Midterm Evaluation Report of Project:

Support to Efficient Utilization of Alternative Energy Sources to Improve the Livelihood of Pastoral and Agro-pastoral Communities in Southern Ethiopia

Contract No.: FED/2011/268-372

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This mid-term evaluation is supported and guided by European Commission and presented by FTS Management and Strategy Consulting. The report does not necessarily reflect the views and opinions of the European Commission.

Addis Ababa
April 4, 2014

QUALITY ASSESSMENT GRID AND FINAL APPROVAL OF

MID TERM EVALUATION FINAL REPORT FOR SUPPORT TO EFFICIENT UTILIZATION OF ALTERNATIVE ENERGY SOURCES TO IMPROVE THE LIVELIHOOD OF PASTORAL AND AGRO-PASTORAL COMMUNITIES IN SOUTHERN ETHIOPIA

EVALUATION TEAM: FTS MANAGEMENT AND STRATEGY CONSULTING

FINANCED BY: EUROPEAN COMMISSION (EC) **CONTRACT NO.: FED/2011/268-372**

IMPLEMENTED BY: COOPERAZIONE INTERNAZIONALE - COOPI

Concerning the criteria and sub-criteria below, the evaluation report is rated[1]:	**1**	**2**	**3**	**4**	**5**
1. Meeting needs:					
a) Does the report precisely describe what is evaluated, including the intervention logic in the form of a logical framework?			**3**		
b) Does the report clearly cover the requested period of time, as well as the target groups and socio-geographical areas linked to the project / programme?				**4**	
c) Has the evolution of the project / programme been taken into account in the evaluation process?				**4**	
d) Does the evaluation deal with and respond to all ToR requests. If not, are justifications given?				**4**	
2. Appropriate design					
a) Does the report explain how the evaluation design takes stock of the rationale of the project / programme, cause-effect relationships, impacts, policy context, stakeholders' interests, etc.?				**4**	
b) Is the evaluation method clearly and adequately described in enough detail?			**3**		
c) Are there well-defined indicators selected in order to provide evidence about the project / programme and its context?				**4**	
d) Does the report point out the limitations, risks and potential biases associated with the evaluation method?			**3**		
3. Reliable data					
a) Is the data collection approach explained and is it coherent with the overall evaluation design?				**4**	
b) Are the sources of information clearly identified in the report?				**4**	
c) Are the data collection tools (samples, focus groups, etc.) applied in accordance with standards?				**4**	
d) Have the collected data been cross-checked?				**4**	
e) Have data collection limitations and biases been explained and discussed?				**4**	

[1] The quality of the final report will be assessed by the evaluation manager using the following quality assessment grid where the rates have the following meaning:
1 = unacceptable = criteria mostly not fulfilled or totally absent
2 = weak = criteria partially fulfilled
3 = good = criteria mostly fulfilled
4 = very good = criteria entirely fulfilled
5 = excellent = criteria entirely fulfilled in a clear and original way

4. Sound analysis					
a) Is the analysis based on the collected data?				**4**	
b) Is the analysis clearly focused on the most relevant cause/effect assumptions underlying the intervention logic?			**3**		
c) Is the context adequately taken into account in the analysis?		**2**			
d) Are inputs from the most important stakeholders used in a balanced way?			**3**		
e) Are the limitations of the analysis identified, discussed and presented in the report, as well as the contradictions with available knowledge, if there are any?				**4**	
5. Credible findings					
a) Are the findings derived from the data and analyses?			**3**		
b) Is the generalisability of findings discussed?			**3**		
c) Are interpretations and extrapolations justified and supported by sound arguments?			**3**		
6. Valid conclusions					
a) Are the conclusions coherent and logically linked to the findings?				**4**	
b) Does the report reach overall conclusions on each of the five DAC criteria?				**4**	
c) Are conclusions free of personal or partisan considerations?		**2**			
7.Useful recommendations					
a) Are recommendations coherent with conclusions?			**3**		
b) Are recommendations operational, realistic and sufficiently explicit to provide guidance for taking action?				**4**	
c) Do the recommendations cater for the different target stakeholders of the evaluation?			**3**		
d) Where necessary, have the recommendations been clustered and prioritised?				**4**	
8.Clear report					
a) Does the report include a relevant and concise executive summary?				**4**	
b) Is the report well structured and adapted to its various audiences?				**4**	
c) Are specialised concepts clearly defined and not used more than necessary? Is there a list of acronyms?				**4**	
d) Is the length of the various chapters and annexes well balanced?				**4**	
Considering the 8 previous criteria, what is the overall quality of the report?				**4**	

Final Approval of the Implementing Agency

Addis Ababa, 04 of April 2014

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Roberto Orlando
COOPI Head of Mission In Ethiopia

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Abbreviations

CCM	Comitato Cooperazione Medica
COOPI	Cooperazione Internazionale
EC	European Commission
EEPCO	Ethiopian Electric Power Corporation
EFP	Energy Facility Project
EU	European Union
FGD	Focus Group Discussion
FSS	Fuel Saving Stove
GDP	Gross Domestic Product
GIZ	Gesellschaftfür Internationale Zusammenarbeit (German Agency for Technical Cooperation)
GTP	Growth and Transformation Plan
HP	Health Post
IGA	Income Generating Activities
KA	Kebele Administration
KDC	Kebele Development Committee
KII	Key Informant Interview
KWh	Kilo Watt hour
LFA	Log Framework Analysis
MSEDO	Micro and Small scale Enterprise Development Office
MOFED	Ministry of Finance and Economic Development
MOU	Memorandum of Understanding
MOWE	Ministry of Water and Energy
NGOs	Non-Governmental Organizations
PAPDA	Partnership for Pastoralists Development Association
PASDEP	Plan for Accelerated and Sustainable Development to End Poverty
PTA	Parent teachers Association
PVGIS	Photovoltaic Geographic Information System
VETHP	Veterinary Health Post
Wash	Water, Sanitation and Hygiene
WDC	Woreda Development Committee
WMC	Water Management Committee

Acknowledgements

FTS Management and Strategy Consulting would like to thank Cooperazione Internazionale (COOPI) for giving us the opportunity to undertake this midterm evaluation. The evaluation team has learned a lot from the interventions of COOPI Energy Facility Project.

The mid-term evaluation would not have been possible without the cooperation and participation of organizations and individuals to whom the mid-term evaluation team is highly indebted. Accordingly, the mid-term evaluation team would like to thank Mr. Riccardo Claudi and Mr. Alemayehu SEMUNIGUS of European Commission and Mr. Roberto Orlando, COOPI Country Mission Head, in Addis Ababa for supporting and guiding the midterm evaluation. The evaluation team would also like to extend its gratitude to Woreda Development Committees of Filtu and Hudet Woredas of Liben Zone, Somali Region, as well as to those of Gorodola and Liben Woredas of Guji Zone, Oromia Region, for the cooperation and assistance they have provided during the fieldwork of this mid-term evaluation. We would like to extend our thanks to participants of focus group discussions and key informant interviews for sharing their experiences, opinions and time with us.

We are highly indebted to Mr. Alberto Trentini, EFP Manager, who is based in Neghelle Borena Town, for his unreserved supports throughout the mid-term evaluation processes and for his rigorous review and enrichment of the various mid-term evaluation deliverables, including the final report. We cannot go without thanking Mr. Shawol Kidane Mariam (Assistant to the Project Manager) for his magnificent field experience and knowledge and for facilitating various woreda level and community level meetings and site visits. We also want to thank Mr. Adane Kebede for his driving services which he always provided on time and considerately.

Ideas expressed in this mid-term evaluation report are only the views and opinions of the consultants who were actively engaged in the evaluation work and do not necessarily reflect the views and opinions of either European Commission or COOPI.

Fromsa Taye
Managing Director,
FTS Management and Strategy Consulting

April 4, 2014

1. Executive Summary

Introduction

Cooperazione Internazionale has developed a three year project entitled "Support to Efficient Utilization of Alternative Energy Sources to improve the Livelihood of Pastoral and Agro pastoral communities of Southern Ethiopia" in August 2011 with the financial support of European Commission and launched its implementation in collaboration with Oromia and Somali Regional States and Partnership for Pastoralists Development Association, which is the project implementing partner. The main purpose of this mid-term evaluation, which was foreseen in the project's financing agreement, was to evaluate the project in terms of its relevance, effectiveness, efficiency, , sustainability, impact, and EC specific evaluation criteria (EC added values and coherence), to assess the major constraints and problems faced by the project, and to propose practical recommendations for follow-up actions that help to speed up the progress of the project in the remaining period as well as to draw lessons. Accordingly, this report was prepared and submitted by FTS Management and Strategy Consulting in accordance with the agreement signed with COOPI on January 6, 2014 to undertake the mid-term evaluation of the project. The time framework of this evaluation covers the project from its beginning until the 31 of December 2013.

Project Objectives, Results and Beneficiaries

The overall objective of the project is to contribute to increase the access to affordable and sustainable energy in order to improve the livelihood of un-served rural areas of Southern Ethiopia. Its specific objective on the other hand is to increase the production, supply and efficient use of renewable energies, for basic social services, household needs and income generating activities (IGAs). The project aimed at achieving four results: (1) equipping basic social services (4 health posts, 4 vet posts, 4 schools and 5 public wells) with solar energy, (2) provision of solar energy for private and public enterprises (3 agricultural cooperatives and 25 individuals), (3) promotion of fuel saving stoves for 6000 households and (4) capacity building/training of the regional and woreda government offices on sustainable energy systems. The project was designed to benefit 70,490 people or 17.6% of the total population in the targeted five Woredas named as Arero Woreda of Borena Zone, Gorodola and Liben Woredas of Guji Zone, Oromia Region and Filtu and Hudet Woredas of Liben Zone, Somali Region.

Key Findings

The midterm evaluation of the project has adopted mixed evaluation methods including both qualitative and quantitative approaches and came up with following major findings, conclusions and recommendations.

Project progress towards meeting its Objectives

All the four project results have proved to be relevant to government's energy policy, EC's and COOPI's country strategies and community needs and problems as the solar energy systems are widely accepted by the communities and government offices visited during evaluation fieldwork and all FGD and KII participants have expressed the relevance of the results with enthusiasm. Not all results meet efficiency and effectiveness criteria in equal measure; result one is fully on the right course and at the right pace in terms of efficiency and effectiveness criteria of evaluation. Result two is on the right track but still there are delays particularly regarding solar systems for agricultural cooperatives. Result three is way down the rating scale in terms of efficiency and effectiveness criteria. This is so because PAPDA, which is lead implementer of activities under result 3, has not yet efficiently and effectively implemented the project activities. Result 4is on the right track but experiencing delays.

Even though only a few months have passed since the systems were installed for social services and private enterprises operating IGAs and more time is required to see impacts and sustainability of the energy facility project, the introduction of solar energy has really given the target communities reason for hope.

- Of the total target beneficiaries of 70,490 people, 41504or 59% have already been addressed through the installation of solar power systems at social services and private enterprises running IGAs.

- Quality and timeliness of social services has started improving; now health institutions can run regular child vaccination programs and provide emergency services during nights; schools have started registering adults for evening education. Water wells are generating more water for community consumption as there is no worry of power shortage to draw water and on the average 15.72 liters of potable water per person per day is made available due to the installation of solar pumping systems in the woredas; this is a big achievement in communities with persistent water shortages and compared even to the Sphere Project minimum standard which is 15 liters of potable per person per day.
- Indeed, private enterprises running IGAs have provided evidences that this project can contribute to the improvement of livelihoods of beneficiary communities given that adequate energy power supply is made available with due consideration for growing and expanding small businesses.

Community Participation and beneficiary targeting

The participation and involvement of the community in all project cycles is limited except for their contribution in terms of labor. Discussions held with different FGD and KII participants revealed that beneficiaries could make more contributions for infrastructure constructions and installation of solar systems though this was not envisaged in the project document. Moreover, the evaluation team believes that COOPI strategy to ask IGA beneficiaries to contribute buying their own equipment necessary to fulfill their business plan is insufficient.

Regarding IGA targeting, the evaluation team believes that the main purpose of introducing and expanding solar power systems in off-grid pastoral and agro-pastoral communities must be to address the existing poverty level by increasing access to solar energies and by creating jobs for the poor, particularly women and the youth who are often economically dependent on men. Therefore, FTS Management and Strategy Consulting does not agree with the project proposal decision to target already existent businesses when it comes to the selection of the beneficiaries for private enterprises.

Conclusions

The conception and implementation of the energy facility project is a big step forward for COOPI and EC because this project has been designed in such a way that it operationalizes not only EC's country strategic framework but also gives dimension to Government of Ethiopia's policy level commitments to reach pastoral and agro-pastoral communities in southern Ethiopia, who live off national electricity grid, with renewable and sustainable energy sources. This is quite big an achievement on the part of COOPI and its key stakeholders because this project has already become one of the model alternative energy projects in the country. Therefore, the project needs further support to carry out all project activities to their completion.

- The realization of the project results related to equipping social services and private enterprises operating IGAs with solar energy systems has been quite successful not only in starting the delivery of long awaited benefits to target beneficiaries but also in arousing a tremendous demand for solar energy in the communities of target and other woredas in both regions.
- In targeted social services, the provision of services like safe water supply, education, human health, and animal health has started exhibiting improvements in terms of quality, speed and coverage. These are good signs that the project is progressing towards meeting its stated goal and outcome, albeit its small size compared to the vast demand for energy supply in the pastoral and agro-pastoral communities in target woredas.
- Community participation and involvement at different stages of project cycle has not been strong due to the implementation strategy adopted by the project from the beginning. All existing evidences point to the fact that community contributions regarding result 1were not mandatory and there was no cost-sharing mechanism put in place. As a result, project inputs were delivered to social services providing institutions on free handout basis and, regarding private enterprises with a relatively small contribution in kind. The evaluation team learnt also that beneficiaries were willing and capable of making

contributions on cost-sharing basis and believes that with a bigger team and more assets COOPI could have reached more number of beneficiaries with the same size of overall resources.
- The partnership between COOPI and PAPDA may need to be revisited in the context of mutual benefits or shared risks which definitely impact organizational reputation in either way based on the outcomes. The failure to implement project results, for whatever reasons there might be, would impact the reputation of both organizations and decisions taken in this regard should be seen in this light.

Recommendations

Creation of Market Linkages:
There is a huge demand for solar energy supplies in the pastoral and agro-pastoral communities. Therefore, COOPI should encourage and work with the private sector to promote and expand the use of solar energy in the pastoral and agro-pastoral communities through competitive processes. Optimum number of committed and trusted solar energy suppliers and spare parts dealers could be identified and linked with the local market based on clear and transparent criteria to guarantee effective and quality services.

