CARE INTERNATIONAL IN TANZANIA

FINAL EVALUATION REPORT

GO GREEN PROJECT IN TANZANIA: ACCESS TO SUSTAINABLE ENERGY SOLUTIONS IN MOSHI, HAI AND SAME DISTRICTS IN KILIMANJARO REGION

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ACRONYMS

CBTs:	Community Based Trainers
DCDOs:	District Community Development Officers
CEPs:	Clean Energy Products
DDPs:	District Development Plans
FGDs:	Focus Group Discussions
HH:	Household
KIIs:	Key informant interviews
LGAs:	Local Government Authorities
MCB:	Mwanga Community Bank
MoU:	Memorandum of Understanding
PAYGO:	pay-as-you-go
PIM:	Project Implementation Manual
ToA:	Theory of Action
ToC:	Theory of Change
VOEWOFO:	Voice of Empowered Women Foundation
VSLA:	Village Loan and Saving Association

EXECUTIVE SUMMARY

1. Introduction

The Go Green was a three-year project (2017-2019) seeking to increase the number of women in Kilimanjaro Region of Tanzania, who adopt and directly benefit from clean energy products through an innovative market-based approach. The objective of this evaluation was to assess the efficiency, effectiveness, relevance, and sustainability (evaluation criteria) of project implementation and, in particular, to document the results of the project in relation to its overall objective and expected results as defined in the project document. Additionally, the evaluation identified good practices and lessons learned which can be used when designing similar interventions in the future. The evaluation employed an integrated design of mixed methods for quantitative and qualitative data collection which provides more insightful understanding. The sequence of the mixing was such that the quantitative tools supported the qualitative ones: (a) the qualitative work was carried out to identify the main issues and obtain information not provided by the quantitative surveys; (b) appropriately combining quantitative and qualitative techniques (mixed method) allowed for a comprehensive understanding of the project's accomplishments and the lessons learned.

2. Methodology

The evaluation employed a multistage sampling technique using a combination of random and purposive sampling methods. Since the project primarily targeted 345 women entrepreneurs as key beneficiaries; a sample size of 192 women entrepreneurs was taken from the three Project implementing Districts. Snow ball sampling was used to select and interview a total number of 30 consumers; 10 from each District. A sample of 24 key informants – that is, 8 from each district was interviewed. Triangulation of information gathered from various sources provided stronger evidence-based conclusions.

3. Evaluation findings

The evaluation findings generally show that the project has successfully been implemented, with most of its results being well achieved.

a) Effective facilitation and high commitment of all actors at all levels.

b) The 'awareness raising' campaigns had significantly increased the understanding and appreciation of people on clean energy products.

c) The project has been successful in enhancing the social capital or intangible benefits. Members of VSLA are now able to mobilize and organize themselves for any collective actions and, can design and implement their own income generating projects.

d) Selling of solar lamps, cook stoves and briquettes had significantly contributed to income among women entrepreneurs for whom some were engaged in other-more lucrative businesses.

There are, however, few areas that have not been well implemented for various reasons as follows:

a) The project was not implemented as it was originally designed. A study by Africa Insights Advisors which was conducted following a relatively unpromising performance trend in the first year recommended the project framework be updated with its corresponding monitoring and evaluation plan. In the updated version, some of the indicators and two results (establishing a district clean energy distribution hub and documentation of a learning report - which were considered costly) were removed.

b) There was insufficient management arrangement at the community level with regard to the responsibility and accountability of the CBTs. While the CBTs had signed the Consent forms with CARE; such arrangement was not made between CBTs and the VSLAs who were actually their employers and thus, responsible for payments once they received the services.

c) There was inadequate clarity on how the VSLAs were supposed to pay the CBTs under the 'Fees for Service' (FFS) model. Although the model was

inbuilt in the project design, the way it was supposed to be applied by the VSLAs was not documented. Consequently, some VSLAs decided to collect individual contributions from their members who were participating in events involving CBTs facilitation. Unfortunately, such contributions were hardly forthcoming; forcing the CBTs to design their own survival mechanisms within the project's framework.

d) The functioning of the clean energy value chain in the project area was impaired by some CBTs. The evaluation team noted that some CBTs were personally involved in purchasing clean energy products from the suppliers and selling them to VSLAs, individual VSLA members or directly to the households for their personal profit. This was contrary to their role as facilitators of the VSLAs and their linkage with private suppliers.

4. Conclusions

The conclusion is divided into sections related to the evaluation criteria and the evaluation questions around project design, relevance, efficiency, effectiveness, sustainability and cross-cutting issues.

- **Programme Design:** The programme theory was appropriate and relevant in general terms, but it might have been interrupted by the changes made after year one. The underlying reasons for the apparent quick changes were resources and time realities; which were not implicit to the project design and, therefore, not anticipated.

- **Relevance:** In general, the project was relevant and was aligned with global challenges, regional and country needs. The actions related to building capacity of women entrepreneurs, raising peoples' awareness on clean energy products, and facilitating links with other relevant actors were relevant to improving the lives of the beneficiaries while protecting the environment.

- **Efficiency:** The Project management was generally good, although its governance was subject to improvement in order to facilitate better implementation at the community level. The key actors (VSLAs) who were supposed to completely own the process were passive particularly on CBTs' payments. Subsequently, process ownership of the project by the VSLAs was not fully realized.

- **Effectiveness:** In general, the project has been effective in terms of activity completion, its contribution to the objectives and, the achievement of the results as outlined in the project document. However, changing or omitting of the project's results indicators and shelving off the other equally desirable objectives during the implementation; does not mean they are no relevant. We, therefore, still consider them necessary but pending.

- **Sustainability:** The project is deemed sustainable despite the few surrounding challenges. There is a need to strengthen some of the elements that were overlooked at the design stage. For example, effective collaboration and cooperation with existing local institutions in the project area (apart from the identified implementing partners) which was not clearly stated during its design stage. Equally important for consideration is the establishment of business hub and documentation of learning report.

5. Lessons and Reflections

Several learning lessons and reflections for this project include: a) identification and planning of the project using community participatory tools embodying community priority needs contributes to sustainable energy solution; b) CBTs are instrumental for the success of the project; c) Saving and credit practices among the beneficiary families have become part and parcel of the lives of the members in all the project's districts. This practice has been appreciated as reliable source of finance that provides easy to access to credit among the poor families; d) participatory project design is instrumental to successful implementation. When project beneficiaries perceive that the project addresses their pertinent needs they are likely to mobilize and organize themselves for such development activities; e) the project has motivated

the beneficiaries and other community members to replicate similar initiatives. Project beneficiaries and other ccommunity members have realized that can mobilize themselves for other projects to address their challenges.

6. Recommendations

The recommendations arising from this evaluation relate to: (a) a need for improving the process of designing sustainable clean energy projects to take into account all the relevant sustainability aspects and avoid ad hoc measures for smooth implementation; (b) a need for improving monitoring and reporting system to ensure full accountability at all project levels; (c) better consideration of the implications of sustainable clean energy projects in terms of organization, governance, coordination, collaboration and financial management; and (d) improving exit strategies and knowledge management by extending the implementation period of the current project by two years in order to complete some pending issues and prepare women for clearer sustainable self support mechanism.

1.0 INTRODUCTION

1.1 Project Background

The Go Green - a three-year project has been seeking to increase the number of women in Kilimanjaro Region of Tanzania who are adopting and directly benefiting from clean energy products through an innovative market-based approach. This project is working in three districts of Moshi, Hai and Same. The Kilimanjaro Region is one of the worst affected in Tanzania by the impacts of climate change and variability with observed increase in temperature, decrease in precipitation levels, floods and droughts. Go Green is directly links with the private sector to improve last mile distribution at district and village level, thereby increasing disposable household income for women entrepreneurs. By increasing provision and access to solar lamps and clean cook-stoves for Tanzania's rural population, the project is contributing to reduced health problems resulting from indoor pollution, reducing the workload of women, saving fuel costs for families and reducing forest degradation. As a part of CARE's global efforts to leverage VSLAs as business incubators, reducing transaction costs and creating incentives for group investments, this project is providing a focused, learning-oriented, bottom-up platform to test, research, and deliver a sustainable model with growing sales. The Go Green project has been designed based on extensive research, lessons learned from the previous three-year wPOWER pilot programme and engagements with private suppliers, social enterprises and other local government authorities working in the sector.

1.2 Project Objectives and Expected Results

1.2.1 Objectives

The Go Green project was established with the overall objective of increasing the number of women in Tanzania adopting and directly benefiting from clean-energy products through an innovative market-based approach.

1.2.2 Expected Results

The expected accomplishments of the project were as follows:

- A clean energy value chain with links between business groups, suppliers, local agents, CBTs and banks is functioning for selected energy products in rural areas of the Kilimanjaro Region.
- 75 VSLA Groups including 345 rotating women entrepreneurs have established clean energy businesses selling 32,000 clean energy products, reaching 160,000 beneficiaries
- Increased awareness among energy sector stakeholders - throughout the value chain - of key barriers and drivers for adoption of new clean energy technologies

1.3 Structure of the Report

This report is organized into four sections. Section one presents the introduction, section two presents the methodology used in this evaluation; section three presents the major evaluation results taking into account the views of various respondents and, section four gives the conclusions, lessons learned and recommendations.

2.0 EVALUATION METHODOLOGY

2.1 Study Area

The evaluation was conducted in Kilimanjaro region in Moshi Rural, Hai and Same districts where the Go green project was implemented. The partners of CARE for the Go Green project were Floresta Tanzania in Moshi and Hai districts and Voice of Empowered Women Foundation (VOEWOFO) in Same district. Kilimanjaro Region is one of Tanzania's 31 administrative regions, located on the North Eastern part of mainland Tanzania, just south of the equator (20 25' and 40 15' S; 360 25' 30'' and 380 10' 45'' E) and it covers an area of 13,209 square kilometers. The region is bordered to the North and East by Kenya, to the South by the Tanga Region, to the Southwest by the Manyara Region, and to the West by the Arusha Region. It is among the smallest regions in Tanzania, which comprise six district councils and one municipal council. These include Rombo district, Same district, Mwanga district, Hai district, Moshi district, Moshi municipal, and Siha district. The regional headquarters is in Moshi. According to the 2012 national census, the region had a population of 1,640,087. For 2002- 2012, the region's 1.8 % average annual population growth rate was the 24th highest in the country. It was also the

eighth most densely populated region with 124 people per square kilometer. Although the region forms the smallest administrative areas in Tanzania, it is highly significant to the development of the country, and has distinct biophysical and socioeconomic characteristics from the rest of the country.

