shared as envisioned in the SDGs. This can be replicated in the form of extension or other projects. Finally, the discount model promotes ownership and ensures sustainability of a project.

5. CHALLENGES, LESSONS LEARNED, AND RECOMMENDATIONS

Some of the challenges observed include a lack of motivation from the LFs to strongly promote the sale of the technologies. This is linked to the fact that the pricing of the technology packages was pegged at wholesale prices. Therefore, there was no motivation for LFs to explore new markets with limited or no additional financial benefits. Future projects can look at market pricing to avoid
market disruption with the subsidy or prioritize working with retail companies on technology delivery since it is part of their core business.

Secondly, it was observed that tax policy has a major impact on the uptake of technologies. High taxes can drive commodity prices too high to a point whereby even if discounts are offered, it has little or no impact on uptake, especially among the rural poor communities. The model should encourage the LFs to continuously contribute to policy formulation regarding their various businesses to remain operational and receive positive government support.

Thirdly, projects utilizing a LF approach, should ensure they consider technologies which complement the business activities of the LF and address gaps. As over time companies may learn more about the technologies they need, it is helpful to build in time and budget for additional grants later on in projects to address needs that may be identified after initial collaboration through other grants.

Fourthly, the LFs felt that the reporting, especially ones with repeat clients and a maximum subsidy level, was cumbersome. It is important to help partners to introduce systems to help effectively monitor and track the issuing of technologies, leveraging existing company tracking systems where they exist.

The study also makes the following recommendations:

1) Employ competitive pricing schemes to provide incentives to LFs to aggressively market the technologies.

2) To ensure sustainability of equipment, robust technology quality control measures tied to the warranties should be put in place.

3) There is a need for development partners to establish the appropriate percentage discount before incentivizing technologies. This is key in ensuring that development partners are stimulating uptake without disrupting the environment.

4) Some technologies work in a complementary manner and should therefore be promoted as a package.

5) There is a need for a robust system to help LFs easily track the reporting of repeat customers.

6) Support LFs on policy formulation around the TAG pricing to help them lobby and cushion the price fluctuations of the various technologies for SE affordability.
7) Recognize that some technologies are better promoted through shared individuals and development partners to easily promote the shared technologies through subsidies. Such technologies can include drying tables for coffee farmers.

8) Acknowledge that technology pricing may vary depending on needs and works; therefore, there is a need for development partners to look at technologies on a case-by-case basis rather than setting a limit for the cost of technology to be promoted.

9) Based on the type of need, uptake of some technology is easier than others; hence, development partners can on a case-by-case basis allow a varied range of subsidized percentages, for instance, they could promote percentages between 25% to 75% rather than applying the same percentage across the board.

6. CONCLUSION

In conclusion, while improvements can be made, overall the implementation of the TAG grants has proven a successful model, building the case for the use of a discount model in promoting technology uptake among smallholder farmers. The experience of M-SAWA shows that this model offers the potential to promote environmentally friendly technologies linked to increased productive and from a gender perspective it has contributed positively to transformation of women’s roles in agricultural value chains and economic participation by introducing labour savings technologies. The model has also allowed men to support women in activities they otherwise termed as “women’s jobs,” for example threshing, through the introduction of technologies that are more attractive to both genders.

REFERENCES


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