Revisiting the partnership between COOPI and PAPDA:
The partnership between COOPI and PAPDA should be revisited because majority of the planned activities have not been accomplished and are already gone behind schedules. There are two options to this:

Option 1: End partnership and takeover all remaining activities from results three and four:
- The remaining activities under both results are very critical and time taking which requires big commitment in terms of management attention and further resource allocations (human resource, finance and time).
- Strengthen cooperative members by adding or replacing existing ones with individual who can easily adapt to the technical and skill requirements of FSS production; TVET graduates could be potential candidates, pending fulfillment of membership criteria.
- Hire two additional staff for FSS activities: one officer responsible for FSS production, promotion and dissemination at COOPI Neghelle office level; the other officer at Filtu town. Both should be able to directly report to the project manager.
- COOPI should directly implement capacity building activities designed for government officials and hire consultants to undertake the planned studies.

Option 2: Revise partnership MoU and share results and activities:
- Completely takeover Filtu Cooperative remaining activities under result three and take actions as detailed under option one above.
- Leave Neghelle Cooperative remaining activities under PAPDA but make strict follow up and support regularly.

Even though the choice must be made by COOPI, due to the little time left to project life, the evaluation team advises the organization to go for option one.

No-cost time extension:
- Activities under result three definitely need enormous efforts and time to complete because 6,000 FSS will be promoted, produced and disseminated to target woredas.
- There is also a need for more time to implement recommendations forwarded above for the eventual success of the project.
- Therefore, no-cost time extension should be allowed for this project for six more months from August 4 to January 31, 2015. This includes five months of operation and one final month for consolidation and report writing and then taking on the next turn of events.

2. Introduction

Cooperazione Internazionale (COOPI) is a non-governmental organization (NGO) committed to fighting against social injustice and poverty in the global south and building a future that guarantees everyone adequate living conditions, equal opportunities and respect of their rights. COOPI started a three year project entitled "Support to Efficient Utilization of Alternative Energy Sources to Improve the Livelihood of Pastoral and Agro-pastoral Communities in Southern Ethiopia" in August 2011 and will continue its implementation up to 3rd of August 2014. It is worth noting that COOPI has through this project adopted an innovative approach to address the longstanding energy needs of pastoral and agro-pastoral communities who live off national electricity grid, particularly in the neighboring five woredas of Oromia and Somali Regions in Southern Ethiopia. The project supports the efficient utilization of alternative energy sources with the view to improving the livelihoods and living conditions of the poor and underserved populations, particularly women, children and families.

In this regard, the project has planned to install solar energy systems which generate and supply energy to social services like schools, health posts, veterinary posts and water wells on one hand and to agricultural cooperatives using pump irrigation and private enterprises operating income generating activities (IGAs), on the other. The project has also planned to promote, produce and disseminate fuel saving stoves (FSS) in the target woredas alongside the plan to provide capacity building trainings to government officials in both regions on energy regulations, technologies and management aspects.

More than two years have passed since the project operations were started and hence COOPI, with financial assistance from the European Commission (EC), commissioned this mid-term evaluation of the project and hired FTS Management and Strategy Consulting to conduct the evaluation. The fieldwork of the mid-term evaluation took place in the project woredas from January 18 to 31, 2014.

The main objective of this mid-term evaluation, which was foreseen in the project's financing agreement, was to evaluate the project in terms of its relevance, effectiveness, efficiency, impact, sustainability and EC specific evaluation criteria (EC added values and coherence), to assess the major constraints and problems faced by the project, and to forward recommendations to solve them and to speed up the progress of the project in the remaining period as well as to draw lessons. In general, the midterm evaluation was instrumental in assessing whether the project was on the right track to bring changes as stated in the project proposal, the volume of work done, and to speed up the progress of the project in the remaining period as well as to draw lessons for the future.

This report is prepared and submitted by FTS Management and Strategy Consulting in accordance with the agreement signed with COOPI on January 6, 2014 to undertake the mid-term evaluation of the project. Apart from the executive summary and this introduction, the mid-term evaluation report presents project description, methodologies used, findings and discussions in light of the evaluation criteria, overall assessment, EC visibility, conclusions and recommendations in the pages that follow.

3. Project Description

3.1. Background

The EC and COOPI have developed this three year project called "Support to Efficient Utilization of Alternative Energy Sources to improve the Livelihood of Pastoral and Agro pastoral communities of Southern Ethiopia" and launched its implementation in collaboration with Oromia and Somali Regional States and Partnership for Pastoralists Development Association (PAPDA), which is the project implementing partner. The total cost of the project is € 1,109,537 over the three project years. Out of this, EC covers €832,152.75 or 75% while COOPI funds €269,734.25 or 24.31%. The remaining €7,650 or 0.69% is

contributed by PAPDA. The project is a three year project which started on August 4, 2011 and will end on August 3, 2014 according to the agreement signed between EC and COOPI.

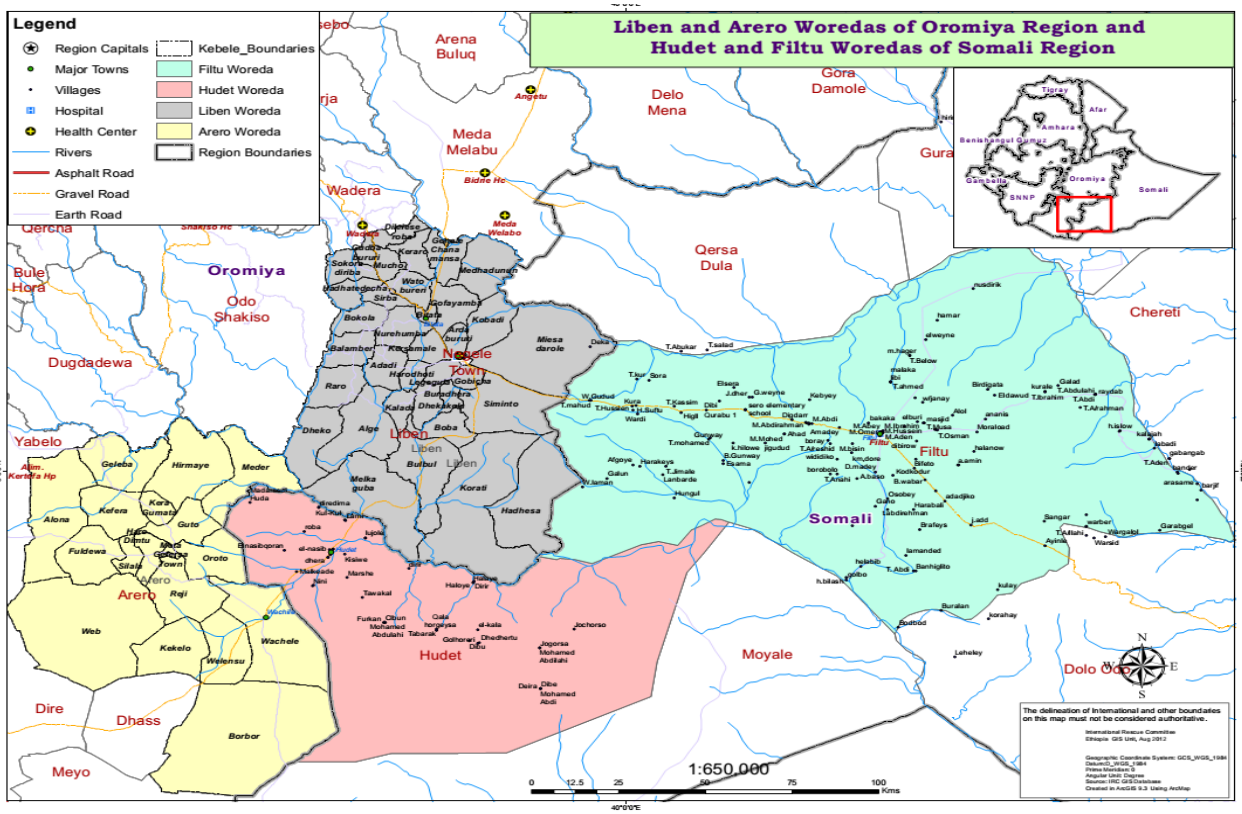
3.2. Overall Project Objective

The overall objective of the project is to contribute to increase the access to affordable and sustainable energy in order to improve the livelihood of un-served rural areas of Southern Ethiopia. Its specific objective on the other hand is to increase the production, supply and efficient use of renewable energy for basic social services, household needs and income generating activities (IGAs).

3.3. Project Sites and Target Beneficiaries

The project covers the section of the southern semi- pastoral and pastoral land of Borena and Guji Zones of Oromia and Liben Zone of Somali, in southern Ethiopia which is dominantly populated by pastoral and agro pastoral communities of Oromo and Somali ethnic groups. The project will benefit a total of 396,594 people, the whole communities living in the project area. 70,490 people or 17.6% of the total population in the targeted five Woredas named as Arero Woreda of Borena Zone, Gorodola and Liben Woredas of Guji Zone, and Filtu and Hudet Woredas of Liben Zone, will directly benefited from the action.

It is worth noting that, thanks to the improvement of national electric grid, some originally selected sites became not more suitable for solar system installation, since they were reached by national electric grid during the project implementation. For this reason Madedunum VETHP has been replaced with Dilalesa VETHP, Korati water well with Mugayo water well and Melkaguba school with Miessa school.



3.4. Project Results

The Energy Facility Project (EFP) has four results or outputs as described below turn by turn.

Result1: Basic social services (schools, health posts (HP), public wells and Veterinary Health Posts (VETHP) equipped with solar systems.
The provision of sustainable and reliable energy source for 17 social services (4 schools, 4 HPs, 3 hand-dug wells and 2 boreholes, and 4 VETHPs) enhances the capacity of service delivery of these rural public institutions. Solar technologies are the best option to provide adequate and affordable energy particularly for pastoral and agro pastoral livelihood dominant lowlands of Ethiopia.

Result2: Private enterprises (Co-operatives and individuals) created and operational using solar facilities.
This component was designed to improve production and productivity, income and wellbeing of members of agricultural cooperatives and small businesses run by the private enterprises. The ultimate goal, as stated in the project document, is to provide solar energy for three agricultural cooperatives with 56 members and 25 income generating activities operated by individuals.

Result3: Use of Fuel Saving Stoves (FSS) promoted at HH level.
The plan under this component is to produce and disseminate 6000 FSS to households in the five project target woredas. The strategy is organizing two FSS producing cooperatives in Neghelle and Filtu towns, construction of workshops one each for cooperatives, training and provision of tools and seed capital for the organized FSS cooperatives.

Result4: Capacity building of Oromia and Somali Regions Offices on sustainable energy systems
The purpose of this component was to train a total of 40 government officials from regions, zones and woredas of both Oromia and Somali Regions on solar technologies and efficient use of biomass and to provide support to these zone and region level government officials to design a strategy on a sustainable use of biomass with a focus on mapping of resources, assessing regulatory mechanisms for charcoal production and promotion of FSS. The other important activity under this component is study, mapping and classification of sustainable energy potentials (hydropower, wind, solar and biomass).

4. Evaluation Approach and Methodology

4.1. Approach and Core Evaluation Questions

The midterm evaluation adopted mixed evaluation methods including both qualitative and quantitative approaches. The qualitative approach usually is participatory in a sense that beneficiary communities and stakeholders at grass roots level and the woreda institutions in one way or the other participated in the evaluation processes. The quantitative approach includes secondary data collection and analysis of the information collected through this method. The evaluation also used the seven evaluation criteria adopted by the EU including efficiency, effectiveness, relevance, impact, sustainability, coherence and the community value added. Each evaluation criteria was linked with specific and core questions as indicated Annex 9.

4.2. The Data Collection Methods

In order to fulfill the data requirements of the midterm evaluation three types of data collection methods were used.

4.2.1. The Focus Group Discussion

Discussion was conducted with beneficiary community members, members of cooperatives (both agricultural and FSS producers), and community representatives and kebele development committee members. Representative sample participants from thematic areas such as fuel saving stove, private enterprise, have also taken part in FGDs. In general, 15 focus groups with 90 participants were conducted in the five target woredas. The detail is presented in Table 1 below.

4.2.2. Key Informant Interview

This includes detail discussion with the woreda stakeholders particularly the woreda irrigation and water development office (pastoral development office), education and health offices, cooperative promotion office, woreda administration and in general members of the woreda development committees who are responsible for the coordination, technical and administrative support to the project. In addition, the evaluation team organized discussion with PAPDA and Neghelle Borena Town Micro and Small scale Enterprise Office. At community level, teachers, health and veterinary personnel, water management committee, the kebele development committees and agricultural extension workers interviewed on progress, effectiveness, relevance, impact and sustainability of the project. In general as indicated below 17 Key informant interviews with 31 participants was conducted.

Table 1 FGD and KII participants by Woreda and Kebele Administration

No	Woredas	Target Kebeles	Kebeles Visited	FGD Participants	KIIs	Name of Visited Kebeles
1	Filtu	7	2	39	9	Masajid, Benhigli
2	Hudet	7	2	18	5	Hudet 01, Bohelseden
3	Arero	3	1		1	Wachile
4	Gorodola	6	4	17	9	Hara Qalo, Adadi, Nurhumba & Qararo
5	Liben	7	3	16	7	Hadhessa, Ardot&MalkaGuba
	Total	30	12	90	31	

In general, the evaluation team covered 12 kebeles in five woredas, three water supply points (60% of the project target) and 50% of the health and veterinary posts, two thirds of the agricultural cooperatives, 32 percent of the IGA beneficiaries and all FSS cooperatives through FGD, interviews and case stories. The number of participants in the evaluation process was over 121 people, about six people or more per FGD on the average.

4.2.3. Case stories

The consultant selected specific cases. The case stories emphasize cases that can illustrate the strength, weakness as well as impacts of the project at institutional, household and community level. Particular attention was given to beneficiaries of IGAs.

4.2.4. Observations and Field Visits

The evaluation team visited and conducted discussions with 9 out of 17 or 53% of social services, 8 of the 25 or 32% of IGAs, two of the three agricultural cooperatives and both of FSS cooperatives in the five woredas. In general, the evaluation team observed adequate number of social services, cooperatives and private enterprises running IGAs. Observations were made throughout the five woredas through intensive and rigorous field visits. The EFP operates in 30 kebeles out of which 12 kebeles or 40% were visited by the evaluation team during the fieldwork as detailed in Table 1above.

4.2.5. Desk Review and Secondary Data

The following secondary data sources are used for the midterm evaluation: the interim reports of the project (between February 2011 to December 2013), annual report of the project to the regions, the project proposal, agreement signed with the European union, memorandum of understanding signed between COOPI and the two regions (Somali and Oromia), operational memorandum of understanding with the five intervention woredas (Liben, Arero, Gorodola, Filtu and Hudet), EU guidelines on monitoring and evaluation as well as aid effectiveness (for nongovernmental organizations), the government policy documents (particularly, the energy policy of Ethiopia), the poverty reduction strategies, the MDG, the medium term plans (including PASDEP and GTP) documents. Detail of these documents and references are annexed at the end.

4.3. Data Collection Instruments

The evaluation team prepared semi structured questionnaires to capture detail information from key informant interview and focus group discussion participants. The semi-structured questionnaire covers implementation and institutional arrangement, efficiency, effectiveness, relevance, impact, sustainability and coherence as well as core and specific questions necessary to assess the stated seven evaluation criteria.