Kilimanjaro Region is one of the worst affected in Tanzania by the impacts of climate change and climate variability. It used to be known as one of the greenest and coldest regions (specifically Moshi Rural District) but is experiencing unusual heat and it registered the hottest day in the country, reaching 36°C during the Equinox (20 March 2016). Over the past 30 years, the region has experienced a general increase in temperature, decrease in precipitation levels, heavy and unpredictable rainfalls, floods and droughts. A 25-60% increase in short rain precipitation and an increase of 20-45% precipitation of the long rains has been recorded. The World Wildlife Fund (WWF) have reported that Mount Kilimanjaro's ice fields have decreased by 80% in the past 100 years and what remains is likely to disappear between 2015 and 2020, and that loss of 'cloud forests' has resulted in 25% annual reductions of water sources derived from fog, affecting annual drinking water of 1 million people living in Kilimanjaro region.

2.2 Evaluation Approach

The evaluation exercise employed a mixed methodology of quantitative and qualitative research methods of data collection which is an integrated design to enrich the process and provide more insightful understanding. The mixed methods approach helped the quantitative tools to support the qualitative ones thus allowing for a comprehensive understanding of the project's accomplishments and the lessons learned. Before starting data collection exercise, training was conducted to all enumerators to build their capacity on how best they can handle the exercise in a participatory manner and thus be able to promptly and record appropriate responses from respondents. During the process of data collection, the consulting team validated and triangulated data of different sources (VSLA business groups & women entrepreneurs, CBTs, LGA staffs, partner staffs and other potential stakeholders) and different

methodologies/tools were used. Data collection tools were prepared in English and translated into Kiswahili.

2.3 Sampling Procedures

The evaluation employed a multistage sampling technique using a combination of random and purposive sampling methods. In the first stage, three districts of the Kilimanjaro region – Moshi, Hai and Same was selected purposively, these are project implementing areas. Stage two involved selecting purposively three wards in each project implementing district. Criteria for selection included availability of large number of VSLAs groups, VSLA members and diversity of green energy products supplied in the area. Systematic random sampling technique was used to select survey respondents within VSLA group. Purposive sampling technique was used to obtain key informants in the project area. This category of respondents included District Community Development Officers (DCDOs), Project Field staff, CBTs, clean energy products suppliers and clean energy products' consumers.

2.4 Data Collection methods

Both primary and secondary data were collected during the evaluation process to meet the requirements of the assignment. Data were collected through documentary review, focus group discussion (FGD), key informant interviews (KIIs) and questionnaire survey. Description of how data were obtained is given hereunder:

2.4.1 Documentary Review

Secondary data was collected through documentary review. The evaluation team reviewed relevant documents of the project in the intervention area including monthly, quarterly and annual implementation reports. Other documents reviewed included but not limited to: Go Green Tanzania project document (2016-2019); Go Green Annual Reports; Go Green Results Framework; Go Green updated document; Go Green Monitoring framework; Go Green Baseline report, Go Green Final Report and Go Green M&E Plan - Updated.

2.4.2 Interviews with project beneficiaries

A sample of respondents from both, products' suppliers and products' users were interviewed on various issues related to this assignment. Since the project targeted 345 primarily women entrepreneurs as key beneficiaries (products' users as well as income earners); they were treated as the key respondents. Using sample size determination formula[1] with a precision level of 5 percent a sample size of 192 women entrepreneurs were selected from the three Project implementing Districts, representing 64 women entrepreneurs randomly selected in each District. These 64 women entrepreneurs were drawn from 8 women entrepreneurs' groups selected purposively from four wards in each district. Within each selected group a systematic random technique was used to draw a sample of 8 VSLA members who were interviewed. Snow ball sampling was used to select and interview a total number of 30 consumers, 10 from each District. Table 1 below provides the distribution of sampled respondents.

Table 1 Distribution of sampled respondents

Project District	Wards	VSLAs Groups	VSLAs Members	FGDs conducted	KIIs	Consumers
Same DC	4	8	64	4	8	10
Moshi DC	4	8	64	4	8	10
Hai DC	4	8	64	4	8	10
Total	**12**	**24**	**192**	**12**	**24**	**30**

[1] A sample size determination formula established by Yamane (1967)

Plate 1: VSLA Members in Moshi DC after an interview

Plate 2: VSLA Members in Hai DC after an interview

Figure 1: Photos of some of the project beneficiaries who were interviewed

2.4.3 Key informant interviews (KIIs)

KIIs were conducted to key informants who had first-hand knowledge to provide in-depth qualitative data on Go Green project implementation processes, achievements and challenges. This category of respondents included: project staff, Government staffs, CBTs, and clean energy suppliers. A sample of 24 key informants was interviewed.

2.4.4 Focus Group Discussion (FGDs)

FGDs were conducted with project participants who had first-hand information about Go green project implementation processes, achievements and challenges. Two categories of focus group discussions namely women entrepreneurs and clean energy products' users were formed. The FGDs were used to reflect on business progress of clean energy products; and usefulness of the products. Each FGD session consisted between 6 to 8 participants. A total sample of 12 FDGs was conducted. Members of the FGDs were drawn from among the beneficiaries of the project.

Plate 1: VSLA Group during FGD Plate 2: VSLA Group during FGD Session Plate 3: VSLA Group preparing for FGD

Figure 2: Photos of VSLA Groups in some of the FGDs secessions

2.4.5 Observation

The evaluation team visited some project sites and other production areas to observe the improved cook stoves, briquettes and solar lamps and how the products were used and, the VSLAs offices. The team gathered and documented stories from successful as well as unsuccessful direct beneficiaries of the project. Observed phenomena were recorded in note books and pictures were taken for reference.

2.5 Data analysis

Based on the nature of the data collected, two types of analyses were employed, the descriptive analysis and quantitative analysis. The analyses proceeded through the following three main steps: preparing and organizing data, creating categories/themes and coding, presentation and interpretation. Data were presented in tables, figures and charts.

2.6 Limitations

The evaluation exercise took place when it was heavily raining, making local movements from one place to another extremely difficult. Most of the study villages were scattered; and reaching them was challenged by the poor roads. It was also difficult to maintain contacts with the local implementing partners, particularly in Moshi Rural and Hai districts who were also involved in other activities. The suppliers of clean energy products were completely not available for the interview. In view of these challenges, the evaluator had to work out all necessary means to ensure the work was done. For instance, hiring of motor cycles and

sometimes even walking on foot to reach the remotest mountainous areas and, triangulation of information from various sources to provide stronger evidence-based conclusions. Therefore, despite the limitations encountered during data collection, these findings are considered to present credible assessment of the project's progress and status on the ground.

3.0 EVALUATION RESULTS

3.1 The complexity of the intervention

The overriding objective of this project was to increase the number of women in Tanzania who are adopting and directly benefiting from clean-energy products through an innovative market-based approach. The intervention logic behind this was a bit complex in view of its key elements the project had to consider including the focus, sufficiency, and trajectory of change. The analysis of the nature of complexity of problem is presented in Table 2 and discussed in subsequent sections.

Table 2: Analysis of complexity of the intervention

Elements of the nature of the project	Comment
Focus	Big coverage for a pilot project (3 districts) implies a need to focus on few results Given resources and time realities. Subsequently, the project was revised and some results and indicators dropped.
The management	Matrix management with limited horizontal collaboration at community level. Dominant vertical communication with CARE Tanzania HQ
Consistency	Adaptation to the districts' specifics; Baseline report produced after implementation had started; Some indicators in Updated project plan are at variance with those in Baseline report
Sufficiency	Not sufficiently define accountability measures of other actors (CBTs)
Trajectory of change	Unattended emerging project's dynamics for more innovative solutions and increased morale of the key actors

The implication of Table 2 above is that initially, the project faced changing and unpredictable situations. The project as originally designed, could not achieve all the expected results in view of limited time and other resource constraints; inadequate contextual clarity and, lack of guaranteed commitment by other stakeholders such as Local Government Authorities, green energy products' suppliers, and financial institutions. Some of the reasons for the likely limited

achievement can be explained under the context, the focus, management, consistency, sufficiency and trajectory of change as follows:

3.1.1 The context

Figure 3 below displays some of the problematic contextual elements in understanding the complexity of the Go Green project.

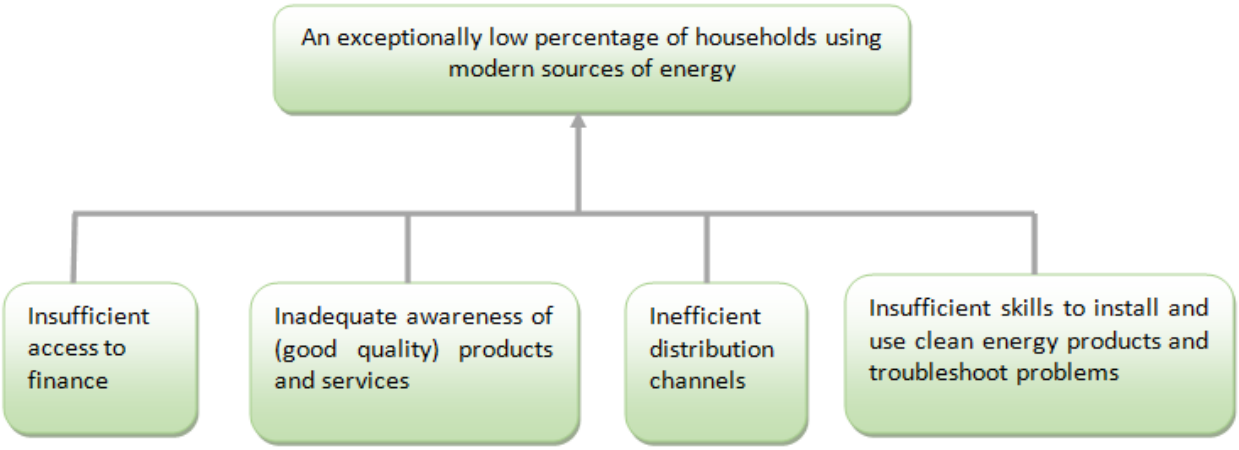

Figure 3: Key Elements of the problem

As depict in Figure 3, the objective of the project was to increase the percentage of households using modern sources of energy. This could be achieved through improved access to financial facilities, raising of awareness of clean energy products, efficient distribution channels and availability of technical skills for installing and troubleshooting the clean energy products. This scenario presents a complex project scope and intervention logic that demanded strong facilitative capacity at the district and particularly so at the community level.