4.4. Data Analysis

For this evaluation, the evaluation team used two basic analysis strategies: the change analysis and the contribution analysis. The change analysis concerned with the change brought about due to the project intervention without relating causes with effects. While the team used contribution analysis, to assess whether or not the evaluated intervention is one of the causes of observed change. It has detail causes and effect analysis and mainly used to assess the effectiveness and impacts of the project on livelihoods of the beneficiaries. Strategies such as attribution analysis were not used for lack of baseline and SMART indicators. In addition, due to the fact that the actualization of the utilization of solar system for most of the social services and IGAs was only not more than three months, it is difficult to capture the whole range of impacts that can be attributed to the project and due to counterfactual reasons.

As indicated above, this evaluation depended on qualitative data gathered through focus groups, key informant interviews and case stories. Even though reports are used to evaluate some indicators, it is insufficient to capture higher-level indicators of impacts, effectiveness and sustainability. For these reasons, indicators that are more viable are included in the analysis including changes in income, cost saving, incremental capital, enrolment and dropout rates (for education), business diversification, expansion of social services and others. In general, the completed qualitative data from different groups was triangulated to capture communalities and differences using matrix formats. In order to answer the evaluation questions the evaluation team used both qualitative (satisfactory, unsatisfactory, high, low, etc.) and quantitative (figures) judgment criteria in reference to targets, standards, thresholds and benchmarks established in the LFA and modified indicators added during the course of evaluation.

4.5. Limitations

The following are some of the limitations of this evaluation

- The type and nature of indicators constructed for goal and outcome levels signifies the importance of collecting and constructing additional indicators of change and effectiveness;
- Lack of baseline indicators has constrained the analysis of project contributions;
- Delay of project completion, particularly for the FSS and IGAs, has limited the possibility of conducting household surveys to assess the impact of the project on livelihoods. It is only three months since the installation of solar system for the social services and the IGAs and, as a result, it is too early to assess detailed changes. The delay of installation of solar systems for the irrigation cooperatives and the production and dissemination of fuel saving stove is a major hindrance to assess the overall impacts and effectiveness of the project;

- The midterm evaluation should have covered the first half the project life, i.e. the first 18 months. However, this evaluation covered a period of 29 months and thus contains impacts which could not be observed in the midterm period.
- The number of social services from which data was collected, is too small to make sound generalizations of findings across the five woredas though the proportion of social services visited during fieldwork by far adequate and acceptable by project standard (e.g. data was collected from 2 schools, 2 vet posts, 3 wells, etc.).
- Even though the evaluation team managed to cover all the five woredas and more than 10 kebeles, one of the sample kebeles in Arero woreda was not visited as one of the COOPI team was sick. Instead the evaluation team compensated for this by working in two additional kebeles in two other woredas.

In spite of these limitations, the evaluation team has made efforts to present a comprehensive and coherent picture of the project's progress and achievements as well as conclusions and recommendations based on the FGDs, KIIs and observations made during all the three phases (desk phase, field phase and analysis and synthesis phase) of the evaluation work.

5. Findings and Discussions

5.1. Relevance of the Project

5.1.1 Project Contribution to Government of Ethiopia and EC's Country Strategy

The project has proved to be very relevant for Ethiopia's energy sector development which gives emphasis to renewable energies as the third pillar of Ethiopia's Climate Resilient Green Economy (CRGE) Strategy[1] and Growth and Transformation Plan (GTP)[2]. It is obvious that the interventions proposed by COOPI complement the contributions of state and non-state actors to the national energy development and environmental protection efforts. The EU's co-operation policy is based on Article 177 of the Treaty establishing the EC. It determines that the sphere of development co-operation shall have three objectives, namely: fostering sustainable development of developing countries; assisting the smooth and gradual integration of the developing countries into the world economy, and campaigning against poverty in the developing countries.

The project has already become one of the model alternative energy projects, which will help expand rural electrification in sparsely populated and under-served rural communities, particularly pastoral communities, where it is not economically feasible for government energy providers like Ethiopian Electric Power Corporation (EEPCO) to provide services. The project operationalizes policy level commitments of both the government and the donors and has already become one of the model alternative energy projects in Ethiopia.[3]

5.1.2 Relevance to Community Problems and Needs

A number of basic services, which have flourished recently in pastoral and agro-pastoral areas, cannot provide adequate and quality services. Most of the water supply points are ponds and birkas, which are often poor in quality and seasonal in terms of provision of safe water supply. Health posts in these areas do not have adequate access to sustainable electricity to provide affordable and quality services to mothers, children and the communities. Ground water resources development is usually constrained by inadequate capital, knowhow and lack of energy to provide ground water resources for human consumption. Schools have no electricity and their standard is poorer than those in the highlands. Quality of education is often constrained by lack of laboratories and other necessary education materials which is usually linked to the

[1] Ethiopia Climate Resilient Green Economy Strategy
[2] Growth and Transformation Plan 2010-2015 Alternative energy development and promotion (page 72)
[3] For detailed notes, see https://energypedia.info/wiki/Ethiopia_Energy_Situation#cite_ref-34; accessed on January 28, 2014.

absence of energy. Adult education and other opportunities are also limited mainly due to lack of alternative sustainable energy sources.

The project aims at increasing the access to affordable and sustainable energy in order to improve the livelihood of un-served rural communities and this project is on its way to realize its objective because it has already started enhancing quality of education and health care services to communities and their livestock as well as supporting provision of potable water through solar powered water pumps in pastoral and agro-pastoral communities. The focus discussions and key informant interviews held with different community groups and government offices revealed that the solar energy project was assessed, designed, implemented and monitored with active participation of all relevant stakeholders, including the beneficiary individuals, groups and communities.

5.1.3 Project Design

The project log frame is a well built one and captures the necessary components and parameters that the project management and key stakeholders need to manage and support the project to its completion. However, there are few comments that need attention before the terminal evaluation of the project arrives.

- The log frame matrix is clear and exhaustive. However, most of the indicators used to measure outcomes are output or result indicators. No data for example that can measure improved wellbeing or livelihoods such as income, poverty level, livelihood diversification, enrolment (rate), improved access to and efficiency of health, water supply points and vulnerability. The existing indicators at objective level are number of beneficiaries than the outcome of benefits from the project. In addition, the project has no baseline survey and indicators. In order to bridge the baseline gaps the evaluation team has made efforts to collect relevant quantitative data for some of the indicators like IGA income and diversity of enterprises, changes in time of collecting water, adult education enrolment, health facility and service improvements.
- In the project log frame it is stated under the specific objective indicator that the project will produce 389,919.00 KWh per annum from renewable and efficient energy sources for social services, households use and IGAs. This is a general figure which doesn't break down the output capacity per result. After a further analysis of the verifiable indicators for every result, and a crosscheck with the project narrative document, the evaluation team came out with the following breakdown:

Table 2Energy production

RESULT	Public service or target population	number of facilities/items	KWh/year for each one on project proposal	total KWh/year in project proposal
1	Schools	4	2000	8000
	HP	4	2000	8000
	Boreholes	2	5000	10000
	HDW	3	2000	6000
	VETHP	4	2000	8000
2	Agricultural coops	3	Not specified, to provide enough water to proper irrigate 0.5 ha. each according to crop needs	349919
	IGA	25	Not specified, to provide enough KWh/year to run a small scale business	

3	HH	6000	Not specified, the same amount of thermal power actually used by the HH for daily cooking purposes should be made available in an efficient way in order to cut firewood consumption rates	
TOTAL KWh/year				**389919**

- Considering Result 3, the reduction in the rate of deforestation in the target communities was not captured in the log frame. This could have vividly shown the possible project's impact on natural resources in the future. One of the outcome level indicators could be the rate of reduction in the volume of biomass fuel to a target value usually expressed in firewood (in kilogram) per household per month.
- With regard to cooperatives, important indicators such as growth of the members of cooperatives, capital, income and their overall critical assets necessary to sustain the businesses and conditions that make them eligible for financial services were not covered.
- The lack of baseline indicators particularly on those which are necessary to measure impacts have somehow affected efforts to measure changes and attribution of the project contributions.
- Regarding IGA targeting, the evaluation team believes that the main purpose of introducing and expanding solar power systems in off-grid pastoral and agro-pastoral communities must be to address the existing poverty level by increasing access to solar energies and by creating jobs for the poor, particularly women and the youth who are often economically dependent on men. Instead, expensive solar systems were installed for existing private enterprises owned by relatively wealthy individuals who could have contributed more to the purchase of such solar systems from their own incomes. Therefore, the evaluation team believes that the solar systems could either be community property or owned by self-help groups.

In the final analysis, the project has been and will remain to be consistent with and supportive of the policies and programmatic priorities of both the Government of Ethiopia and EC as one of the major donors in the country. It is also observed that project objectives and strategies are aimed at addressing the priorities needs of the pastoral and agro-pastoral communities of Oromia and Somali Regions in Southern Ethiopia.

5.2. Effectiveness of the Project

Effectiveness is the probability or the capacity of the project to meet the stated goal, objectives and results and it is concerned with the qualitative and quantitative achievements, whether direct or indirect and/or intended or unintended.

Result 1: Solar Systems for 17 Social Service Facilities

Installations of Solar Systems

As already indicated above, the project has provided solar energy for all the 17 social services. The installation of solar electric system completed for all targeted public service facilities is based on relative service standards and the actual scenario for energy demand calculation. The project installed a solar system with total nominal power generating capacity of 1050 Watt Peak[4] for each school, health and veterinary posts and an average1590 Watt Peak for each water supply schemes. In order to sustain and ensure continuity of the energy supply, the solar system for water supply points are equipped with energy inverters, controllers, solar pumps as well as a tanker with volume of 10,000 liters. In addition, each solar system (except water wells), was equipped with power inverter, power controller and six batteries (100Ah

[4]The installed capacity of solar system for Hadhessa health center is 1470 Watt given the type of service it provides is more than that of health posts.

and 12V each). In general, the project is highly effective in meeting the expected objective of installing the solar energy for all planned social service facilities and the design population.

Solar Power Outputs: Schools, HPs and VETHP

Despite successful installation of the solar system for all the anticipated social service facilities, there are differences between the original and the currently installed power outputs of solar systems. In the original project proposal design (1.7 description of the action and its effectiveness) the forecasted power output for each school, Hp and VETHP as per is a yearly production of 2000KWh, bringing the total power output design for these 12 facilities at 24,000KWh/year.

COOPI recently estimated the installed power capacity of the solar system for social services using the PVGIS online tool of the photovoltaic geographic information system developed by the European Union, which accounts for location factors; lose ratios, temperature and other parameters. Based on this method, the installed capacities for the 12 above mentioned social services reach about21030 KWh/year or the 88% of the proposed power output by the project proposal narrative document (89% for schools, 96% for health posts, 79% for vet posts,103)[5] COOPI justifies the difference between the estimated and the actual power output with the following:

- Being a software, the PVGIS online tool only considers the worst conditions and not the average
- Regarding VETHP, the peculiarity of Hadhessa VETHP (very small building) required COOPI to install a smaller system there.

COOPI also estimated the demand for each facility for comparison with the installed capacity so that the sufficiency of the power system is justified. The demand estimation however is based on the current demand and does not consider sufficiently the future demand like better and quality services, standards of service provision and future upgrading. Some of the assumptions taken into consideration were, radio and microphone (1 each for school), one refrigerator (500 watt for health posts and vet posts), and bulbs for all social facilities. The purpose of the social service facility is to provide adequate and quality service for the population. The demand estimation therefore prioritized the lighting functions and use of refrigerators for preservation of drugs and antibiotics. The overall estimated demand for schools, HP and VETHP, regardless of the weakness of the estimation parameters, is about 17979.90KWh/year or 85% percent of the installed capacity[6].In general, the actual power output for schools, HP and VETHP is capable to fulfill current consumption without encouraging expansion.

Table 3 Solar power outputs for schools, HPs and VETHP

Public service	Result 1 total KWh/year in project proposal	Actual KWh/year	Demand KWh/year	Difference between installed capacity and demand in KWh/year
Schools	8000	7090	5416.6	1673.4
HP	8000	7650	7026.25	623.75
VETHP	8000	6290	5537.05	752.95
TOTAL	**24000**	**21030**	**17979.9**	**3050.1**

The evaluation team believes that, given the potential for expansion and upgrading of services, diversification of enterprises to more profitable ventures, the need for more reliable and continuous power supply and compliance to standards of some of the social services, the capacity installed should have been at least double to accommodate more consumption needs that would immediately be triggered by installation of the solar systems.

[5] 5th Energy Facility interim report to the EC

[6] All calculations of actual power output is based on the online tool of the Photovoltaic Geographic Information System (PVGIS) provided by European Commission, Joint Research Centre, Institute for Energy, Renewable Energy Unit, Ispra (VA), Italy

Regarding the water wells, a different criterion has been applied to assess the effectiveness of the installed power capacity. With an average power output of 2752KWh/year[7], hence the 86% of the planned capacity, the water well are able to deliver an average quantity of 15,72lt/person/day[8], more than enough considering Sphere Minimum Standards of 15lt/person/day.

Table 4 Solar power outputs for water wells

					A	B	*B/A*
No	***Public Facility***	***Zone***	***Woreda***	***Kebele***	***# of Beneficiaries***	***Daily water volume (lt.) Annex 3***	***Daily water volume (lt.) Annex 3***
1	Hudet HDW	Liben	Hudet	Hudet town	2000	37910	18.96
2	Washakajenay HDW	Liben	Filtu	Mesajid	2000	27520	13.76
3	Mugayo BH	Guji	Liben	Kalada	2000	32970	16.49
4	Agafari BH	Guji	G/Dola	Nurahumba	2000	35340	17.67
5	Kakalo BH	Borena	Arero	Kaqalo	3500	47010	13.43
		TOTAL			**11500**	**180750**	**15.72**
							AVERAGE

The actual power capacity of the water wells is therefore considered effective byte evaluation team.

Result 2: Agricultural Cooperatives and Income Generating Activities

The purpose of this component is to improve production and productivity, income and wellbeing of members of agricultural cooperatives and small businesses run by the private enterprises. The ultimate goal, as stated in the project document, is to provide solar pumped water for three agricultural cooperatives with 56 members and energy to 25 income generating activities operated by individuals. In order to achieve this goal, the project has planned site exploration and identification, detail design studies, training of the cooperatives and installation of the solar systems for agricultural cooperatives and private IGAs.

Agricultural Cooperatives

The selection of the three sites, technical assessment of the topography, soil characteristics and socio economic condition of the beneficiaries as well as the technical design of the sites have been completed according to the schedule. However, due to initial inadequate technical assessment in broader context resulted in the reselection and change in project sites. One of the originally selected agricultural cooperative (Hiribiba Soko) was found liquidated during the assessment for various reasons and replaced by other relatively stronger cooperative called Dursitu Agricultural Cooperative. The technical evaluation of the potential power consumption of each irrigation site also necessitated design changes for all of the sites to address the likely energy shortage up on completion of the construction of the solar systems. The initial assumption of directly linking farm fields with solar pumps from river intake was also found to be uneconomical. In order to make the irrigation sites more sustainable, shallow wells and a concrete reservoir with a volume of 25 m^3 were constructed and implementation status is 100 percent complete at all the sites. The remaining activities in all sites were installation of pipelines to link the newly constructed wells and the reservoir as well as installation of the solar system.

The installation of solar pump systems in the irrigation sites is already behind schedule as technical designs were completed recently. During the fieldwork, the evaluation team learnt that procurement process underway for solar pumping systems with national tender. The process is delayed but on the right track.

Despite the delays observed in implementing this component, the selected three agricultural cooperatives currently have 77 members, the 38%more than the planned target, and are equipped with required

[7] Annex 2, 5th Energy Facility Interim Report to the EC
[8] 5th Energy Facility Interim Report to the EC

infrastructure of a water well, pipelines and a concrete reservoir of 25 m^3 at each of the sites. The rise in the number of cooperative members was due to site change from Hiribiba Soko Cooperative to Dursitu Agricultural Cooperative with 40 members of which 83%women.

With regard to the power output, the denominator for is the area to be irrigated, initially designed in the project proposal as 0.5 ha for each cooperative. COOPI is now willing to provide power to irrigate 1.5ha for each cooperative, which is the 300%of the initial estimation. COOP assessed the needs of the crops as 75m^3 of water/ hectare every 2 days, according to the Ethiopian Ministry of Agriculture Natural Resource Sector guideline on Irrigation Agronomy. The discussion with cooperative members however shows that two of the cooperatives have about 13 ha of land and currently irrigate only eight ha of land[9] and their expectation is to irrigate all the 13 ha using solar system. The evaluation team would like to suggest to COOPI to consider irrigate as much land as possible according to the available water resources. Once installed, the solar pumps will reduce diesel fuel costs by significant proportions, contribute to improved production and productivity of crops through raised frequency of watering and, as a result, improve food security and wellbeing of cooperative members and their families.

Private Enterprises

The project planned to install solar system for 25 individual/private enterprises selected with the involvement of local woreda government offices and community representatives using agreed upon set of criteria.

The design work was completed in the fourth semester and procurement of solar equipment completed in the same time. Installation of the solar system has been completed and 23 of the 25 private individuals are now able to access solar energy. During the fieldwork, the evaluation team observed successful completion and functioning of the systems. Each private enterprise was provided with two 100 Watt photovoltaic modules with accessories (inverter, controller and storage batteries). Annual potential production of electricity necessary for typical IGA is actually estimated at 334.80KWh/year (8370 KWh/year for all of them) in the project proposal. The actual installed capacity (as calculated using PVGIS) is 334.80 KWh per enterprise or 8370 KWh for all IGAs[10]. This system can run a small refrigerator, a television set, mobile phones (charging) and small appliances at the same time or one of them for a considerable number of hours. The power output is however inadequate given the rapidly growing business in the areas and the potentials for further growth and actual demand for energy.

During the fieldwork and discussions with beneficiaries of the IGAs, those originally using diesel generators (44%) complained that the installed power supply is not adequate to run deep refrigerators side by side with other machines and appliances indicated above[11]. COOPI strategy to provide the systems as (almost) free handout seems, in this case, stimulating IGA operators entrepreneurial growth since some of them indicated they want to (and have resources to do so)upgrade their solar systems if they are available in their areas. Further discussions with this group of beneficiaries and the project management revealed that there is no market access for solar systems in the project areas unless COOPI facilitates linkages to the market before the termination of the project. Interviewed IGA operators also said that they signed solar system takeover/handover documents but they could not show the evaluation team any document that testifies the ownership of the solar systems installed in their houses. It was learnt later that signed copies of handover documents are kept at woreda water and energy development offices, which are expected to deliver the copies of these documents to individual beneficiaries until they will provide legal proof of their in kind contribution to the system cost (invoices of the equipment they bought accordingly to their business plan). Issues of ownership between the communities and the individuals are also cases in some communities.

[9] Dursitu and Bohelseden irrigation cooperatives have a farmland of 6 and 7 ha respectively.

[10] Estimated by COOPI with the online tool of the Photovoltaic Geographic Information System (PVGIS) provided by European Commission, Joint Research Centre, Institute for Energy, Renewable Energy Unit, Ispra (VA), Italy

[11] These IGA beneficiaries run businesses with relatively large turn over and use the solar power throughout the day. The time left for charging the batteries is less than what is required and hence they are using the diesel generators during the night.

Kebeles have no legal right to assume ownership and justify whether the individuals provide the stated benefits to the community or not. Therefore, collateral benefit is a function of the will of the individual beneficiaries.

In general, the installed capacity is by far less than the necessary power and as a result, the current contribution of the system to expand business opportunities, income and employment is less substantial.

Participation of individuals is inadequate and the solar system has been installed and provided in exchange of an in-kind contribution. On the other hand, the majority of the beneficiaries of the IGAs are the well to do and those respected in the community. Once again, since the poverty level is not included, the evaluation team would like to disagree with the project proposal criteria in the selection of IGA beneficiaries. . Discussion with project management and subsequent field visit showed that it was only possible to target two (8% of the IGAs) women among all the IGA operators. None of the beneficiaries is poor, (44% have their own diesel generator, 12 percent have small solar panels and their working capital ranges from 25,000 to 250,000). Anyway, it is possible to appreciate significant benefits from the systems even if no one ventured until now at diversifying or changing business activities to more lucrative ones.

The contribution of the project is mainly reflected in cost saving for those who use diesel generators before the project and additional income for those who did not use the self-contained private electricity system. Communities are able to save a considerable amount of money in cell phone charging costs. Private cell phone charging costbetween8 and 10birr in all areas, while with the introduction of the solar system to the IGAs it declined to 1 to 3 birr. More detailed analysis of the impacts of the project on IGAs and others is presented in section 5.4 below. In general, the component is relatively effective in meeting the objective of providing solar energy to the beneficiaries and promoting local businesses.

Result 3: Production and Dissemination of Fuel Saving Stoves

The purpose of result 3 is to produce and disseminate fuel saving stoves to 6000 households in the five project target woredas. Every HH in the intervention area uses an average of 131kg of firewood per month for cooking purposes using the traditional three stones stove with a thermal efficiency of 7%[12]. Considering that the firewood in Ethiopia has a calorific value of 3700Kcal/KG,[13] the Kcal/year an average household produces is:

- 131(kg/month)X12(months)X3700(firewood calorific value)X0.07(stove efficiency)=407148Kcal/HH/year;
- Given that 1kcal=0.001162KWh, every HH produces an average of 407148X0.001162=473KWh/HH/year
- This implies that EFP targeted 6000 households are now producing 473KWh/HH/yearX6000=2,838,636 KWh/year in an inefficient way.

Assuming that the needs of the targeted households will not change in the project implementation period, once the FSS have been distributed, the beneficiaries of result 3 will be able to produce the same amount of energy with less wood and therefore with less CO_2 emission and pressure on the environment (land degradation).

For this reason, the distribution of the FSS plays a major contribution to reach the specific objective indicator of 389,919KWh/year since it will enable 6000HHs to produce the same amount of energy needed for cooking purposes in a year (2.838.636 KWh/year) in an efficient way. According to the "assessment of

[12]BAGER Safe Environment for Health Services Plc (2012). Support to efficient utilization of alternative energy services to improve the livelihood of pastoral and agro-pastoral communities in Southern Ethiopia. A Baseline Report on The assessment of the social and technical acceptability of Fuel saving Stove (FSS) in Filtu and Liben Woreda. January 2012.
[13] INTERNATIONAL JOURNAL of RENEWABLE ENERGY RESEARCH, DawitDiribaGuta ,Vol.2, No.1, 2012

the social and technical acceptability of Fuel saving Stove"[14] the more suitable type of FSS considering the area of intervention is the Tikikil Stove. According to GIZ the Tikikil stove has a thermal efficiency of 28% (obtained in laboratory tests). This efficiency translates to a fuel saving potential of up to 50% compared with a three-stone stove[15].Considering the baseline data for firewood consumption as 131Kg/HH/month the use of a Tikikil stove will enable every household to save an average of 65.5Kg/HH/month, sensibly reducing family expenses for cooking fuel in urban or peri-urban environment or the workload for women in rural areas. Should all of the 6000 FSS be distributed, a total of 393000Kg/month of firewood will be saved from deforestation.

With regard to FSS production the strategy is organizing two FSS producing cooperatives in Neghelle and Filtu towns, construction of workshops (for both cooperatives), training and provision of tools and seed capital for the FSS cooperatives. Organizing, registering and certifying the cooperatives at Neghelle and Filtu woreda was completed on time. Currently, the construction of workshop, guard house, store and fencing for Neghelle is completed 100% and that of Filtu on 90 percent.[16] Procurement of production tools for both cooperatives also completed. For Filtu purchased tools were kept in Neghelle Borena and few of the tools are expected for arrival from Addis Ababa.

PAPDA is the major partner responsible for the overall production, dissemination and awareness creation and marketing of the fuel saving stoves according to the MoU signed between COOPI and PAPDA. Unfortunately, the production, promotion, marketing and dissemination of FSS have not been accomplished and a failure for many reasons discussed below.

The lack of organizational strength between the cooperative members in Neghelle is serious hurdle to production of FSS. The extended time taken between the technical training (which was appropriate and given with the support of GIZ) and start of production created significant gap and contributed to low commitment and morale of the cooperative members. Almost over half of the originally trained members of Fakegna Dura cooperatives (at Neghelle) left the cooperatives due delay in production and benefits. New young members added to the cooperatives but they are in need of a second round of technical training to master the complexities of designing, fixing and producing the stoves. Moreover, almost all members need incentive to subsist their families if they have to engage in production on full time basis.

So far, PAPDA has no dependable strategy for promoting and marketing fuel saving stoves. Awareness creation and educating the community is a precondition for successful promotion and marketing of fuel saving stove. According to the assessment on social and technical acceptability of improved stoves, less than 17.7 percent of the rural population is using any fuel saving stoves. Given the low level of utilization and awareness on the typology and use of the fuel saving stoves it is unlikely that the project could achieve its target of distributing 6000 stoves in the remaining period ahead. Even though awareness creation is a necessary condition and requires extensive campaign and joint efforts of many stakeholders, PAPDA has not yet started the campaigns due to the assumption that it could be made after the production and during the marketing and distribution of the stoves.

Unlike other outputs (social services, IGA and cooperatives), there is no clear dissemination strategy as target kebeles and households have not been identified so far. The strategy of PAPDA is to distribute equal number of stoves in each woreda through woreda water, mineral and energy offices. This strategy does not appear to be sound because of the apparent low capacities of such woreda offices particularly in the Somali Region. Lack of marketing and pricing strategy could also be a potential threat for the distribution of the fuel saving stoves. Given the low awareness creation, low production, rising costs of production and inputs

[14] BAGER Safe Environment for Health Services PLC (2012). Support to efficient utilization of alternative energy services to improve the livelihood of pastoral and agro-pastoral communities in Southern Ethiopia. A Baseline Report on The assessment of the social and technical acceptability of Fuel saving Stove (FSS) in Filtu and Liben Woreda. January 2012.
[15] GIZ-ECO (Ethiopia), HERA –Poverty-oriented basic energy services, Tikikil stove technical specification, November 2011
[16] Door fixing for guard house and store remain in Filtu. The floor of the store is also incomplete.

and low efficiency of the members, the products may fail to compete in local markets. Pricing at lower ceiling (subsidized pricing) might lead to significant losses and dwindling of working capital. Subsidy also may demand large amount of fund of both PAPDA and COOPI for which there is no budget line at present. It can also be against the principles of cooperative societies, which presupposes cooperatives as profit oriented business enterprises.

The production and dissemination of fuel saving stoves did not engage other important stakeholders with the duties and capacities to create awareness, marketing and promotion of the product at woreda and community level. The small scale and micro eEnterprise Development Agency of Liben Woreda can play significant role in linking Neghelle Cooperative with financial services, markets, product development, regular capacity building and training and technical support and monitoring. These institutions are not however included in the stakeholders list. Similarly, improving access to affordable energy sources, hygiene and sanitation is part of the health extension program. Health extension workers can promote and train communities on the importance, and use of the FSS, which can create demand for the product. The implementation strategy developed for result three did not anticipate such more viable distribution options at the initial stage of the project. Furthermore, the office of women, children and youth affairs of both regions can promote the product through their grassroots institutions and play role to achieve the project results of disseminating 6000 fuel saving stoves.

The project has proposed to disseminate FSS to households at market prices, which roughly range between Euro 7.62 and Euro 8.65 (birr 198 to 225) at present. This is of course in sharp contrast to the free handout strategy used for disseminating high value solar systems to social services and private enterprises operating IGAs. The promotion and dissemination strategy of FSS does not consider the involvement of traditional authorities, which are powerful and influential in promoting the importance of the FSS. This needs the attention of the project management in the remaining period.

The internal organization of the cooperatives is weak and capacity-building supports were insufficient. In Somali Region, the construction of the workshop is incomplete and members could not start production. Members need to have access to adequate operating capital and income to engage fully in the business and support their families.

In general, due to inadequate implementation and institutional arrangement, feasibility studies, production, marketing and distribution and pricing strategies, the fuel saving stove component of the project has not achieved its objective so far though it is possible to change this status with the concerted efforts of project management and their stakeholders.

Analysis of the Specific Objective

It is expected that the effectiveness of the project is seen in light of the project's capacity to deliver on its promise to produce, and supply and ensure efficient use of renewable energies for basic social services, Household (HH) needs and Income Generating Activities (IGAs) as well as for agricultural cooperatives within scope, budget and time. As can be seen from Table 5 below, 40,000 KWh/year was planned for social services but 34,790 KWh/year or 87% was installed for them. It is worth noting that the production, dissemination and use of FSS in the target communities will be important to fully meet the target of producing 389,919 KWh/year and even more. The evaluation team believes that the project is on its course given that it takes appropriate and timely actions to start producing and promoting FSS in the communities of target woredas. This is detailed in the table below:

Table 5.Analysis of original design vs. actual output capacities

RESULT	Public service or target population	Number of facilities/items	KWh/year for each one on project proposal	Total KWh/year in project proposal	Total actual KWh/year produced
1	schools	4	2000	8000	7090
	HP	4	2000	8000	7650
	Boreholes	2	5000	10000	10250
	HDW	3	2000	6000	3510
	VETHP	4	2000	8000	6290
2	Agricultural coops	3	Not specified, to provide enough water to proper irrigate 0,5 ht. each according to crop needs	349919	6970
	IGA	25	Not specified, to provide enough KWh/year to run 25 small scale business		8370
3	HH	6000	Not specified, the same amount of thermal power actually used by the HH for daily cooking purposes should be made available in an efficient way in order to cut firewood consumption rates		2838636
TOTAL KWh/year				**389919**	**2888766**

5.3. Project Efficiency

As clearly noted in the MTE TOR and EuropeAid's Project Cycle Management Guidelines (March 2004), the efficiency criterion addresses how well project activities have helped transform project inputs into the intended results or outputs in terms of quantity, quality and timeliness. In this regard, actual project results are compared to planned results in order to review progresses, achievements, issues and problems and chart out way forward for the remaining period of the project.