3.1.2 The Focus

There were changes on expected results and indicators during the project implementation as already explained in the preceding sections. This might have affected the overall achievement of project's goal. There were also different actors with different expectations (for example, the original idea of having CBTs as link between private suppliers and VSLAs with women entrepreneurs as last mile distributors of clean energy products was unofficially changed by

some of the CBTs who started to sell the products themselves to whoever needed. The project was also originally designed to deal with two important green energy products - solar lamps and improved cook stoves. However, in the course of project's implementation another product ''briquettes'' came in, but was not effectively promoted by the project. While flexibility was a positive aspect in view of the nature of this pilot energy project, the changes in project's focus might have disturbed its implementation and the achievement of the overall project's goal.

3.1.3 Project management

The project was designed to be implemented in close collaboration with both private suppliers of clean energy products and local Tanzanian civil society organizations. In this fashion CARE's role was that of a facilitator and supporter of local change agents rather than implementer. On the other hand, the success of Go Green project hinged on capacity of women entrepreneurs who were supposed to engage with the private suppliers; purchase products and understands sales. The community based trainers (CBTs) on the other hand, were important actors in enabling the identification of women with the relevant passion, focus and skills to become entrepreneurs and provide them with entrepreneurship training; followed by biannual one day 'top up' sessions, providing ongoing support and the potential to address the changing markets and upcoming obstacles. This kind of arrangement required strong coordination and support mechanisms.

The Africa Insight Advisors had previously noted that the project lacked clarity on key players, roles and relationships; that many players were involved in the project with informal commitments. It was noted during the study that while the project activities were very relevant, there was still insufficient management arrangement in terms of logistical support to the CBTs. The CBTs had signed a consent form with CARE to link VSLAs with the products' suppliers and train the entrepreneurs in business management and group dynamics. However, such arrangement between CBTs and VSLAs who were actually supposed to be the owners of the change process was missing. This implies that group members were not in charge of the

CBTs. In the absence of contractual agreement between VSLAs and the CBTs specifying activities of the CBTs and their payment modality, the CBTS had operated with no clearly documented rewarding system for their job.

The project had adopted the 'fee for Service (FFS) model of which the CBTs were supposed to charge a certain amount of fees after they had rendered the services to the beneficiaries. This approach was in-built in the project design as key sustainability aspect, but was not clearly articulated on how it would be applied. Subsequently, the decision on how to pay the CBTs was left in the hands of the beneficiaries themselves. It was reported during the interview that some of the groups (VSLAs) had agreed that each member should contribute between TZS 200-300 for each session they attended. This arrangement, however, did not guarantee payment to the CBTs as well as the amount to be paid; making them sometimes to carry out their responsibilities on voluntary basis. Lack of formal payment and transport facilities to CBTs may explain why some of them decided to enter into agreements with suppliers as middlemen and, were therefore, directly involved in the clean energy business instead of being facilitators. Truly, this was against the signed agreement with the Project.

3.1.4 Consistency

Predictability is key to achieving optimal productivity in any project management system. The idea is to make sure that everyone knows what to expect and what to do next. The project activities were broadly similar in all the three districts. Exceptions could be observed in the production of briquettes which were highly localized in few groups of Hai and Moshi Rural; and only one group in Same District. This is understandable; the briquettes were not originally foreseen as one of the areas of its concern. The product started to attract the attention of the project management following the loan support of TZS 8,000,000.00 by Same District Council to one group which was under Go Green Project area. There was a consistency of indicators for the project results as stated in the updated project document and the updated monitoring and evaluation plan, though slightly different in the baseline report. These vital changes were a bit sporadic, requiring one to go through many project documents in order to capture all the

changes and relevant documents to clearly understand what transpired during its implementation.

3.1.5 Sufficiency

Adequacy concerns whether the project worked in all cases or only in favorable contexts of its execution; and if the project worked in conjunction with other actors. The nature of this project required a close collaboration with the relevant local actors in the respective Project areas including the Local Government Authorities to sufficiently produce the desired results. The project's success hinged on capacity of women entrepreneurs to engage with the clean energy products' suppliers in the market. The capacity building process was largely ascribed to the CBTs who conducted the required entrepreneurship training using manuals prepared by Anza Entrepreneurs Limited (who were used by the Project to develop the curriculum and conduct training to CBTs). The CBTs have indeed, done a good job despite the limitations explained above.

3.1.6 Trajectory of change

The causal- effect relationship, the degree of understanding and, predictability of change in the project were a bit complicated. The processes of increasing awareness, building capacities and creating links with other stakeholders were not systematic; since the activities were not planned in phases. It was also difficult to establish the likely impact of omitting some of the originally planned outputs on the future prospects of the clean energy in Tanzania.

3.2 The Logic of Project Intervention

This section serves to explain the framework for evaluating this project. The logic of the intervention is called the programme theory, and has two components: a theory of action (the activities and processes of the intervention) and a theory of change (the changes resulting from the contribution of the project) are described in figure 2 below.

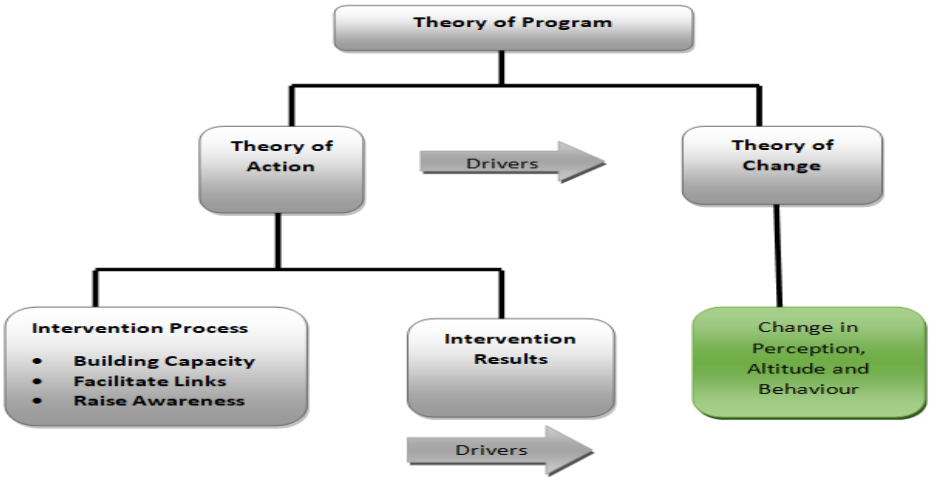

Figure 4: The Go Green programme theory: Theory of action and theory of change

3.2.1 Theory of Action

Theory of Action (ToA) is the delivery model for a Theory of Change. The ToA can be used to describe how the Go Green project was designed and set up. It articulates the mechanisms through which the activities were being delivered through which actors (for example, NGOs or government) followed which processes (for example, disbursed grants to NGOs, and provision of technical assistance, advocacy activities, or the establishment of partnerships).

In this project, the theory of action involved capacity building, facilitating linkages and raising awareness. Its activities comprised of: (i) Identification of the VSLA groups; (ii) Customization of the Group Business case and development of training curriculum; (iii) Training partners and CBTs (TOTs); (iv) Conducting meetings for VSLA groups to decide on business case and make decisions on business structure and group Management; (v) Facilitation (CBTs, suppliers, local agents and finance institutions); (vi) Linking VSLA groups with formal financial institutions; (vii) Training rotating women entrepreneurs; (viii) Providing troubleshooting trainings for entrepreneurs; (ix) Training women entrepreneurs on mobile application; (x) Facilitating CBTs, agents to bulk orders for cook stoves on behalf of the group business; (xi) Awareness raising activities including products promotion, SMS campaign each intervention district, using existing public meeting fora; (xii) Holding annual 'Energy Day' in six schools in intervention areas, involving energy related drama, competitions and awareness raising; (xiii) Coordinating a multi -

stakeholder's advocacy action plan with key advocacy massages and, (xiv) Organizing advocacy workshop for key actors in clean energy market - NGOs, CSOs, GoT Agencies and Development Partners. Many of the planned activities were adequately implemented; some of them beyond the panned achievement.

3.2.2 Theory of Change

The project's components were relevant and appropriate. However, the challenge of integrating, sequencing and linking of project activities according to the programme theory were not clarified and developed. In fact, the logical framework in the project document did not clearly reflect integration and interconnection of the activities between the three expected accomplishments.

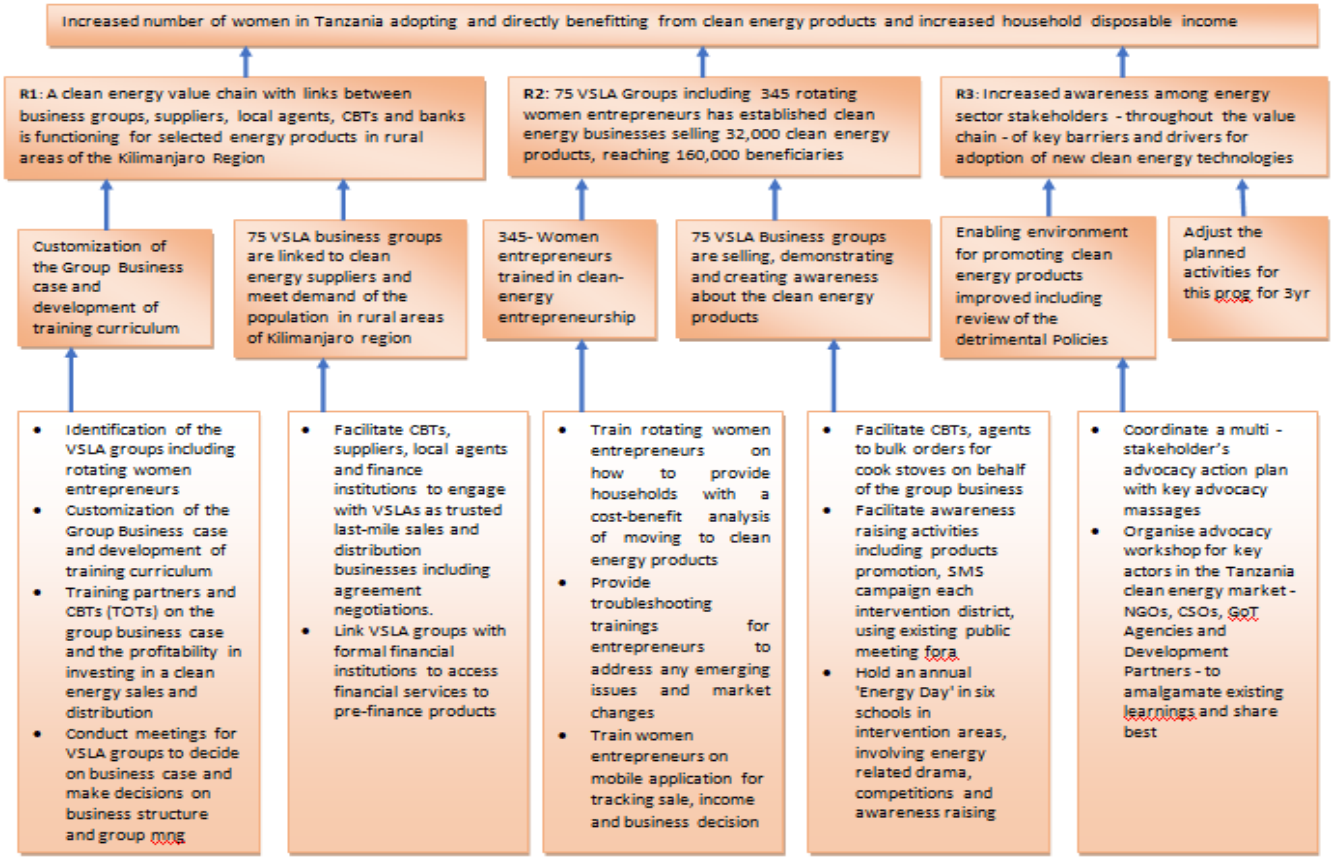

Figure 5: Schematic Diagram Showing Related Project Elements Explainable by the Theory of Change