5.3.1 Accomplishment of Project Results

Result 1: Basic social services (schools, health posts, public wells and veterinary health posts) equipped with solar systems

In order for the project team and their stakeholders to work together and be able to install the solar systems of the basic social services sites selection across five project woredas, social services specific technical designs, private solar enterprises selection and contracting, solar systems and accessories procurement as well as transporting, etc., had to be completed in accordance with their respective schedules over the different semesters of project implementation period.

The selection of the sites was participatory and conducted in collaboration with and participation of all woreda relevant stakeholders particularly Education, Health, Water and Irrigation and Agriculture Offices. However, in the course of validating the preselected potential sites the specific locations of seven social services (2 well, 2 VP, 1 school and 1 HP sites all in Oromia Region and one HP site in Somali Region) were altered with slight changes in the size of beneficiary populations (see Annexes 5 and 6). The relocation of social services has therefore resulted in change of solar power input designs to accommodate the changes in

demand for solar power in new locations. In general, however, potential sites selection and validation of preselected sites were undertaken timely in accordance with the plan and in a satisfactory manner.

Technical designs of solar electric systems for social services were completed with significant delay. The other major reason for that were the large quantity of preparatory civil works as well as changes in sites and resultant design considerations for new population sizes and corresponding need for solar electric power inputs for smooth functioning of the systems after installations.

As indicated in Annex 5at the end, procurement of solar panels and accessories could have started early in the third semester had it not been for the delay in technical designs as indicated above. However, actual procurement processes were started in the fourth semester and completed in the same period. One of the major reasons for delay of procurement processes was the time it required to sort out winners from the large number of bidders who participated in the bid process. In general, the procurement process lagged behind schedule by a significant amount of time.

The solar systems installations for social services was expected to start in the third semester and completed in the fifth semester as compared to the actual time when these activities have taken, i.e. from the end of the fourth semester to the beginning the fifth semester. Even though there were delays in completing technical designs and procurement processes, solar systems installation activities were within schedule and all the required quantity and type of the solar electric systems have been delivered and put to use in all social institutions targeted for this purpose.

Solar systems were installed for all the 17 social services with 100% accomplishment with high quality while 41,481 beneficiaries or 103% have started benefiting from the solar systems installed for the social services. The deviation in the beneficiary number has occurred due to site changes indicated above. This has been confirmed by the evaluation team during field visits paid to nine of the seventeen or 53% of social services across the five target woredas and through discussions held with respective woreda steering committees and focus group discussions with beneficiary community groups. Therefore, the overall accomplishment of activities under result one has been satisfactory in terms of completeness, quality and timeliness.

Result 2: Private enterprises (co-operatives and individuals) created and operational using solar facilities

Agricultural Cooperatives

The project component was designed to organize and equip three agricultural cooperatives with solar electric pump systems that help them irrigate 0.5 ha each. The three different agricultural cooperatives are Bohelseden Cooperative, Hudet Woreda, and Gedeweine Cooperative of Filtu Woreda in Somali Region and Dursitu Cooperative of Gorodola Woreda of Oromia Region. The evaluation team has visited two of the three agricultural cooperatives during the evaluation fieldwork.

Table 6 List of agricultural cooperatives with their beneficiaries

Original site	Woreda	Original Beneficiaries	New Sites	Number of beneficiaries	Remarks
Bohelseden	Hudet	22	Bohelseden	22	Visited
SokoraDiriba	Gorodola	15	Dursitu	40	Visited
Gedeweine	Filtu	15	Gediweine	15	
Total		**52**		**77**	

The selection of the three sites was made with the woreda water, irrigation and energy and agriculture offices. Studies on the topographic features, soil characteristics, socio economic conditions of the available irrigation projects were also conducted in collaboration with these woreda level government offices. The completion of the field investigation on the suitability of the cooperatives for the solar system, the site selection was made in the second semester and verified in the third semester together with the selection of site for social service facilities in collaboration with the relevant woreda stakeholders. In fact, Hiribiba Seko Cooperative was replaced by Dursitu Cooperative in the third semester in Gorodola Woreda of Guji Zone. All the necessary civil works (drilling wells, constructing concrete tankers and pipe-laying to connect wells with tankers) are completed along with operation management, financial management and organization training to members of the agricultural cooperatives. Registration of the cooperatives was also completed in the same period.

Technical design of irrigation projects of the three irrigation schemes was planned but not completed in the third semester though the project management has indicated that it is now completed and ready for next steps. The general observation is that the technical designs, procurement, installation of solar pumping systems are already behind the original schedule. In the meantime, Dursitu Agricultural Cooperative members were concerned with a threat of flooding of their farmland by Genale-Dawa Dam which is currently under construction and this issue is discussed further below in the section that deals with problems and challenges.

Private Enterprises (IGAs)

The project planned to install solar electric systems for 25 private enterprises engaged in income generating activities (IGAs). COOPI and its woreda level stakeholders selected IGA beneficiaries in the third semester. The selection criteria included, but not limited to, beneficiaries with previous experience in IGAs, low income families, female headed households, residents in off grid kebeles, individuals well accepted by the community and individuals with future business plan. Based on these criteria the team from the woreda offices in collaboration with COOPI selected 25 beneficiaries, out of which 13 are in Oromia Region and 12 in Somali Region. Only two women, one each in Liben Woreda of Guji Zone and Filtu Woreda in Liben Zone of Somali Region, were selected because it was impossible to find more whit previous experience in IGAs. The selection of beneficiaries however was on schedule and started and completed in the third semester.

The financial training for IGAs was planned for the third and the fourth semester and completed in the third semester. Only 17 out of 25 private enterprises in IGAs were trained together with members of the agricultural cooperatives because there was no budget line for training of IGA operating enterprises in the project document. The procurement and distribution of solar panels and start-up kits required for private enterprises operating IGAs were scheduled in 4th and 5th semesters and accomplished successfully as 23 out of 25 or 92% of the solar panels have been installed and started functioning. The remaining two solar systems are with COOPI EFP and will soon be installed once the two beneficiaries[17] get their own houses ready for installation work. The delay occurred because these two beneficiaries used rented houses for their businesses though they knew it was a requirement to have their own houses before solar panels arrived. The evaluation team visited 8 of the 23 or 35% of the private enterprises operating IGAs which have got solar panels so far and the pertinent findings are discussed under both effectiveness and impact criteria of the evaluation.

It was also planned that IGAs operators would access loan services from Rural Electrification Fund (REF) to cover 25% of the cost of solar panels and accessories to be given to them. COOPI later realized during implementation period that REF would not give loans to individual IGAs operators but rather give to organized solar power users cooperatives. Even if this condition was fulfilled, COOPI was not ready to

[17] One of these IGAs lives in Hudet town and the other lives in Gorodola Woreda.

collect the 25% money contributions from individual IGAs in the form of cost-sharing because its financial management system and in fact Ethiopian's Charities and Societies Law do not allow it to generate money from local sources according to the discussion the evaluation team had with COOPI EFP management in Neghelle Town. As a result, the project procured and installed solar panels and accessories for targeted IGAs operators in exchange of a contribution in kind to the fulfillment of their business plan purchase of refrigerators, TV sets, barber shop tools, etc.). These contributions do not reach the 25% of the costs as proposed in the main project document.

Result 3: Use of Fuel Saving Stoves (FSS) promoted at HH level

The production of 6000 fuel saving stoves and their distribution to households in five project target woredas was planned to contribute to one of the key project results which aimed at improving energy saving efficiency and reducing negative impacts of traditional biomass energy and open air fuel stoves on human health and environment. It was designed particularly to improve the wellbeing of women and girls in particular who are usually responsible for collecting firewood from long distances and for cooking food which often exposes them to risks of inhaling carbon monoxide.

COOPI identified and signed MoU with Partnership for Pastoralists Development Association (PAPDA) which was fully entrusted with the implementation of the project result #3. The production strategy included organizing two FSS producer cooperatives one each in Neghelle and Filtu towns and constructing two production workshops one each in the towns while providing training, cutting machines, tools and seed capital to the organized FSS cooperatives.

To this effect, the assessment of the technical and social acceptability of the FSS was conducted as planned in the first semester in selected communities of Filtu and Liben by PAPDA and a local consultant. A number of options were drawn from stoves used by the community to various modern fuel saving stoves introduced in the area. The final selection was standalone rocket type or "tikikil" stove introduced by the GIZ. Even though not detailed, need assessment was also conducted in the second semester of the project.

Then afterwards PAPDA organized two FSS producer cooperatives one each in Neghelle and Filtu towns and tasked them with production of 3000 FSS each in both towns. The original plan was to organize the cooperatives in the second semester in both areas (Filtu and Neghelle). For different reasons, like wrong initial assumption on the existence of already organized cooperatives and time consuming procedures to register them, it was completed in the third semester of the project. Accordingly, one FSS producer cooperative named Fakegna Dura (First Example) was established in Neghelle Town; this cooperative was established with 15 members (9 men and 6 women). Similarly, a cooperative called Danwadag (Hands together to Work) FSS Producer Cooperative was established in Filtu Town with 15 members (7 men and 8 women).

Subsequently, the construction of the workshop for both cooperatives was also started late. The FSS production workshop for Neghelle FSS Cooperative was built in Gobicha Kebele Administration (KA) which is out of town and about 2 km away from town center. This workshop was completed 100% at the end of the fourth semester. FSS production has not started in this workshop and the floor of the warehouse of this workshop has also got cracks here and there most likely due to poor workmanship. Filtu town FSS workshop in contrast is by far behind schedule and completed 90% only at the time the evaluation team visited the area.

The degree of awareness creation to promote the importance of fuel saving stoves was not reported or implemented as scheduled in the original design of the project. There is a need to start the awareness raising campaign up on the production of the stoves. The procurement and distribution of tools and equipment to the two cooperatives was completed in October 2013 for Neghelle FSS Cooperative and it is still in process for Filtu FSS Cooperative. Also training of cooperative members on management, organization and accounting which were supposed to be accomplished in the second semester of the project

was not accomplished due to delay of organizing cooperatives. It is expected that the activities will be implemented in the sixth semester.

In general, except technical and social feasibility studies and ax-ante need assessment of FSS, the organization and registration of the two cooperatives, all the other activities either have not started yet or were delayed by significant period.

Result 4: Capacity building of Oromia and Somali Region Offices on sustainable energy systems

The activities planned under this component have not been implemented as planned except for the briefings given to government officials during project launching workshop that took place in the first semester of project implementation period. Although the achievement of this result through these activities is critically important for sustainability of project benefits, there is a long way for the project management to go to accomplish this component using appropriate modalities.

5.2.2 Efficiency of Installed Solar Energy Systems

Considering the cost efficiency, and according to the financial data at the evaluation team disposal, until the end of the reporting period the project managed, through proper tender procedures to provide adequate solar energy at the minimum possible cost, without overspending in the relative budget lines. Regarding result 1, the cost efficiency per beneficiary (average 11.50 euro) estimated in the project proposal is likely to be respected, where the cost efficiency per KWh (average 7.0 euro) is likely to rise by 30%. However this data consider also the investment COOPI made on civil works necessary for a proper operation, maintenance and durability of the installed systems and the high quality of those works was clearly verified by the evaluation team in the field. Considering also that a proper tender procedure was applied and that the project budget was prepared three years ago, the rise in cost efficiency per KWh is acceptable.

5.2.3 Project Management Aspects

5.2.3.1 Project Implementation Arrangement

The implementation and institutional arrangement of the project is described in the organogram of the project where steering committee, project management and beneficiaries are part of it. Given the nature of the project, community empowerment and engagement in all project cycle has been limited. Furthermore, the steering committees responsible for monitoring and evaluation, project design and planning, monitoring and evaluation as well as problem-solving and decision making were not to the expected level during project design and implementation and hence most of the burden rested on the project staff. More specifically, the project has been working closely with the woreda water, irrigation and energy offices in both regions and collaboration with other pertinent woreda offices has been on adhoc basis though there have been intermittent monthly GO-NGOs meetings summoned by woreda administrations in all target woredas.

5.2.3.2 Project Management Capacities

Monitoring

Discussions made with some of the stakeholders at regional level indicated that regular monitoring and supervision, technical and management supports to the project have been inadequate due to limited capacities of the regional bureaus like MoFED and other co-signatory bureaus to cover all NGOs in their respective regions. However, collaboration, participation and joint decision making at woreda level has been highly effective particularly in Oromia Region. Joint planning, monitoring and supervision as well as technical and administrative supports to the project are encouraging as revealed during the discussions held with WDC of four woredas. Similar to the regions, however, capacity limitations, logistics and budget for frequent monitoring, supervision and technical backstopping would have not been possible without the financial and transport services support of COOPI EFP. In woredas of Somali Region, the problem is more

serious due to the remoteness of the woredas, poor infrastructure, sparse settlements and inadequate budget and logistics for such activities.

Risk Management

Implementation lag related to project results three and four has always been covered in consecutive interim reports and this must have warranted making serious discussions with and taking decisive actions involving PAPDA which is the lead implementer for these results. The project's capacity to solve problems and make decisions must have been constrained by turnover of project managers. The current Project Manager joined the project in October 2013 and is a third project manager as his two predecessors had left the organization earlier one after the other. It is obvious that there had been a need for more adjustment time for incoming managers before they decisively dealt with critical project problems like these ones.

Financial Management

The evaluation team learnt that EFP has now got strong management with energetic and committed technical and support team members. This implies that the project has adopted good human resources management practices that encourage good team spirit in the work place. In fact, the project has got appropriate financial management system, procurement procedures and reporting system. The project's financial records have also been audited by external auditors on annual basis and the evaluation team has reviewed the expenditure verification report sent to the main donor as indicated under Article 15 of the General Conditions of the Grant Contract.

It is also learnt that the project has been receiving funds from the donors within agreed upon transfer schedules. The total project cost for three years, as indicated earlier, is Euro 1,109,537, out of which Euro 737,688.12 or 66% was utilized up to December 31, 2013, i.e. within 2 years and five months. The three major planned but yet to be accomplished activities include procurement of solar pump systems for agricultural cooperatives, FSS production and dissemination as well as training and studies for building capacity of government offices. The remaining budget Euro 371,488.88 can fully be utilized if few months of time extension is allowed for the project to finish the FSS production and dissemination activities in particular. The budget utilization so far, however, is moderately satisfactory.

Reporting

EFP is one of few COOPI projects operating in five woredas of Oromia and Somali Regions, based in Neghelle Borena town and directly reporting to COOPI Head of Mission in Addis Ababa. The project management has been submitting regular reports to COOPI head office in Addis Ababa and its donors within deadlines and there were no overdue reports according to the project management. The reporting system captures feedbacks from the main donor, EC, and the evaluation team has found such feedbacks supportive and action oriented in their nature. Project stakeholders, particularly government offices, at various levels have also received reports though there is still a room for improvements in terms of timeliness and installing feedback mechanism.

5.4. Project Impacts

The fundamental purpose of any evaluation is to examine whether the designed program achieved its goal and met its objectives. It emphasizes the qualitative change on the target groups. The changes are direct or indirect and/or positive or negative. Impacts are concerned with changes in the qualitative and quantitative achievements of goal and objective indicators of the LFA. As number of population could not be the best indicator of impacts, income, improved access, livelihood security and diversification can best express the real outcome of the energy facility project. Hence, a mix of the LFA and additional indicators are used to assess the impact of the project.

5.4.1. Over All Impact

The overall goal of the project as indicated in the LFA is to contribute to increased access to affordable and sustainable energy in order to improve livelihood in un-served rural areas of southern Ethiopia. The project will address the energy needs of the underserved/un-served population of 70490 living in five woredas of Oromia and Somali Regional States through installation of solar power for 17 social service facilities, three agricultural cooperatives and 25 IGAs as well as through distribution of 6000 fuel saving stoves. The total number of population benefited from the service so far is 41,504or 59% percent of the planned beneficiaries. The delay in the installation of solar power for the agricultural cooperatives and production and dissemination of fuel saving stoves is the major cause for low achievement of the stated impacts and once these activities are accomplished the project will definitely meet its goal. It is worth noting that the objective of providing solar power for social service facilities and private small-scale enterprises is successful in terms of the LFA indicator of reaching the number of population. The second indicator of impact as indicated in the LFA is to produce 389,919 KWh/year with renewable and efficient ways for social services, HH use and IGA. However, when it comes to result 1, the narrative project proposal and the budget forecast a production of 40000 KWh/year.

Together with the estimation for the agricultural cooperatives he project installed a solar system with a generation capacity of about 50130 KWh per year for all social services, agricultural cooperatives and private enterprises. Installation of solar power for agricultural cooperatives is not performed yet and thus the actual power currently on use is only 43160 KWh/year. The installed power output in general is slightly adequate to meet the immediate demands as recently estimated by the project. However, in the case of IGA, and their possible diversification of business opportunities, the installed power supply is inadequate. As COOPI predicted, most of the IGA beneficiaries indicated that they would install additional solar panels when the time comes for business expansion.

The remaining 339789 KWh/year (389919-50130) are to be produced in efficient way for HH use by the utilization of high thermal efficiency cooking stoves to be distributed to 6000 HH in the intervention area. Should all the 6000 FSS be distributed the specific objective indicator will be met and even exceeded. Other qualitative indicators show that there is rising income of the private enterprises, and improved access to more sustainable social services such as water, health and veterinary services after the because of the energy facility project. Enrolment rate improved, dropout rate reduced and number of participants in adult education increased in sample schools. Quality of education improved and additional income generated. Emergency response capacities, preservation of essential antibiotics and other drugs, provision of services in the night are possible for the health center and health posts with encouraging results in the quality of service delivery. The water supply points generate significant impact, reduced costs of accessing water, reduced waiting time and in general improved the wellbeing of women and girls. The impact on private enterprises is also significantly reflected in the form of increased working capital, additional income through business expansion and reduced costs of running diesel generators.[18] More detail impacts of each component could be found in the following sections.

5.4.2. Basic Social Facilities

As stated above, the goal of providing solar energy to social service facilities is to improve their service delivery. The impact of the provision of the solar system can be measured in terms of the level of improvements in services delivery and changing patterns. Since most of the service facilities have been benefited only in the last three months, significant measureable impacts could not be observed. Therefore, more of qualitative information are used to assess any impact observed based on the key informant interview and focus group discussion.

[18] Without concrete verification techniques and reliable methods, it is difficult to separate impacts due to counterfactual reasons and due to the project. However, some of the changes in health and education as well as water supply could be attributed to the project due to specificities and nature of the activities and the solar system.

The project installed a solar system for four schools (two second cycle and two first cycle primary schools). The change due to the project will be observed through the analysis of enrolment rate, adult education, reduced dropout and improved quality of education. Lack of affordable energy in the pastoral areas is one of the major contributors to low enrolment. The demand for labor is very high given the inadequate access to sufficient water and pastures for animals. Young and adult men are responsible for the management of the livestock production while women and girls are responsible for collecting water for small animals and for human consumption. As a result, a number of school age children both girls and boys are occupied by livestock rearing and collecting water. Enrolment in school is limited for children whose households have adequate labor for livestock production and/or children from poor families who have fewer animals. Therefore, the introduction of solar energy to the schools opens opportunities for children to learn during the night. The general observation is that, the enrolment rate of boys and girls increased significantly most of which attributed to the introduction of evening education. The data from the two sample schools show that enrolment rate grew by 4 percent; it is 37 percent for the girls. Therefore, the project contributed to improved equity to primary education, narrowing the gap between girls and boys. Dropout rate also reduced from 6.8 percent[19] to almost null in these schools most of the causes being the provision of solar energy to the school that reduces absenteeism, reduced waiting time to fetch water, opportunities to evening education and improved quality.

Adult education and continuous training contributes to changes in livelihoods, income diversification and employment; it also strengthens efforts to change the current gender roles. The introduction of solar system in the pastoral and agro pastoral areas improved adult education. Enrolment in adult education for example doubled in sample schools. Field data of sample schools show that participants of adult education grew almost by 2.8 times since the introduction of solar system. The contributing factors for growth of adult education are the chance of pursuing adult education in the evening. The data also show that enrolment of women in adult education is by far greater than that of men.

The target schools also benefited from additional income generation through mobile charging. They generate income to cover some of the operating costs including repair and maintenance, purchase of education materials, furniture and support to various clubs established in the schools. On average, each target school generates an income from charging cell phones of birr 1170 birr per month.[20] Similarly, the community benefited from reduced costs of charging cell phones.

The impact of solar system is also significant in improving the quality of education. A number of students started to use libraries in the evening, teachers able to prepare their lesson plans during nights in their offices; a number of academically weak students were supported in the evening through tutorials and make up classes. Grade transitions and academic scores are improving and some schools became models of their areas. Furthermore, in schools where radio based education is provided high cost of dry cells is a serious impediment. Solar energy saves at least 1575 birr/month. Even though not yet started, the installation of solar energy system in most schools have a potential to improve access to information technology and ICT, radio education, laboratories, and a number of equipment that contribute to quality of education, of course if the installed capacity is sufficient to run these appliances.

Among the critical problems of health and veterinary posts in pastoral areas, is inadequate service or equipment to preserve essential drugs. The shelf life of various vaccines and antibiotics is short due to lack of refrigerators and high temperature in the areas. The installation of the solar system improved access to refrigeration services, improved shelf life of drugs and antibiotics and the quality of health and veterinary services. Visited health center and health post workers indicated that they could now run regular vaccination programs. According to the FGD and key informant interviews, the solar system generates additional income for the facilities, improved staff morale and commitment, and enable them to provide

[19] Only for keraro school
[20] Refers only to kerero school. Other schools also started generating income from mobile phone charging

health services in the evening. Maternity services/delivery services are provided effectively and efficiently. For example, of the total outpatient and inpatient services provided in Hadhessa heath center this year 10% were provided in the night, which was impossible before the installation of the solar system. Incidence of epidemics reduced due to proper preparedness, environmental and hygiene practices, and regular education through health extension program. This program, became effective, as it was also possible to train communities in the evening when most of the family members are at home after daily chores.

Availability of safe water supply in general is scarce in pastoral areas. The EFP is successful in providing adequate volume of water per person per day in the target communities through improved pumping system and construction of water distribution points. The average liter per person per day is 15.72 (ranging from a minimum of 13.43 for Kekelo borehole to a maximum of 18.955 for Hudet Town hand-dug well). The installation of solar pumps and systems improved pumping speed and reduced waiting time. The construction of separate water points (stands) increased number of people collecting water at a time by six folds while waiting time reduced from an average of four hours to less than 20 minutes. The solar system improved access to 24 hour water supply through construction of reservoirs. It also improved regular access throughout the year and reduced distance travelled during dry season. The actual consumption of water however, depends on the amount of water fees charged by the water management committees. In areas where there was no charge before the project, the volume consumed declined particularly for households who cannot afford a cost of about 12.5-25 birr per cubic meter of water. On the other hand, where water fees established earlier before the project, cost of water almost reduced by six fold (from three birr to 50 cents per 20 liters of water). Other impact of the solar system on water wells is reduced cost of repair and maintenance.

5.4.3. Agricultural Cooperatives and Private Enterprises

The goal of installation of solar pumps for agricultural cooperatives and private enterprises is to improve income, diversify livelihoods and business opportunities. For various reasons indicated in this report, installation of solar system for agricultural cooperatives was not effective and delayed for significant period of time. Hence, no impact is observed.

The installation of solar systems contributed substantially to improve household income and diversify private small businesses. According to the focus group discussion with the beneficiaries of IGAs, income from small businesses, such as merchandise retails have increased almost by 44 percent. About 100 percent of the samples diversified their business (barber shops, sale of soft drinks, mobile charging, etc.). For the majority however mobile charging is the most lucrative business. The field data show that mobile charging is 22.4 percent of gross income from retail shops. Income from this source also grew by 14 percent.

This impact is relatively the highest for beneficiaries who started charging services after the project. For those who started the services earlier using diesel generators cost saving is about 50% on the average and incremental income is relatively better. Due to reduced charging costs, the number of customers and demand for other merchandise and services are growing contributing to increased income. For example, income from shopping (sale of various consumption goods and services) increased by 19 percent per month.

Case Story: Zeinaba's shop is shining bright with solar energy

Mrs. Zeinaba Godana, 39, is a mother of seven children and lives with her husband in far corner of Hadhessa Kebele, Liben Woreda, Guji Zone, 55 km away from Neghelle Borena town and about an hour's drive off to south of Neghelle-Hudet rough road. She runs a small shop where she sells groceries like sugar, soft drinks, bottled water, edible oil, etc. mainly on two market days per week to her fellow country men and women. She also runs a mini restaurant with small room where her customers chew chat, take food and drinks and often stay up deep into night by way of recreation at least thrice a week.

Zeinaba used to use lamp and flush light for her shop and mini restaurant at night. These would normally cost her about 45 Birr during at least three extended nights and 20 Birr per day during the other days of a week. This results in a weekly fuel expense of 195 Birr which means 780 Birr or 30 Euro in four weeks. When she tried to recall her annual expenses for lighting she found it staggering, i.e. 9,360Birr or Euro 360. Now she received two solar power panels from COOPI about three months ago and things have changed for her now. She plans to expand her business by building a hotel in the village. Imagining how much cost-saving this solar power system will bring about in a year she happily told me that "Now my shop is shining bright and so is my life. I really want to thank COOPI, those who paid for this; it led me out of that darkness. Not only me but all of us here have hope." (Source: Interview with Mrs. Zeinaba Godana by Fromsa Taye, Hadhessa, Liben Woreda, Guji Zone. January 27, 2014.)

The contribution of the solar system for communities is also encouraging. In some areas, cost of charging mobiles dropped (from 8-10 to 1-3 birr on average). Access to information and communication improved. Its contribution on social capital is also significant. The demonstrative effect of the solar system is rising with increased demand for more services[21]. However, given the rising demand and the need to expand businesses, the solar system installed for private enterprises is not sufficient. A number of beneficiaries cannot store adequate energy and expand the business to more lucrative opportunities such as hotel and catering services. For those households using diesel generators before the project, cost of fuel is still high and the solar system covers half of the energy demand per day.

5.4.4. Fuel Saving Stoves

The performance of the production and marketing of fuel saving stoves is inadequate and not amenable for impact analysis. In general, the impact of the fuel saving on wellbeing of the beneficiaries could not be observed given the delay in the production and marketing of the products.

5.5. Sustainability

The sustainability of the project is dependent on the technical feasibility, institutional and financial soundness. Sustainability is about the continuation of the project results (outcomes) after the termination of the project or external assistance.

5.5.1 Institutional Sustainability

As discussed above the institutional arrangement and implementation modalities of the energy facility project extended from the region to the woreda level. At regional level the project signed MOU with the two regional governments. At the woreda level, relevant stakeholders were included in the planning and implementation of the project. At community level, except in time of site selection participation and involvement of the community institutions was less likely. Important institutions such as the kebele administration are vital at grassroots level in sustaining the project, mobilizing and promoting community participation and the management of the project. Despite such institutional arrangements and mandates delegated by the MOU, the participation of regional stakeholders in project planning, implementation, monitoring and evaluation is limited. On the other hand, the woreda stakeholders particularly the offices of water, mineral and energy development have a strong partnership and collaboration with the staff of the project. Activities such as site selection, technical design, field level monitoring and others are conducted jointly with the office. Technical, administrative and management support for the project at this level is satisfactory.

Community participation is however weak. Even though participation of the community was not sought at the start of the project (design phase of the project), it is one of the pillars for successful implementation and sustainability of the project. Participation of the community promotes self-reliance and empowers the community, ensure the relevance and sustainability of the project, improve efficiency and extend the outcomes beyond the project life. It is means of transferring knowledge, encouraging local development

[21] According the zonal water, mineral and energy development office of Guji zone, the number of people and cooperatives asking for solar power system is increasing and currently there are about 1708 people on the list.

initiatives. Community participation reduces costs of implementation, monitoring and evaluation. As indicated above and informed through key informants and focus group discussion the community participation is limited to self-initiation and limited to guarding, site clearing, on site loading and unloading. Had it been the project promoted participation the project would have generated significant fund for expanding the solar system and reducing costs.

PTA, WMC and KDC, are responsible for the overall coordination, management of schools, water supply points and other public facilities and for all administrative, political and developmental activities in their respective kebeles. The PTAs are organized from teachers and parents and responsible for the administration and management of schools as well as ensuring quality of education. They mobilize communities and resources in times of maintenance and construction. The water management committees are mandated for the management of the water supply points and generate income for operation and maintenance of the schemes. In order to sustain the schemes therefore it is necessary to empower these institutions, create awareness and win commitment on the proper operation and maintenance of the facilities. Furthermore, it is essential to train community members who can perform minor operations and maintenance of the schemes in times of failure. This is particularly important given the fact that inadequate capacity of the woreda stakeholders (shortage of fund, transportation and logistics) to attend issues of repair and maintenance as well as technical backstopping.
Despite poor community participation, sustainability of the project is likely. The solar systems for social service facilities could be sustained for their significant benefits to the community. Furthermore, the management and administration of all social facilities are the responsibilities of the local government once the handover is completed. Even though there are serious budget constraints local governments have a full mandate of allocating operation and maintenance costs of high priority. Institutionally, each sector office is responsible for the management of the social services and these institutions exist in the future whether the project exists or not. However, capacitating and sensitization of community institutions is fundamental for institutional sustainability of the project. Similarly, the solar system of IGAs could be sustained due to relative financial capacities and ability to mobilizing technical expertise.