In this evaluation, the theory of programme considered that the three expected results (Rs) could be enhanced through the inter-relation and sequencing of implementation (sequencing within and between). The interplay of these expected results could undoubtedly, increase the number of women adopting and directly benefitting from clean energy products and increased household disposable income. The project's activities under each result area are in line with the theory of change provided their implementation was based on their rightful logical flow.

3.3 Coherence and Relevance of the Project

3.3.1 General relevance and alignment

The project was addressing the identified barriers in accessing clean-energy products through a well-defined, structured and market-led supply chain that enables access to appropriate, good quality and affordable products. Clean energy technologies such as improved cook stoves and solar lamps have the potential to provide a means to address such domestic and gender energy burdens. Previous studies[2] conducted revealed that over 40% of rural households indicated solar and improved cooking facilities as their most preferred type of energy technologies, but just 3.5% of rural households were identified as owning solar technologies. Despite the obvious market potential and relevance of access to sustainable energy, dissemination and uptake of clean energy products remains hampered by several barriers. The challenges and problems that the project responded to were as follows: (a) Insufficient access to finance; (b) Inadequate awareness of (good quality) products and services; (c) Inefficient distribution channels; and (d) Insufficient skills to install and use clean energy products and troubleshoot problems.

The project targeted 345 women entrepreneurs from 75 VSLA groups, and the wider community. The women were identified by community-based trainers (CBTs), who would in turn train and support these women entrepreneurs to start their businesses in clean energy products, obtaining working capital primarily through their VSLAs, financial institutions, and through supplier credit. These entrepreneurs would be the 'last mile' distributors, to 'untapped'

[2] 2012 Market intelligence study conducted by SNV in the northern Lake Regions of Tanzania

market in remote rural locations. This approach was done in year one; but was subsequently changed to focus on VSLA group investment for easy access to capital.

3.3.2 Relevance and Alignment to Country Priorities

The project was relevant and aligned to the National Energy Policy (2015)[3]. The country recognizes that the Energy Sector has been facing some challenges embedded in policy, legal, regulatory and institutional frameworks. To address the challenges and achieve the desired policy objectives, the Government has formulated the National Energy Policy aims to further enhance provision of adequate, reliable and affordable modern energy services to Tanzanians in a sustainable manner. In one of its policy statement, it reads that "the Government shall: (i) Facilitate private sector participation including community groups and financial institutions in provision of modern energy services; (ii) Facilitate local capacity building for manufacture, installation, maintenance and operation of rural energy systems; and (iii) Strengthen institutional capacity for effective coordination, administration, and implementation and monitoring of rural energy projects.' The Go Green project complements Government efforts to address existing challenges in the energy sector.

3.3.3 Relevance for Beneficiaries

As already pointed out, the project's activities are relevant to the needs of the beneficiaries. It was found during the survey that the respondents were happy with its joyous results in relation to capacity building, facilitating links and raising awareness. The beneficiaries were asked to rate the overall relevance of the project in terms of addressing their needs. About 96.4% of the beneficiaries indicated that the project was relevant to their needs as presented in Table 3 below.

[3] URT (2015). National Energy Policy (2015) Ministry of Energy and Minerals, Tanzania

Table 3: Relevance of the project in terms of addressing needs

Response	Frequency	Percent
Relevant to our needs	185	96.4
Not relevant to our needs	7	3.6
Total	192	100

One respondent who was a member of VSLA at Narumu in Hai District had this to say:

"I thank CARE for this project. The use of solar energy products for lighting is a lasting solution for most of us who have no electricity. Solar lamps are far better than kerosene lamps which are explosive and produce dim light".

There was ample evidence of social capital or intangible benefits which have been enhanced through this project. Some of the interviewed members of VSLA indicated they were able to mobilize and organize themselves for collective actions to design and implement their own development projects as observed in Bangalala village in Same District and Longuo village in Moshi district. Also, majority of project beneficiaries had joined the savings and lending groups from which they saved their income and could borrow money in case of emergencies. The savings and lending groups are transparently operated and leaders are accountable to the group members. The beneficiaries who were previously poor and socially excluded were now socially included and respected. On saving behavior, a majority of respondents were saving in the VSLAs groups. Minority of the groups were investing in other income generation activities. Savings in bank accounts were negligible in all visited villages. Generally, there were no noticeable variations across Project Districts in terms of savings behaviour. Savings are an expression of what beneficiaries do with the income they earn and thus an indicator of sustainability of the intervention. FGDs revealed that some of the beneficiaries were now better off than before they joined the Go Green project.

Despite the relevance, majority of the VSLA members interviewed stated that there was a great need for specific training related to production of briquettes and improved cook stoves using locally available materials. More training on group dynamics were also needed to give them

sufficient confidence in taking advantage of the opportunities established through linkages with financial institutions particularly NMB Bank to get loans.

It was previously observed by Africa Insight Advisors that sustainability as one aspect of Go Green Project success, needed a creation of the structural framework and financial model for women in the project area in order to push sales even after CARE initiatives ended. Although substantial efforts had been made to achieve this by establishing links with NMB, Equity Bank and Mwanga Community Bank; there was still too early to notice a functioning financial model in view of the many new and recently established SLAs who were joining the project; the relatively short period of experimentation of the financial model, and unrestricted demand by new women groups to join the project – making it difficult to draw viable lessons on what work s and how, and what doesn't work, in an attempt to validate the future of the proposed financial model.

3.3.4 Project design and implementation plan (PIM)

The project design was very relevant as originally presented in the baseline report and the Project Plan document. However, the real challenge emerged after the project document phase. The updated implementation plan was developed after the project's implementation period had already started. While the project had properly been flexible in accommodating relevant emerging issues throughout its implementation period, such changes might have somehow interrupted the experimentation and learning process needed to generate the best practices that can be tracked for future up scaling.

3.4 Efficiency of the Project Management

The efficiency here, is described in terms of: (a) the governance and management structure of the project and its contribution to the implementation; and (b) the collaboration and coordination mechanisms between and within the partners to ensure efficiency and coherence of response; c) coherence of activities implementation and, d) financial management.

3.4.1 Project governance and Coordination of Partners

The project was implemented on partnership with two local Tanzanian civil society organizations namely; the Voice of Empowered Women Foundation (VOEWOFO) in Same District and, FLORESTA Tanzania in Hai and Moshi Rural Districts. CARE's role was that of a facilitator and supporter of local change agents rather than implementer. At the district level, the VSLAs collaborated with private suppliers of clean energy products under the facilitation of the CBTs. This model of governance where there is clearly established structure from the headquarters to the community level presents effective management mechanisms that can guarantee project's sustainability. However, such governance structure was somehow informal, with unclear accountability mechanisms for enforcement of responsibilities at the community level where the CBTs were the key facilitators. At group level (VSLAs), women entrepreneurs were supposed to sell the energy products as sales force on behalf of their groups.

There was limited horizontal sharing of knowledge among partners in terms of outputs and best practices, although many of partners had achieved similar outputs. Sharing of cross-cutting activities and outputs would have improved knowledge-sharing and efficiency through, for example, benchmarking of practical approaches in project implementation. While this would entail different coordination approach and more human resources and time, it was not clearly highlighted in the project design. Despite the snags there was a good relationship among Go Green's implementing partners (FLORESTA and VOEWOFO).

3.4.2 Determination of Implemented Activities

The project theory of action was framed in a way that changes would occur mainly through building capacity of VSLAs members particularly the 345 women entrepreneurs; facilitating links with financial institutions and awareness raising initiatives across multiple platforms. However, the mechanisms through which the activities were to be delivered and the processes to be followed were not clearly articulated. During implementation, there were changes on key performance indicators (KPIs) based on updated results framework and its corresponding updated monitoring and evaluation plan. The baseline was also prepared while the project had

started. Its information and data were more or less based on what was going on in the implementation; making its role as reference to key performance indicators less potent. Overall, there were three project's results and 14 activities accomplished as indicated in Table 4:

Table 4: Description of project activities for implementation

Result	Activities under each expected accomplishment (result)
Result 1	Identification of the VSLA groups
	Customization of the Group Business case and development of training curriculum
	Training partners and CBTs
	Conduct meetings for VSLA groups to decide on business case and make decisions on business structure
	Facilitate CBTs, suppliers, local agents and finance institutions to engage with VSLAs
	Link VSLA groups with formal financial institutions
Result 2	Train rotating women entrepreneurs
	Provide troubleshooting trainings for entrepreneurs
	Train women entrepreneurs on mobile application
	Facilitate CBTs, agents to bulk orders for cook stoves on behalf of the group business
	Facilitate awareness raising activities
	Hold an annual 'Energy Day' in six schools in intervention areas
Result 3	Coordinate a multi - stakeholder's advocacy action plan with key advocacy massages
	Organize advocacy workshop for key actors in clean energy market - NGOs, CSOs, GoT Agencies and Development Partners

3.4.3 Financial management

The financial reports clearly indicated the resources invested had been spent to produce the planned results. Our analysis indicates that in all cases the funds had been used to support the identified priority actions, and expenditure tracking showed that the funds were spent on relevant activities. There was no evidence of expenditure out of the planned activities. The budget ''execution by activity'' was systematically used as a management tool and the executed budget by activity was reported in progress report as a financial report. There were no instances of non-compliance and significance weaknesses in internal control or any other project implementation aspects during implementation period. Although there were sometimes slight fund delays, this could not affect the implementation of the project because

the activities implemented were charged from another donor then later on the budget reshuffle was made.