5.5.2. Financial Sustainability

It is likely that some of the social services and the cooperatives might face financial constraints. The woreda stakeholders reported that they have inadequate fund for repair and maintenance particularly as the number of systems increased. The alternative options indicated are to work out how to allocate budget for maintenance of the facilities, technical support and capacity building of the communities. The second alternative is to search for alternative budget sources. The designs and the characteristics of the solar system also did not need frequent maintenance and operation costs. Furthermore, a number of social service infrastructures start generating income through various income generating activities using solar systems. Most of the schools, vet posts and health posts generate significant income from charging cell phones. This income could be used for operation and maintenance of the system through proper fund management and control.

Infrastructure such as water supply points is financially self-sustaining. The water management committees already established user's fees ranging from 12.5 to 25 birr cubic meter of water. Given the fact that solar system is the best option and durable the probability of financially sustaining the system at community level would be high.

The solar systems for the private enterprises above all are financially sustainable. Most of the beneficiaries are relatively high income groups. The demand for the system is rising and some of the already benefited groups are demanding for additional energy and willing to pay for the cost if the equipment is available in the local market. They also generate substantial income from the already installed system (television and video services, cell phone charging, barber shops, sale of soft drinks, and sharing the power with neighbors, food

caterings and others). Therefore, the IGAs are financially more sustainable than other system installed for other facilities.

Financial sustainability of the agricultural cooperatives and that of the fuel saving stoves depends on the internal organization and management strength of the cooperatives as well as demand for their products. Once installed the system agricultural cooperatives would be financially sustainable through increased crop yield, income and cost saving from diesel engines.

The fuel saving stoves however, unless corrective measures are taken, will be unsustainable, given the weak internal structure of the cooperatives, inadequate experience and capacity building, lack of information on market for the products, poor management and technical support. Therefore, in order to build the capacity and ensure the sustainability, the government should support in linking the cooperative members with market, strengthen their organizational management, accounting and record keeping and product diversification. It also needs the involvement and support of other institutions such as the micro and small-scale enterprise development agency, women, children and youth affairs offices in creating market linkages, access to training, capacity building and operating capital.

In general, it is likely that the project could be financially sustainable if there is adequate technical support, supervision and training.

5.5.3 Technical Sustainability

Solar technology is the most appropriate and environmental friendly energy source for the remote pastoral and agro pastoral areas of Ethiopia. Once installed it needs less operating and maintenance costs, low professional expertise and replacements. The local communities and para-professionals can manage and operate the system with minimal basic training in solar technology. The woreda also trained staff of the stakeholders in installation, operation, maintenance and replacement of the system in times of need. Currently there is one trained technician in solar technology in each woreda. However, frequent turn over and transfers of the existing staff will be major threats to the project. The project therefore should train as many experts at woreda level who can train also the community members in the minor operation, maintenance and replacement activities.

Spare parts could also be critical hurdle to the proper management, operation and maintenance of the system. Currently, there are no spare part suppliers in the local market and most of the required items are supplied from Addis Ababa and other large markets outside the project woredas. Procurement of the spare parts requires long processes and costs in terms of transportation and logistics. In order to sustain the system, it is necessary to promote and link the system with cooperative societies and private suppliers who can handle adequate spare parts for maintenance and replacement of the solar system. Given the availability of fund, COOPI should also consider supply of spare parts for the most critical components of the solar system vulnerable to damage and in need of frequent technical attention.

5.5.4 Environmental Sustainability

Solar energy technologies are environmentally friendly free of carbon emission, hazardous wastes and pollutants. They are available throughout the year and the demand for it further encourages supply without restraints. Competition on the resources is less than that for fuel or hydropower system. Due to low competition on the solar system and its abundance, it has no negative impact on the environment and rather reduces deforestation. Solar systems are friendly and can contribute to the betterment of human health and wellbeing. Except its relatively high investment in the initial stage, its operation and maintenance cost is very low. Such financial feasibility of the project encourages its expansion and improves access to the remote and inaccessible areas. It is a renewable source without threshold and thus improves equity.

The traditional open air stoves are energy inefficient and only 7-10 percent of the energy produced from biomass energy sources (fuel wood, stalks, leaves and twigs, dung and others) is used for cooking or heating. Dissipations and lose therefore accounted for more than 90 percent. Fuel saving stoves to be introduced by the energy facility project increases usable energy to more than 50 percent and can reduce the amount of biomass fuel (usually wood in pastoral and agro pastoral areas) from 131 to 65,5 kg per household per month. Wide distribution at affordable prices and quality products reduce rate of deforestation and cost of accessing biomass energy by significant proportion.

In summary, the contribution of the project in changing the behavior and views of the community and institutions is satisfactory because now there is a high demand for solar power systems across the target communities and even beyond target woredas. In general, woreda government offices and beneficiary communities have much appreciation for COOPI projects in general and the energy facility project in particular. It is noted also that the government offices, particularly at woreda level, consider COOPI as one of those credible and committed development partners in both regions. In fact, the evaluation team has also learnt that COOPI's energy facility project has already inspired NGOs like Mercy Corps, which is currently planning to launch a solar energy project on cost-sharing basis with active involvement of solar energy users' cooperatives (users to cover a minimum of 70% while the NGO plans to cover a maximum of 30%).[22]

5.6 Mutual reinforcement – Coherence

The EU's co-operation policy is based on Article 177 of the Treaty establishing the EC. It determines that the sphere of development co-operation shall have three objectives namely: fostering sustainable development of developing countries; assisting the smooth and gradual integration of the developing countries into the world economy, and campaigning against poverty in the developing countries.

This led to the Council and the Commission to endorsing a Development Policy Declaration, which specified that the overriding objective of EU Development Policy must be "to reduce and eventually eradicate poverty"

In focusing on poverty reduction, the EC has adopted a broad definition. Poverty is not solely defined as a lack of income and financial resources, but also includes the notion of vulnerability, low human capabilities and lack of empowerment. Poverty is also reflected in a lack of access to adequate food, drinking water, education and health, employment, land, natural resources, credit, information and infrastructure, as well as a lack of political participation. The energy facility project implemented by COOPI is in line with fundamental EU development policy objectives and the broader definition of poverty.

It is also coherent with the government environmental conservation policies and strategies, convention on climate change, growth and transformation plan, the energy policy, rural development strategy, the universal access program, the education sector development programs, the health sector programs, pastoral area development program and the water and irrigation sector strategies, gender policy and poverty reduction strategy of Ethiopia. The project is also coherent and in line with the civil society proclamation that clearly delineated the duties and responsibilities of both national and international NGOs operating in the country. These policies and strategies also exist in the target regional and local governments of Oromia and the Somali of Ethiopia. Solar power supports expansion of rural businesses and improves income, quality of service delivery, promotes irrigation agriculture and reduces chronic food insecurity and famine.

At community level, the project has mutual interdependence with typical pastoral and agro pastoral livelihoods and supports food production. It expands opportunities for irrigation agriculture by providing

[22] This is based on the key informant interview made with Mr. TemesgenWariyo, Area Manager for Mercy Corps NeghelleBorena Area Office in his office on January 28, 2014.

adequate energy to irrigate farmlands, increase yield through adaptive technologies and improved soil moisture for crop production. It improves adequate access to food through improved crop production and pastoral livelihoods. The project also has a potential to reduce morbidity and mortality through improved access to health. It is integrated with livestock production by supplying adequate energy for veterinary infrastructure and reduces animal mortality, change epidemiological pattern and reduces epidemics and the economic costs of provision of veterinary services and loss of animals.

In addition, the contribution of the project in promoting information technology and communication and integration with the sector is highly encouraging. Number of households has access to cell phone and wireless technologies and the introduction of the solar system further increased the demand in the pastoral and agro pastoral areas. Access to information technologies further revitalize markets and improve market information that will improve the purchasing power and terms of trade for pastoralists. Pastoral areas are conflict prone due to competition on scarce resources. Information and communication technologies promoted through access to affordable energy sources reduces conflict and improved early warning and responses to emergencies. As noted above, solar energy improves business expansion and employment opportunities, support diversification of livelihoods and income, reduce vulnerability and strengthen resilience.

5.7 EC Value Added

The evaluation team observed that COOPI EFP is operating in Filtu Woreda, Liben Zone, Somali Region, alongside other Italian based NGOs like CISP and CCM (Comitato Cooperazione Medica). The latter has equipped Benhigli Health Post in Benhigli Kebele, located 60 km to the south of Filtu town, with one refrigerator along with regular provision of drug supplies, including antibiotics and vaccines for children. This health post was built by the local government in 2010/11 Ethiopian fiscal year. COOPI EFP, on its part, furnished this health post with a solar energy system and its accessories, which significantly changed the quality and speed of health services provision particularly to mothers and children. Now the refrigerator can keep drug supplies cool and vaccines can have longer shelf life; regular vaccination outreach services are thus started in the community. Women can receive emergency treatments at the health post during nights because the health extension workers can now use the solar power anytime they want light. There is synergy and complementarity between the interventions of these two NGOs and this is big value addition work for EC as a donor. Similarly, COOPI EFP has upgraded and revitalized the water well in Hudet town and installed solar pumping system for the well which was drilled and put to use by an earlier COOPI water project funded by European donors.

6 Visibility

The project management has adopted different strategies to ensure the visibility of the EU contribution in the project. First and foremost, COOPI organized and successfully run the project launching workshop at the start of the first season to create awareness, to share responsibilities, and to seek support from government officials and community representatives. Part of awareness creation involved explanations on the role and requirements of EC as a funding agency. COOPI operates from its area office in Neghelle Borena town and frequently networks and liaises with relevant zone and woreda government offices. It has also got satellite offices in Filtu and Hudet Woredas where EU and COOPI logos are displayed on a number of roadside signposts and billboards. The other major strategy is the development, publication and distribution of IEC (information, education and communication) materials. Target woredas and beneficiary communities (social services, cooperatives and private enterprises) are made to be aware of EU's contributions in the project through billboards, signposts and awareness creation activities during meetings.

EU logo is displayed at all the junctions that lead to COOPI offices, social services and agricultural cooperatives side by side with COOPI logo and key messages indicating that EU has financed pertinent civil constructions and installations of solar systems. Visibility was evaluated as follows:

ACTIVITY	QUESTION	ASSESSMENT
General Communication Strategy	Does the project have a visibility plan?	No, visibly plan is not present in the project proposal
	Are local authorities aware of the role of the EC in the project?	Yes, the fact that the project is funded by the European Commission is acknowledge by the majority of the interviewed people
	Are the beneficiary population aware of the role of the EC in the project?	Yes, the fact that the project is funded by the European Commission is acknowledge by the majority of the interviewed people
	An appropriate budget has been assigned to visibility actions?	Yes, budget is appropriate and substantial
	Is communication in local language?	No, communication is only in English
Display panels	Clearly visible?	Yes, very easy to spot
	Erected beside access routes to the site where action is taking place?	Yes
Commemorative plaques	Present, visible, appropriate?	Not present. COOPI plans to install them in coincidence with the on-site training
Banners	Present in events? Appropriate?	Yes, they were produced for the biggest training (FSS production) and message is clear and visible
Vehicles	Are they visibly carrying the Eu flag and the phrase "provided with support of the EU"?	Eu flag is prominent but sentence "provided with support of the EU" absent
T-shirt and other promotional items	Is staff provided with t-shirt of the project when working in the field?	there are no specific t-shirt for staff but they carry the ones produced for the FSS production training
	Produced for training events? Appropriate?	Yes, they were produced for the biggest training (FSS production) and message is clear and visible
Photographs	Is the project keeping a picture archives with a sufficient quality standards (300dpi)?	Yes, archive is available with sufficient quality

Despite been the visibility of EC quite satisfactory, the evaluation team has discussed with the project management that there is a need for placing respective logos of EU and COOPI with key messages on the walls or thereabout of specific infrastructures and solar systems installed for private enterprises running IGAs. Otherwise, the evaluation team has taken a lot of pictures of logos with key messages on water wells at Hudet 01 town of Liben Zone and Nurahumba kebele in Gorodola Woreda of Guji Zone.

Apart from this, the evaluation team held key informant interview with Mercy Corps Neghelle Area Office manager and learnt that a consortium of INGOs like SOS Sahel, Mercy Corps, Care Ethiopia and Save the Children have forged relationships to work together on five thematic areas[23]one of which is solar energy promotion. It was found out that COOPI EFP was not a member of this consortium which could have given it the opportunity to become one of the thematic leads, especially in the area of livelihood diversification or solar energy promotion. Such efforts will also improve donors' and COOPI's visibility and image in the

[23]The five thematic areas include promoting competitive markets, climate change, livelihood diversification (MFI and solar energy promotion), behavioral change communications on nutrition, managing and sharing knowledge and information.

beneficiary communities and in the NGO sector and with the public at large. COOPI EFP may also need to have short documentaries around successful private enterprises operating IGAs and social services that have benefited from installations of solar energy systems.

7 Overall Assessment

An overall assessment of the findings discussed in chapter five is summarized and presented in the form of overall rating of the project results against evaluation criteria, implementation arrangements, project monitoring, project management capacity, problems and challenges encountered and lessons learnt.

7.1 Assessment of Project Results

All the four project results have proved to be relevant to government's energy policy, EC's and COOPI's country strategies and community needs and problems as the solar energy systems are widely accepted by the communities and government offices visited during evaluation fieldwork and all FGD and KII participants have expressed the relevance of the results with enthusiasm and the rating for relevance is thus highly satisfactory. Not all results meet efficiency and effectiveness criteria in equal measure; result one is fully on the right course and at the right pace in terms of these criteria. Result two is on the right track but still there are delays particularly regarding solar systems for agricultural cooperatives. Results three and four are way down the rating scale in terms of efficiency and effectiveness criteria. Because the achievements registered under results one and two outweigh those of results three and four the overall rating for efficiency and effectiveness is found to be satisfactory. Project impacts and sustainability could also be rated moderately satisfactory because most or part of the accomplished activities have already started to mature in the form of benefits to the target beneficiaries as already discussed in the foregoing chapter and summarized below in the form of lessons learnt.

7.2Community Participation

Even though community participation has many dimensions, contribution in the form of financial, human and material resources are common in Ethiopia and widely used by public development projects. Despite big efforts made in meeting the objectives of the project, community participation has not been as effective as it should have been both during project design and implementation. By and large, community participation was limited to loading and unloading of construction materials, transportation of sands and other local materials, guarding and protection of construction infrastructure during actual implementation of the project. In general, community participation was not encouraged and promoted and, as a result, the total cost of solar power systems, transportation and installations has been fully covered by the project.

7.3Strengths and Weaknesses of the Project

Government offices and beneficiary communities have identified the following strengths and weaknesses (growth areas) of COOPI during the evaluation fieldwork across five woredas.