3.5 Project Effectiveness

3.5.1 Output quantification

In terms of quantity of outputs, the results were positive and may be summarized as follows: (a) Six (6) private clean energy suppliers were identified as opposed to the original plan of having three; Arti Energy, Solar Sister, Mobisol, Zola, Manjis and Greenlight Planet. However, Manjis and Arti Energy were not working with entrepreneurs due to the nature of their products and not located within the project area (b) 371 women entrepreneurs from 76 women groups were trained in clean-energy entrepreneurship; and (c) there were 21,962 (97.6%) solar lamps and 1,289 (17.2) clean cook stoves sold by clean energy entrepreneurs[4]. The achievements of results are detailed in Table 5.

Figure 6: Photos of clean energy products traded by Women entrepreneurs in project area

[4] There were also **2,248** Kgs of briquettes sold by entrepreneurs in Same DC.

Table 5: Achievement of outputs against plan

Output Code	Output Description	LoP Target	Achievement			Achievement against LoP Target	Percent Achieved
			Hai DC	Same DC	Moshi DC		
Output 1.1	Clean energy suppliers identified and linked with entrepreneurs	3	NA	NA	NA	6	200.0
Output 2.1	Women entrepreneurs trained in clean-energy entrepreneurship	445	188	127	135	450	101.1
Output 2.2	Number of solar lamps sold by entrepreneurs	22,500	7,468	7,823	6,671	21,962	97.6
	Number of cook stoves sold by entrepreneurs	7,500	249	417	623	1,289	17.2

3.5.2 Outcome quantification

In terms of planned outcomes (Result 1; Result 2; and Result 3), the achievement may be summarized as follows:

3.5.2.1 Functioning clean energy value chain for selected energy products

Various solar companies are active in Kilimanjaro region, serving different market segments. These companies sell clean energy products on cash basis or pay-as-you-go (PAYGO) business model. Financial Institutions, Local Government and donor funded programs provide facilitation and or supportive role in clean energy products market. The CBTs also play a key facilitation role of ensuring the VSAs are linked with the suppliers (Products companies) and that they ultimately distribute the products to their members for sale to the final consumers.

The evaluation team found that some of the CBTs were personally involved in purchasing clean energy products and selling them either to VSLAs groups, individual VSLA members or directly

to the households contrary to the prescribed value chain flow; thereby impairing the process as presented by dotted arrow in Figure7 below.

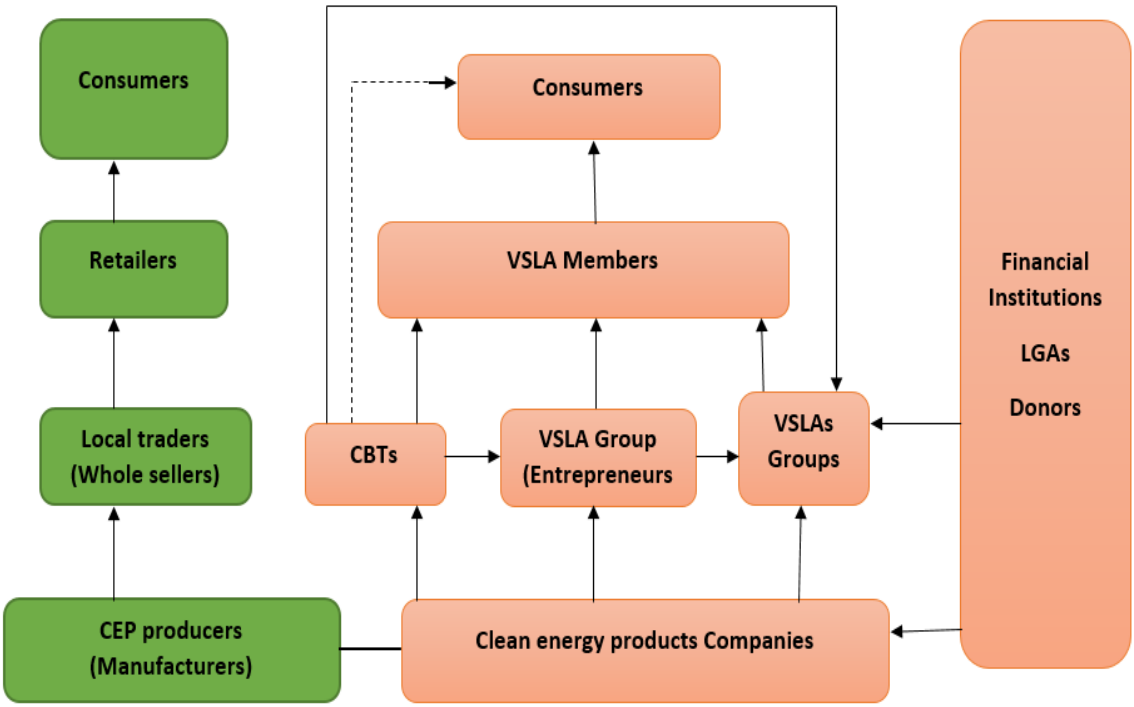

Figure 7: 'Impaired' Value Chain for clean energy products through a dotted channel.

It was found that only four energy products' suppliers were operational who had adopted a 'pay as you go' lending model with the VSLAs as presented in Table 6 below.

Table 6: Clean Energy Suppliers, Years in business, Business Model used and their products

Company	Years of Operations	Business Model	Products
Mobisol	9	PAYGO; cash basis	Solar systems for home or business
Solar Sister	10	PAYGO; cash basis	Works exclusively with women to sell lanterns and SHS from several manufacturers
Zola	8	PAYGO; cash basis	Solar systems for home or business
G.Light	12	PAYGO; cash basis	Lanterns and solar systems for home or

Planet			business

PAYGO = The pay-as-you-go business model: Paying by installment

3.5.2.2 VSLA groups established clean energy businesses and selling clean energy products

The success of the project was hinged on building the capacity of women entrepreneurs, so as to enable them engage with the private market, purchase products and understand sales. Some positive achievements have been recorded on that matter. Out of 192 VSLA members who were sampled and interviewed, 81% of them agreed to have received trainings as shown in Figure 8 below.

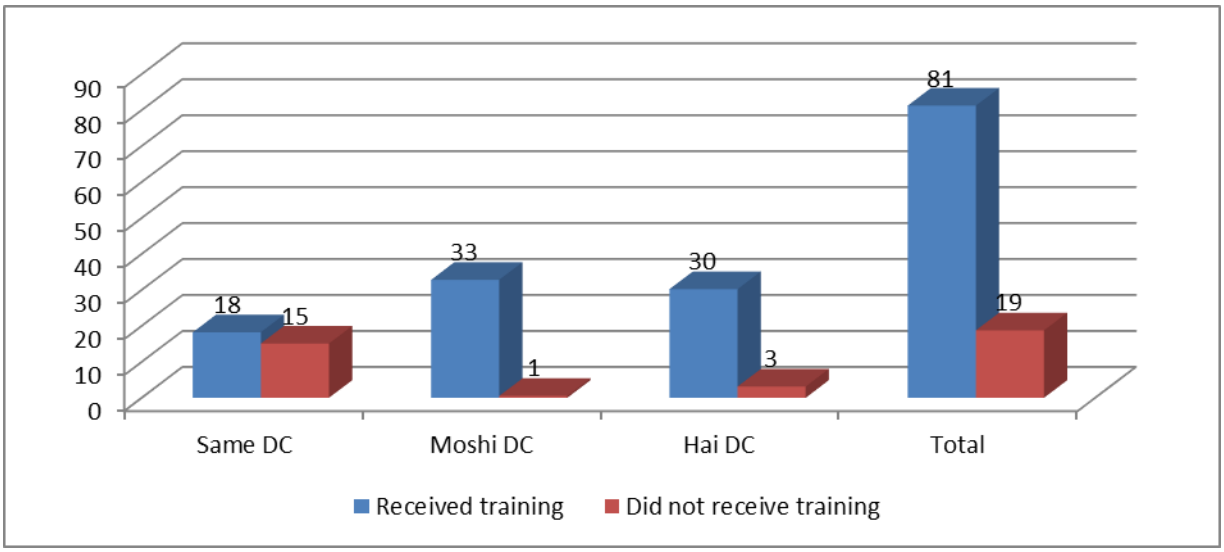

Figure 8: Percentage of VSLAs Members received training on business skills

Further analysis revealed that the trainings offered were mainly on business skills with a focus on clean energy market. Among the topics covered were related to pre-financing the business, book keeping, understanding the audience, how to sell and marketing of CEPs, and how to conduct cost-benefit analysis for household interested in buying the product. Most of respondents (58.6%) named the importance and uses of clean energy products as one of the topics which were covered during training of VSLAs members.

Table 7: Major topics covered during training of VSLAs Members

Major topics covered	Responses		
	N	Percent	Percent of Cases
Importance and uses of CEPs	99	42.5	58.6
Book keeping	10	4.3	5.9
How to pre-finance business and return on investment	2	0.9	1.2
Understanding the audience, how to sell and marketing CEPs effectively	22	9.4	13.0
Troubleshooting issues	31	13.3	18.3
How to provide a cost-benefit analysis for buyers	41	17.6	24.3
How to produce/make Briquettes	19	8.2	11.2
How to make cook stoves using locally available materials	9	3.9	5.3
Total	233	100.0	137.9

Multiple responses: Dichotomy group tabulated at value 1=Yes

The evaluation team conducted Pearson Chi-Square test of independence between the number of times a VSLA member received training and the ability to recall and apply the business skill in marketing clean energy products. The null hypothesis was rejected at 1% level of significance implying that the more the VSLA member received training on various business skills related to clean energy products; the more they were able to remember and apply the knowledge. This finding is presented in Table 8 below.

Table 8: Association between number of trainings and ability to recall what was trained

Number of times respondent received training	Ability to recall and apply			Total
	Able	Not able	NA	
Once	19	1	2	22
Two times	45	1	0	46
Three times	20	2	0	22

More than four times	61	0	0	61
NA	6	1	34	41
Total	*151*	*5*	*36*	*192*

Pearson Chi-Square Value = 148.479; df=8; P-vale = 0.001

Based on the theory of action on "capacity building" some women entrepreneurs have engaged with the private market; purchased clean energy products and understand the sales. In turn 76 VSLA groups have established clean energy businesses and 371 women entrepreneurs are selling clean energy products in rural areas of Kilimanjaro Region as shown in Figure 9.

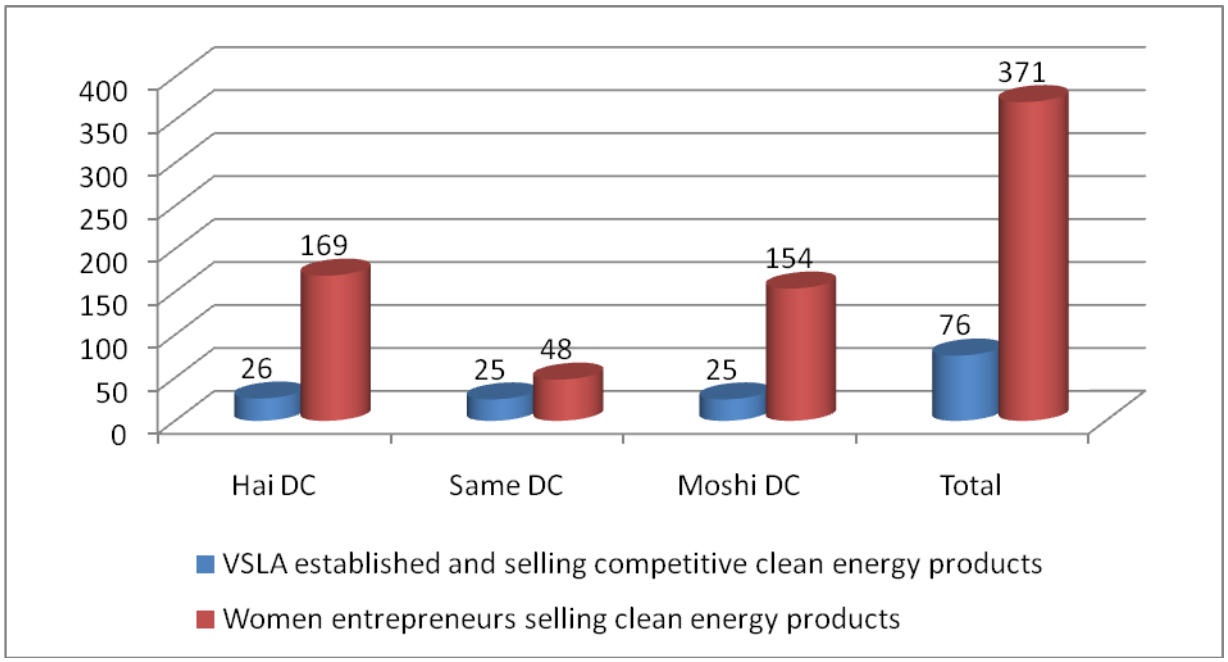

Figure 9: VSLA groups with clean energy products business

Most of the traded clean energy products were identified as solar lamps (77.3%) followed by cook stoves (22.7%) as indicated in Table 9 below.

Table 9: Percentage of clean energy products most sold by VSLA members

Type of clean energy products sold	N	Percent	Percent of Cases
VSLA members engaged on selling Cook stoves	47	22.7	29.2
VSLA members engaged on selling	160	77.3	99.4

Solar lamps			
Total	207	100.0	128.6

Multiple responses: Dichotomy group tabulated at value 1=Yes

3.5.2.3 Increased awareness among energy sector stakeholders

Without increased understanding and appreciation as to why a household should adopt clean energy products particularly improved cook stoves and solar; the behavioral change will remain low. The project has managed to conduct awareness raising to rural women and men members of VSLA and other community members. In that regard there were 32 public meetings held, 248 VSLAs meetings conducted, 2,696 people received mobile SMS awareness raising messages, and 7,541 people were reached with information on clean energy products (CEPs) of which 5,398 (71.6%) were women and 2,143 (28.4%) were men as shown in Table 10.

Table 10: Energy sector stakeholders reached through awareness raising

Awareness raising activity	Achievement			Total
	Hai DC	Same DC	Moshi DC	
Public meetings held	12	10	10	32
VSLAs meetings held	82	80	86	248
People received mobile SMS	1,106	726	864	2,696
People reached with information on CEPs	2,383	2,183	2,975	7,541
4.1: Women	1,729	1,723	1,946	5,398
4.2: Men	654	460	1,029	2,143

Theory of action on "awareness raising" has increased the understanding and appreciation of people on clean energy products. As a result, 1,612 people changed their behavior and bought and use clean energy products in the project area. This result is shown in Table 11 below.

Table 11: Total number of people who bought CEPs as result of increased awareness

Increased awareness	Achievement			Total
	Hai DC	Same DC	Moshi DC	
People bought portable solar lights and SHS and	535	499	204	1,238

shown how to use them				
People bought improved cook stoves and shown how to use them	111	59	204	374
People bought CEPs as result of increased awareness	646	558	408	1,612

One of the areas of interest in this study was to examine the general awareness of women entrepreneurs as a result of being empowered by the current project interventions through capacity building trainings; in making independent business, political or community decisions. Although few groups had a limited number of male members (no single such groups had more than 7 men in a group of 30 members); all respondents were women and were asked whether they had ever been involved in any decision making forums including their personal financial decision at household level. Their responses were as summarized in Table 12.

Table 12: Respondents' involvement in independent decision making

Number of Times involved in decision making	Frequency	Percent
Never	24	12.5
Seldom	49	25.5
Sometimes	91	47.4
Almost Always	28	14.6
Total	**192**	**100**

According to Table 12, majority of the respondents (62%) had either, sometimes or almost always been involved in making independent decisions related to business, politics and the communal affairs. The remaining 38% had never been involved or rarely involved. The interpretation of the responses in this Table, however, has to be made cautiously. Some of the respondents involved in this study were still new members in their groups, and had possibly not been involved in any capacity building trainings that were offered by the Project. It was found during the study that the respondents were jubilant, committed to their groups and highly motivated as shown in Figure 1, plate 2. We can confidently argue that, the project has been

successful in building the capacity among women entrepreneurs for making independent decisions that meet their personal aspirations.

3.5.3 Achievement of overall objective of the project

Based on the available data extracted from recent implementation reports, more than 350 women entrepreneurs have been trained in business skills focusing on clean energy products. In turn 76 VSLA groups have been established and actively engaged in clean energy businesses. More than 371 women entrepreneurs from VSLA groups are selling clean energy products in rural areas of Kilimanjaro Region. During the project life they have sold about 22,000 small portable solar lights; 1,289 improved cook stoves; 2,525 Solar home Systems (SHS); and 2,248 briquettes to members of VSLA's and community at large. These women entrepreneurs have collected total revenue of over $324,694.61 USD, of which $77,976.33 USD are profits.

Following the Pearson Chi-Square test of independence between engaging on green energy business and household income, the null hypothesis was rejected at 1% level of significance as shown in Table 13 below. The implication of this finding is that, engaging in selling solar lamps, improved cook stoves and briquettes has significantly contributed to income among women entrepreneurs. However, a note should be taken here that, apart from selling green energy products, there is a need of integrating this intervention with alternative sources of livelihood of the women. Selling of green energy products is an income earning strategy for the rural women. However, the support shouldn't be limited to clean energy products alone, but rather other key income generating activities of the women have to be equally considered.

Table 13: Test of independence between engaging on selling green energy products and increased household income

Engaging on green energy products	Increased household income	
	Pearson Chi-Square Value	P-value
Selling portable solar lights and SHS	62.545	0.001
Selling improved cook stoves	31.233	0.001
Selling Briquettes	576.00	0.001

3.5.4 Challenges in CEPs marketing

In order to increase the multiplier effect of Go Green project approach, women entrepreneurs were supposed to be linked directly with private suppliers of clean energy products such as Mobisol, Solar Sister, Zola, Green Light Planet. That way could have created heightened sustainability and successful replication to ensure the market continues to expand beyond the lifespan of the project in line with the original project idea. However, majority of VSLA members interviewed did not know who these private suppliers of clean energy products were as shown in Table 14 below. They normally collected the products from CBTs[5]. Most VSLA members said the CBTs were the one who were linked to private suppliers. This finding is contrary to the expectation that VSLAs have to be directly linked to the suppliers; the situation likely to affect the sustainability of the project's results. It has been cautioned in the preceding sections that, some of the respondents had recently joined the SLAs, and so had limited knowledge on how their groups were being run.

Table 14: Percentage of women entrepreneurs who knows private suppliers

Responses	Frequency	Percent
I know private suppliers	79	41.1
I don't know private suppliers	113	58.9
Total	192	100.0

Another component of sustainability was ''facilitation of the link'' between entrepreneurs and the financers/finance mechanisms for effective last mile distribution of clean energy products. Most of VSLA members interviewed named inadequate access to finance as one of the challenges that had limited them from purchasing sufficient number of products and distribute them to consumers. For instance, VSLA members from whose groups were linked to Mwanga Community Bank, complained of small loans offered compared to the needs of their groups. Most VSLAs were not aware of the existence of special loans for women under 4:4:2 arrangements within their Local Government Authorities. This shows weak collaboration

[5] See also the Value Chain presented in Figure 4

between the project and other actors in the project area. Other identified challenges as reported by the respondents are presented in Table 15 below.

Table 15: Challenges of green energy products business

Identified challenges	N	Percent	Percent of Cases
Competition with other related products with poor quality and low price available in the market	39	11.30%	20.30%
Transportation	97	28.00%	50.50%
Availability of clean energy products	17	4.90%	8.90%
Insufficient access to finance	170	49.10%	88.50%
Prices are too high compared to what people could afford	23	6.60%	12.00%
Total	346	100.00%	180.20%

Multiple responses: Dichotomy group tabulated at value 1=Yes

The implication of the above findings is that despite three year project interventions, the obvious market potential and relevance of access to sustainable energy and uptake of clean energy products remains hampered by insufficient access to finance. This is one of the four main barriers which were identified earlier. The project was initially designed with the assumption that woman entrepreneurs could access credit through loans from their VSLAs. It remains that women who are also involved in other personal businesses, do not have enough capital.

3.6 Project Sustainability

3.6.1 Project activities are at the centre of Government priorities

The activities of the Go Green project of promoting VSLAs as self-financing model of the rural poor with its focus on women and, the use of alternative sources of energy for lightening and cooking are priority areas of the Government support. That is why the VSLA group which was producing briquettes in Same District was given a loan of 8,000,000/= by Same District Council

to revive its business after running bankrupt. This is a clear evidence of the Government's interest in supporting these initiatives in the future.

3.6.2 Increased Public interest and participation of other stakeholders in the project's activities

The fact that several private suppliers and distributors are involved in the business of clean energy products in the area, gives an assurance of continuance of project's results even after the project ends. Already on the ground are the *Machinga* – individual itinerant sellers, who are increasingly involved in clean energy products. These have direct link with the suppliers and/or manufacturers of these products. It is anticipated that some of the activities and processes will continue after the project ends. However, some elements that could have contributed more to the sustainability were not clearly articulated in the project design, while few other elements were designed but not effectively implemented. The project was not designed to influence policymaking, which is an important factor in the sustainability of the actions taken. There was no specific cross-cutting orientation towards partnerships with Local Government Authorities and other development partners in the project area which could help to integrate VSLAs within the existing framework for access to finance and other supportive arrangement within the broader framework of DDPs[6].

3.7 Cross-Cutting Issues: Monitoring and Knowledge Management

The progress reports prepared by project management unit were good, comprehensive and informative. However, while there were some adjustments in the project's objectives and indicators, there were no corresponding reports on how these changes might have affected the original project's conception and the overall goal. The changes were largely made to speed up implementation of activities to achieve more results. There was a need to focus more closely on the processes of change than on activities performed.

It was learned from the field that, all project's documents including progress reports were exclusively under the custody of CARE, as the implementing partners kept telling the evaluation

[6] District Development Plans which is the District plan and budget integrating all project components within the District

team to directly contact CARE for the documents they were asked. This has pros and cons when it comes to tracking progress and making decisions at the management level for each implementing partner. Ideally, some indicators were supposed to be monitored, collected and reported by project partners - VOEWOFO and FLORESTA in this regard, who could also keep such information.

4.0 CONCLUSIONS, LESSONS LEARNED AND RECOMMENDATIONS

4.1 Conclusions

4.1.1 Summary

The project has achieved significant progress in improving access of beneficiaries to sustainable clean energy products. There is still, however, potential for further improvements in the pending issues within the current project's framework.

4.1.2 Programme Design

The programme theory was appropriate and relevant in general terms, but could have been better defined, explicit, clear and linked after the design and inception phases. There is a need for project monitoring to focus more closely on the processes of change than on activities. The project did not have a formal and explicit exit strategy or a knowledge-sharing strategy.

4.1.3 Relevance

Although there are areas for improvement, in general the project was relevant and was aligned with global problems, regional and country needs. The actions related to building capacity, raising awareness, and facilitation of links were perceived as relevant by the beneficiaries and in general the beneficiaries wanted more support in time and diversity. Project implementation was appropriate; the challenges were on the design and untimely inception phase.

4.1.4 Efficiency

Project management was appropriate but project governance left room for improvement, which affected knowledge-sharing**.** Project management contributed to the efficient

implementation and coordination of the partners. However, the roles and responsibilities for each implementing partner could have been clearer and fully established at the beginning of the project or during its implementation. The project had no joint formal governance structure with clear roles and responsibilities; no regular meetings and, no formal minutes and management responses to the progress reports. There was no formal, explicit strategy for collaboration and coordination between the implementing partners.

4.1.5 Effectiveness

In general, the project had been effective in terms of activity completion, and its contribution to the objectives and results outlined in the project document. The relevance of the project was directly linked to its effectiveness. This helped to strengthen the existing processes and, in some cases, it permitted the creation of processes that would not have existed with the same degree or coverage without the project. Most of the activities would not have been implemented to that degree or with the same coverage without the support of the project. .

4.1.6 Sustainability

Although important elements that would have significantly contributed to the sustainability such as collaboration with existing local institutions in the project area, the project is still sustainable. The processes supported by the Go Green project will be sustainable in view of their relevance to the national development priorities and engagement of business groups and individuals in the project's activities.

4.2 Learning Lessons and Reflections

Several lessons and reflections for this project include:

a) Identification and planning of the project applied community participatory tools embodying community priority needs and contributing to sustainable energy solution;
b) CBTs are instrumental for the success of the project. VSLAs with strong CBTs were relatively more successful in implementing the project than others.

c) Saving and credit practices among the beneficiary families have yielded positive changes in all the project districts. This practice has been appreciated as reliable source of saving and access to credit among these families;
d) Participatory project design was instrumental for successful implementation. When project beneficiaries perceive that the project addresses their pertinent needs they are likely to mobilize and organize themselves for such development activities;
e) The theory of action (ToA) and theory of change (ToC) must be well defined, explicit, and well linked during the design or inception phase so that clear linkages exist between activities and results for achievement of objectives.
f) A stronger inception phase for sustainable clean energy projects and programmes produces a stronger implementation plan in which actions are clearer, with effective prioritization and strong linkages.
g) For successful sustainable clean energy projects, significant efforts on actions related to capacity building, raising awareness, and facilitation of links are needed.
h) Ccollaboration with existing local actors with similar mandates in the project area has to be critically considered during design stage since it is one of the factors that can contribute to sustainability of clean energy project.
i) There is a need for project monitoring to focus more closely on the processes of change than on completion of activities;
j) The community-based trainers (CBTs) are one of the key staff who play a crucial role on identification of beneficiaries, training and supporting them to start their energy distribution. These need to have written working agreement with the VSLAs for accountability and payment purposes;
k) The pay-as-you-go (PAYGO) business model is little applied by the VSLA groups because it is not sufficiently promoted.

5.3 Recommendations

The project has made remarkable progress in a very short time. The model of service for sustainable solar energy products is one that is perhaps unique in the country. In order to maximize the benefits which are truly forthcoming, the following recommendations are made:

a) In view of the nature of the project which sought to use a business model in a bid to conserve the environment; the experimentation and implementation period of the adopted business model has been too short to generate sufficient lessons and practices that can be tracked for use in similar projects in the future. While the experimentation has been fairly successful, there is a need for actual implementation phase that extends to two more years.

b) Since the Project was promoting VSLAs as self-financing model for women entrepreneurs, there is a need to critically consider inclusion of other income generating activities of the women in its intervention portfolios. This comprehensive approach to energy support programme takes into consideration of lucrative activities that can support development of strong VSLAs for self financing.

c) The likely low results areas as pointed out in this report are due to inadequate time and other resources for implementation of the current proposed business models by Africa Insight Advisors – the soft launch and full sales models; rather than technical ones. It was found that the various products were significantly improving incomes of the entrepreneurs. It is proposed that the current business model be continued in line with their most appropriate project areas as dictated by their demand.

d) The programme theory for sustainable clean energy projects should be defined in detail, explicitly, clearly and in a well-linked manner after the design and inception phase in order to take into account the current objectives when tracking the progress.

e) The project design for sustainable clean energy project should take into account all the relevant local actors for collaboration and coordination purposes during the project implementation.

f) The pay-as-you-go (PAYGO) business model to customers is considered very appropriate for the poor women entrepreneurs, and thus it should be properly promoted;

g) Establish a clearly functioning FFS payment model to the CBTs. This can be done by specifying the formula to be used to draw the amount from the VSLAs' profits instead of mobilizing contributions from individual members. A clear and agreed upon motivation package for CBTs should be instituted.

h) Establish a system where the VSLAs will have a direct control of the CBTs through memorandum of understanding between them. This can make the VSLAs more responsible for CBTs' payment.

i) The VSLA groups that have been established in the programme intervention areas should be continued through growth monitoring and evaluation involving community members, district council and other stakeholders.

j) Project stakeholders need to consider effective and sustainable working relationships between the LGA sector experts, CBTs, project partners, project beneficiaries and the rest of community members during planning, implementation, monitoring and evaluation of the project for its sustainability.

k) Changing the community's knowledge, attitude and behaviour regarding sustainable solar energy products is a complex undertaking; partly because it is influenced by the socioeconomic status within the household and the community. Since the project was basically implemented for only two years, it is important to consider extending the project so as to have sufficient time to empower the VSLA groups and other

stakeholders. This would mean working with the existing VSLA groups and other stakeholders for a relatively longer time. On the other hand, considerations could be made to extend project interventions to other wards and villages in the target districts.

l) The findings show that VSLA groups have weak financial capacity to carry out their planned activities. Despite the existence of a number of financial institutions in the councils, very few of them are currently working with VSLA groups. Thus, the respective councils should devise deliberate mechanisms and funding opportunities, for example through the youth and women development funds and other mechanisms to support VSLA groups financially.

m) Since this was a pilot project whose experimentation was to generate experiences and lessons in running similar projects in the future, there is a need to ensure that all relevant activities are done. The project was somehow ambitious, seeking to achieve too many big results with moderate resources in a relatively short time frame. Some of the needs and problems that were originally identified within the Project document have not sufficiently been addressed. We recommend that CARE International continues to support the Districts for additional two years. We appreciate that the project has succeeded in bringing rural women entrepreneurs together for clearer direction of their lives. People are currently well motivated and enthusiastic for a next level, but some of the participatory factors pertaining to CBTs' future role and their working modality with the VSLAs; possibility of support of more lucrative activities for improved household income and increased use of clean energy products; effective marketing of products and, and publication of a learning report - are still pending.

ANNEX 1: DATA COLLECTION TOOLS

1: Questionnaire for Business Groups (Women Entrepreneurs)

1. Name (Optional) …… 2. Age ……

3. District ……. Ward. ……Village……..

4. Position in the Group ……

5. For how long have you been dealing with the clean energy products business?

    1. More than 3 years
    2. Three years
    3. two years
    4. One year
    5. Less than a year

6. On what basis are you carrying out your business on the clean energy products?

    1. Individually
    2. As group
    3. Both individually and as a group

7. How do you select among the group as to who should distribute the products to customers?

8. In case of group activities, how do you allocate the responsibilities and share the benefits?

   ……..

   …….

9. Which types of clean energy product is traded most in your group?

    1. cook stoves 2. Solar lamps 3. Briquettes

10. Do you know the suppliers of your clean energy products? 1. Yes ……2. No …….

11. Among the suppliers, whose products are more,

    1. Durable? …….
    2. Available? …….
    3. Expensive?…….
    4. Acceptable? ……

12. Does your group decide on who should supply the clean energy products? 1. Yes.. 2. No

13. What criterions do you use to select the supplier? ……

14. Which strategies do you use to market the clean energy products?

1. …….
2. …….
3. ……

15. Do you think people are interested in buying the clean energy products? 1. Yes 2. No……

16. Why do you think people are interested/not interested in buying clean energy products?
…….

17. Do you think people will be interested to buy the clean energy products in the future? 1. Yes 2. No (Please explain your answer above).
……

18. How many cook stoves, briquettes and solar lamps have you sold since you started this business?

Type of Product	**Number of Products Sold**				**Amount Received (TZS)**
	2017	**2018**	**2019**	**Total**	
Cook stoves					
Briquettes					
Solar lamps					

19. How are the beneficiaries encouraged to use the clean energy products?

…….

20. To what extent do you consider the business on clean energy products has improved your income?

1. Not at all 2.Very little 3.Somewhat 4. To a great extent

21. Have you ever received any training related to this business? 1. Yes ……2. No ……

22. How many times did you receive the training during the Go Green project implementation?
1. None 2.Once 3.Twice 4.Thrice 5. Four times and above

23. Dou you remember what you learned in the trainings? 1. Yes… 3. No …….

If yes, list the items of things learnt:

i…….

ii. ……..

iii. ……

24. Which of the following do you consider to be the most formidable challenge in the clean energy products?

1. Inadequate market
2. Poor quality products
3. Transportation
4. Shortage of products
5. Capital access
6. Other (Specify) …….

25. Which other businesses are you involved apart from the clean energy products?

1. Farming of food and cash crops
2. Livestock keeping
3. Cereal crop business
4. Other (Specify) ……

26. In comparison between clean energy products and other businesses; which would you prefer to concentrate in the future income generation?

1. Clean energy products (Reason?)……..
2. Other businesses (Reason?)……..
3. Both. (Reason?)……..

27. To what extent do you think your level of financial decision making in a family has increased as a result of support from Go Green project?

0. Not at all 1. To a small extent 2.To some extent 3. To a moderate extent

4. To a great extent 5. To a very great extent

28 Has Go Green Project's intervention capacitated you to be an independent leader of your business and life? 1. Yes 2. No.

29. How often do play a role as a leader in various decision making forums?

1. Never 2. Seldom 3. Sometimes 4. Almost Always

2: Checklist for Community Based Trainers (CBTs)

1. Name of Respondent (Optional) ……Sex ……Age ……..

2. District ……. Ward. ……Village……..

3. Duration under the teaching position …….

4. How was the Community Based Trainers (CBTs) selected? *Probe the process and selection criteria of selecting CBTs*

5. Who are being trained? ……

6. What are they trained? ……..

7. Do you get any incentives for your work?…. Which incentives and who gives you? ……

8. Are the trainees contributing something to the training cost? ……

9. Do you feel you miss something to be more effective trainer? ……What is it? ……..

10. How often do you train the beneficiaries? ……..

11. How do you receive their requests for training? …….

12. Do you have a mechanism to know how knowledge and skills gained during the training session are applied by the trainees? …

13. What challenges did the *CBTs* encountered in the process of implementing their responsibilities?

14. What strategies did the *CBTs* used to address the challenges emanated in the process of implementing their responsibilities?

15. How did you mobilize project beneficiaries to participate in the training process*?*

16. Were there any complaints from project beneficiaries in implementing your responsibilities?

17. What sustainability measures are put in place or under the way to ensure sustainability of your work? Will you quit training after CARE phase-out?.....

3: Questionnaire for Clean energy products' beneficiaries (Consumers)

Name of respondent (Optional) …….

District …….. Ward…….Village……..

1.0 Gender of respondent (1) Male …….. (2) Female ……

2.0 Age ……

3. Position in the household (1) Household head (2) Other (specify)

4. Household size…….

5. Marital status: (1) Single (2) Married (3) Widower (4) Divorced

6. Education Level: (1) No formal education (2) Adult education (3) Primary education (4) Secondary Education (5) Higher education

7. Sources of income: 1. Farming of food and cash crops 2. Livestock keeping 3. Cereal crop business 5. Wage employment 5. Other (Specify) ……

8. How did you come to know about the clean energy products? 1. Awareness raising

2. SMS messages 3. Advocacy workshop 4. Public meetings 5. Other, specify

9. What types of products do you use? 1. Cook stoves 2. Briquettes 3. Solar lamps

10. Where did you buy the products: 1. Local Suppliers 2. Women entrepreneurs 3. Other, specify

11. Are they readily available? 1. Yes 2. No

12. How much did you pay for each product? …….

Cook stoves TZS…….. Briquettes TZS…….. Solar lamps (Type) TZS…….

13. Are you aware of any other arrangements for those who do not have ready cash for these clean energy products? 1. Yes 2.No

14. In your opinion, do you think the clean energy products are affordable by the majority? 1. Yes 2. No

15. What do you consider to be the benefits of using the clean energy products as compared to the traditional ones? ……..

16. Do you know how to use the clean energy products efficiently so that they can last for reasonably longer time? Yes. 2. No

17. Do you receive any after-sale service on the use and maintenance of these products? 1. Yes 2. No

18. If yes, which services? .....

19. What are the common technical challenges of these clean energy products that you would like to be corrected? ……

20. Do you enjoy using clean energy products compared to the conventional ones? 1. Yes 2. No Explain your answer……

21. Would you recommend other households to use these products? 1. Yes 2. No

4: **Checklists for Clean Energy Suppliers**

1. Name of the Organization …….. Place……

2. Name of Respondent (Optional) . ……. …… Sex ……Age …… Position ……..

3. Major organization's businesses……

4. For how long have you been supplying/distributing clean energy products to CARE's VSLAs?.....

5. Which specific products do you trade with VSLAs that are supported by Go Green Project?

6. What specific agreements are there with the VSLA? ……

7. How many products (by category) have you traded with the VSLAs so far? …… What is their value?
.....

8. Who are other customers of your clean energy green products? ……

9. Are you aware of any other suppliers of similar products? ……..What are your own competitors?

10. What are the challenges facing your partnership with VSLAs under the Go Green Project?.....

11. What form of business arrangement do you think could have worked better in the clean energy products? ……..

12. What are the future prospects do you foresee in your collaboration with the VSLAs? ……

13. What do you think are the specific challenges hindering the last mile distribution of clean energy products?.....

5: Checklist for Village Savings and Loan Association (VSLA)

1. Name of Respondent (Optional) …… Position…… Sex ……. Age …..

2. District ……. Ward. ……Village…….

3. VSLA's name …….

4. When was the VSLA established? ……

5. Major objectives of establishing the VSLA? ……..

6. Categories of members ……..

7. Total number of members ……Men …… women …….

8. How many members are selling clean energy products on behalf of the group?"

……..

9. The main business of the VSLA ……..

10. Where did you get loan to invest in your clean energy business?.....

11. How much did you borrow to start your group investment?.....

12. Major sources of funds for the VSLA and amounts …….

13. How much of the funds are made available for members' loans on annual basis? ……

14. How much of the loan is given to facilitate clean energy products? ……

15. How many groups of clean energy products have been supported by the VSLA annually? ……

16. Any problems encountered by VSLA on loan repayment and related amounts:

    a) From your members?

    b) To your creditors or lending institutions?

17. Does the VSLA lending policy accord any priority to clean energy products? ……..

18. What are specific challenges associated with support to clean energy products business? ……

19. What is the general financial and management performance of the VSLA? ……

20. What do you consider necessary for the sustainability of your group investment in clean energy business? ……

21. Any specific training ever given to VSLA management team? …….

6: Checklists for Survey to Project or Partner Staff/Management

A: Relevance

1. How appropriate has the project design been?
2. To what extent were the project's objectives met?
3. How sufficient were the activities in achieving the project objectives?
4. How appropriate were the project activities within the program objectives?
5. How effective was the coordination between Care International and other key stakeholders during the design and implementation of the project i.e. council staffs, partners Staffs, CBTs, VSLA members' village leaders and other potential stakeholders?
6. How would you assess the level of effort made to undertake consultations with partners and beneficiaries during the design and implementation process of the project? 1. Very low 2. Low 3. High 4. Very high (*please provide details*)
7. How would you evaluate the collaboration between different stakeholders during the project's design and implementation? 1. Very Poor 2. Poor 3. Good 4. Very good 5. I do not have sufficient information to answer this question (*please provide details*)
8. What are the achievements of this project?

B: Efficiency

1. In your opinion, to what extent did the procedures and processes established for the project contribute to the effective and efficient implementation of the project? 1. To a very small extent 2. To a small extent 3. To a large extent 4. To a very large extent 5. I do not have sufficient information to answer this question. (*please provide details*)
2. To what extent were your roles and responsibilities of different for project implementation, coordination and collaboration clearly established since the inception of the project? 1. To a very small extent 2. To a small extent 3. To a large extent 4. To a very large extent 5. I do not have sufficient information to answer this question. (*please provide details*)
3. In your opinion, were the financial and nonfinancial resources used in an efficient manner to produce the planned results? 1. Yes 2. No. (*please provide details*)
4. In your opinion, what factors contributed or impeded to the implementation of project activities as well as to the attainment of expected results? (*please provide details*)
5. Do you have any recommendations on how to increase the effectiveness of future related intervention?

B: Effectiveness

6. Has the project strengthened the capacity of different stakeholders? (*please provide details*)
7. What is the impact of the project on capacity of different stakeholders? (*please provide details*)
8. How effective was the project in creating synergies among the partners, collaborators or beneficiaries of the project? 1. Not effective 2. A little effective 3. Sufficiently

effective 4. Very effective 5. I do not have sufficient information to respond to this question (*please provide details*)

C: Sustainability

9. What is sustainability likelihood of the supported partners without the support of Care International?
10. What is the likelihood of the activities of the project to continue beyond the project life span?
11. What sustainability measures are put in place or under the way to ensure sustainability of the project?
12. To what extent were the target group project activities sustainable within the project objectives?
13. Which aspects of project are more sustainable and have been or can be recommended for scale up?
14. To what extent are the critical linkages established to provide services to target group self-sustaining?
15. What are the legal, structural, institutional, management, governance, and networking challenges/issues?
16. How have the challenges/issues been overcome?
17. What are challenges, achievements, viable strategies and lessons learnt which could be referred to in replicating or scaling up similar programs in future
18. Do you have any recommendations for potential future interventions?

7: Checklists for Council Staff/DCDO

1. What were your roles in implementation, supervision and monitoring of project intervention?
2. What achievements have you made in the course of project intervention?
3. What are the challenges in implementing the project?
4. How have you addressed these challenges?
5. What needs to be done to improve project intervention?
6. What should be done to sustain project interventions?

Note: Please provide details for each question