Table 7 Strengths and weaknesses of the project

Strengths
• COOPI is committed to advancing community development • Established area office in Neghelle Borena town and field base offices in Filtu and Hudet towns • COOPI is multi-sectoral • Long years of service and presence • COOPI undertakes assessments and studies before project interventions take place • COOPI delivers quality work that lasts several years with little maintenance services, if any • COOPI's solar energy project inspired and aroused communities for development

- COOPI operates in projects in very remote and inaccessible rural communities
- COOPI operates after signing operational agreement with government
- Unlike other NGOs, COOPI addresses the needs of rural and urban people in a balanced way

Weaknesses (Growth Areas)

- COOPI projects decreasing over time
- Limited projects with few activities
- Project implementation often not on schedule
- Free handout of inputs to beneficiaries
- COOPI has not managed or supervised PAPDA well
- Operational agreement signed only between COOPI and government offices but the latter find it difficult to hold PAPDA accountable in case of poor performance

7.4Problems and Challenges Encountered

7.4.1 Failure of Partnership Activities

According to the MoU signed between COOPI and PAPDA the implementation of result three activities were entrusted to the latter. However, PAPDA has not managed to deliver on this result in accordance with the MoU.

As a result, COOPI may need to revisit its partnership with PAPDA based on the following facts that have come out during the review of various documents (project progress reports, MoUs, training reports, etc.), field observations and discussions made with the management of PAPDA both in Addis Ababa and in Neghelle Borena Town and project management and staff. The major findings regarding results number three and four are summarized below:

- Production of FSS started only at Fakegna Dura FSS Producer Cooperative in Neghelle Borena Town between December 2013 and January 2014 and only 21 fuel saving stoves were produced so far; the reasons given by cooperative members for this were that members needed refresher training due extended downtime between previous training and commencement of production and that they also had to earn their means of living;
- Due to lack of clear direction what to do next the cooperative members in both towns have largely remained in disarray and the FGDs held in both towns revealed that cooperative members lacked morale and support and as a result about half of original members of Fakegna Dura left the cooperative and replaced by newly recruited young school dropouts who need skill training;
- PAPDA on its part indicated that the major problem was budget shortage for FSS production as unit costs of the FSS were not well accounted for during project proposal development and pointed further that efforts were made to revise FSS budget. However, this has not been realized so far because PAPDA and previous COOPI EFP management did not decisively deal with the problem on time.
- Regarding FSS production and promotion PAPDA's working relationships with other woreda stakeholders were found to be unsatisfactory. The production and dissemination of fuel saving stoves did not engage other important stakeholders with the duties and capacities to create awareness, marketing and promotion of the product at woreda and community level;
- Unfortunately, PAPDA has not delivered on the other project activities entrusted to it. Under result three only 3 out of 9 (33%) activities have been accomplished; 5 out of 9 (56%) are already behind schedule. 100% of result four activities (1 in number) are not accomplished and all are already behind schedule.
- Had PAPDA made decisions to move forward with FSS production at least in Neghelle Borena Town, it could have at least produced a sensible quantity of the stoves with available budget instead of waiting for budget revision.

- In the final analysis, this partnership was not well monitored and supported by COOPI EFP and problems were not identified and resolved on time. Still this problem needs COOPI's decisive intervention without further delay.

7.4.2 Fear of Flooding for Dursitu Agricultural Cooperative from Genale-Dawa Dam

Dursitu Agricultural cooperative in Genale Kebele of Gorodola Woreda, Guji Zone, has encountered a problem which dismayed cooperative members, the majority of which are women. Even though COOPI and all concerned stakeholders worked hard together to finish well drilling and water tanker construction along Genale River from the end of the 4th semester to the 5th semester of the project., there is a fear that the farmland would be flooded with floodwater from Genale-Dawa 3 dam construction that is currently underway about 35 km from the farm. According to the discussion with the staff of the project, the dam will flood areas below 1222.808 meters above sea level. The likelihood of being flooded by the hydro dam is high as Dursitu farmland site lies between 1116 and 1220 meters above sea level.[24] Apart from this, Oromia Water Works already started construction of water supply project with an estimated cost of about 357.8 million Birr to provide safe water from Genale River for over 53,325 people living across woredas in Guji Zone. This project also covers the farm site and other areas downstream.[25]

Members of the cooperative strongly requested for the installation of solar pump system, whether the area is flooded or not because they believe they would be compensated for incase there is flooded by water from the dam. In the meantime, COOPI EFP and government offices (Gorodola Woreda and Guji Zone Water, Irrigation and Energy Offices) have requested the Genale-Dawa Dam project officials in writing to seek explanations on which kebeles of Gorodola Woreda might be affected by floodwater from the dam. The evaluation team has also contacted relevant engineer of the dam to learn that reply letters are being processed in Addis Ababa project office. Although not confirmed in writing the existing information indicates that the construction work of the dam might take about three to four years to complete. This might be a window of opportunity for both cooperative members and COOPI EFP to install solar pump system for Dursitu Agricultural Cooperative because the system can safely be uninstalled when the time comes.

7.4.3 Challenges and Risks Encountered

Frequent droughts and conflicts in the area (particularly in target woredas of the Somali Region, contributed also to significant delay (unanticipated) by more than six months and shifted the attention to mitigation measures.

7.5Lessons Learnt

Solar Energy Systems: Installation of solar energy systems in remote and off-grid rural communities is just an eye opener, so to say. Even though only a few months have passed since the systems were installed for social services and private enterprises operating IGAs, solar energy has really given them reason for hope.

- Quality and timeliness of social services has started improving; now health institutions can run regular child vaccination programs and provide emergency services during nights; schools have started registering adults for evening education.
- Water wells are generating more water for community consumption as there is no worry of power shortage to draw water and on the average15.72 liters of potable water per person per day is made available due to the installation of solar pumping systems in the woredas; this is a big achievement in communities with persistent water shortages and compared even to the Sphere Project minimum standard which is 15 liters of potable per person per day.

[24] This information was obtained from EFP staff during the evaluation fieldwork.
[25] Information on this water supply project was obtained from Guji Zone Water, Irrigation and Energy Office, NeghelleBorena.

- Private enterprises are making efforts to diversify their income base by starting new small businesses. But of course it was found out that 200 Watt per individual IGAs operator is not sufficient for expanding businesses, particularly for those operators who used to use diesel generators.
- There are of course capacity limitations to meet the repair and maintenance services needs of the solar systems in the project woredas. Unless and otherwise individuals or private enterprises are encouraged to fill such maintenance services needs gap it would be difficult for the beneficiaries to find maintenance service providers in their areas.

Community Participation: The participation and involvement of the community in all project cycles is limited except for their contribution in terms of labor. Different FGD and KII participants indicated that they would have contributed both in labor and cash for infrastructure constructions and installation of solar systems, which are their top priority, had there been any requirements for contributions. The evaluation team believes that COOPI strategy to ask IGA beneficiaries to contribute buying their own equipment necessary to fulfill their business plan is insufficient. There is a need to replace free handouts with cost-sharing mechanisms to empower the beneficiaries and to crease a good sense of project ownership in the future.

Attribution of Impacts: As often is the case, project impact attributions are found not to be easy because the EFP is not the only agency operating in the communities but rather plays a complementary role adding value to what others, like government, other NGOs, communities, etc., have done or are doing. However, some of the changes in health and education as well as water supply could be attributed to the project due to specificities and nature of the activities and the solar system.

8 Conclusions and Recommendations

8.1 Conclusions

A synthesis and analysis of the information obtained from document reviews and various stakeholders, including beneficiary individuals and groups as well as government offices, indicates that COOPI, in collaboration with EC, has successfully launched the energy facility project in five woredas of both Oromia and Somali Regions in Southern Ethiopia. This is quite big an achievement on the part of COOPI and its key stakeholders because this project has already become one of the model alternative energy projects, which will help expand rural electrification in sparsely populated and under-served rural communities, particularly pastoral communities, where it is not economically feasible for government energy providers to provide services. The overall understanding and view of the government offices and the beneficiary communities is that COOPI's solar energy project is quite relevant, complements government development efforts and meets community development needs at large. In spite of some delayed project activities COOPI EFP commands popular supports among its target communities and enjoys favorable relationships and conditions with its major stakeholders, i.e. government offices at various levels.

The following major conclusions are drawn based on the findings of the mid-term evaluation:

- The realization of the project results related to equipping social services and private enterprises operating IGAs with solar energy systems has been quite successful not only in starting the delivery of long awaited benefits to target beneficiaries but also in arousing a tremendous demand for solar energy in the communities of target and other woredas in both regions.
- In targeted social services, the provision of services like safe water supply, education, human health, and animal health has started exhibiting improvements in terms of quality, speed and coverage. These are good signs that the project is progressing towards meeting its stated goal and outcome, albeit its small size compared to the vast demand for energy supply in the pastoral and agro-pastoral communities in target woredas.

- Indeed, private enterprises running IGAs have provided evidences that this project can contribute to the improvement of livelihoods of beneficiary communities given that adequate energy power supply is made available with due consideration for growing and expanding small businesses that will in turn create more jobs in the local communities.
- Community participation and involvement at different stages of project cycle, including planning, implementation and monitoring has not been strong due to the implementation strategy adopted by the project from the beginning. All existing evidences point to the fact that community contributions were not mandatory and there was no cost-sharing mechanism put in place. As a result, project inputs were delivered to social services providing institutions and private enterprises on free handout basis. The evaluation team learnt also that beneficiaries were willing and capable of making contributions on cost-sharing basis and, if this was the case, COOPI could have reached more number of beneficiaries with the same size of resources, using part of it to purchase more assets (like 1 more car) and hiring more personnel.
- The partnership between COOPI and PAPDA may need to be revisited in the context of mutual benefits or shared risks which definitely impact organizational reputation in either way based on the outcomes. The failure to implement project results, for whatever reasons there might be, would impact the reputation of both organizations and decisions taken in this regard should be seen in this light.
- Strengths and weaknesses listings have come out clearly during the various discussions and interviews and now COOPI can start addressing them in the remaining months of the project.
- In general, the project is progressing towards meeting its objectives even though there are results that still need speeding up and even time extension because activities under results three and four are way behind implementation schedules and cannot be completed within six months that are left of the project period.
- Therefore, COOPI's project implementation pace will be fast if the recommendations given below are implemented in consultation and collaboration with all relevant key stakeholders.

8.2 Recommendations

Mode of operation
COOPI ERP, though now it is moving towards project completion stage, should re-orient its mode of operation from service delivery solely based on free handouts to at least community based approach which encourages community participation from needs identification all through resources and responsibility sharing, beneficiary targeting, implementation and monitoring and evaluation processes. There is a need to replace free handouts with cost-sharing mechanisms to empower the beneficiaries and to create a good sense of project ownership in the future.

Community contributions:
From now on, COOPI should make community contributions mandatory for community members, groups and institutions to benefit from project results by putting in place cost-sharing mechanisms at different levels and threshold contribution levels. Free handouts stifle community commitments and sense of project ownership and they should be avoided. Communities are willing to take responsibilities and make adequate contributions in cash, labor and materials for all projects they consider as their priorities.

Pricing Approach for Fuel Saving Stoves:
Care should be taken when setting selling prices for fuel saving stoves for two things: dissemination of FSS will take place in biomass abundant local contexts and bigger prices may affect demand for FSS, on one hand and cooperatives should be able to run a profitable business, on the other hand. In this regard, product promotion activities must be intensive and done strategically by involving all the influential groups.

Adopt appropriate FSS promotion and marketing strategies:

The production and dissemination of fuel saving stoves should engage important stakeholders with the duties and capacities to create awareness, marketing and promotion of the product at woreda and community level. The Neghelle Town micro and small-scale enterprises office can play significant role in linking the cooperatives with financial services, markets, product development, regular capacity building and training as well as technical support and monitoring. This institution is not however included in the stakeholders list of the project. Similarly, improving access to affordable energy sources, hygiene and sanitation is part of the health extension program. Health extension workers can promote and train communities on the importance, and use of the FSS which can create demand for the product. The implementation strategy developed for result three did not anticipate such more viable distribution options at the initial stage of the project.

Furthermore, the office of women, children and youth affairs of both regions can promote the product through their grassroots institutions. The promotion and dissemination strategy of FSS should also consider the involvement of traditional authorities which are powerful and influential in the pastoral communities.

In the effort to disseminate finished FSS attention should also be given to residents of small towns because they use firewood and charcoals that encourage sale of firewood and charcoal. There must be a reasonable balance between rural and town in such distributions while production and distribution should go side by side.

Revisiting the partnership between COOPI and PAPDA:

The partnership between COOPI and PAPDA should be revisited because majority of the planned activities have not been accomplished and are already remained behind schedules. There are two options to this:

Option 1: End partnership and takeover all remaining activities from results three and four:

- The remaining activities under both results are very critical and time taking which require big commitment in terms of management attention and further resource allocations (human resource, finance and time).
- Strengthen cooperative members by adding or replacing existing ones with individuals who can easily adapt to the technical and skill requirements of FSS production; TVET graduates could be potential candidates, pending fulfillment of membership criteria.
- Hire two additional staff for FSS activities: one officer responsible for FSS production, promotion and dissemination at COOPI Neghelle office level; the other officer at Filtu town. Both should be able to directly report to the project manager.
- COOPI should directly implement capacity building activities designed for government officials and hire consultants to undertake the planned studies.

Option 2: Revise partnership MoU and share results and activities:

- Completely takeover Filtu Cooperative remaining activities under result three and take actions as detailed under option one above.
- Leave Neghelle Cooperative remaining activities under PAPDA but make strict follow up and support regularly.

Working effectively with Micro and Small Enterprises Development Office (MSEDO)

FSS producer cooperatives need to receive frequent capacity building, technical support and supervision. COOPI should provide seed funds to the cooperatives for further capacity building, technical support and working capital in order to enable them to become sustainable businesses after external supports cease in the future.

Capacity building activities:

The capacity building components covered under result four of the project are of strategic importance. They are designed to support Oromia and Somali Regional government offices to develop strategy and regulatory mechanisms on a sustainable use of biomass and production of charcoal and these activities, if implemented, will have far-reaching results. The results of these capacity building activities and study and

documentation of sustainable energy potentials, if successfully done, may be taken up by government as inputs for energy policy fine-tuning and implementation and may help improve the governance and management of the solar energy systems at different levels. Such outputs can also have the potential of colorfully painting COOPI's and its donors' images for all to see. Therefore, the project management should pay adequate attention to effectively implementing the components by hiring competent contractors for both capacity building and assessment activities.

Visibility through strategic partnerships:
COOPI should become a member of the consortium of INGOs in Neghelle Borena town where it can develop its strategic partnership with other likeminded NGOs and may be able to seize an opportunity to become a thematic lead, particularly in the area of solar energy promotion and expansion. It is also important to manage partnership activities at area program coordination office level to develop and convey the same core organizational messages and to avoid duplication of efforts and resources as well as counterproductive approaches in the same geographies and communities. This way COOPI's as well as its donors' visibility and image will be established and grow in southern and other parts of the country.

No-cost time extension:
Activities under result three and four definitely need enormous efforts and time to complete because 6,000 FSS will be promoted, produced and disseminated to target woredas.
There is also a need for more time to implement recommendations forwarded above for the eventual success of the project.
Therefore, no-cost time extension should be allowed for this project for six more months from August 4 to January 31, 2015. This includes five months of operation and one final month for consolidation and report writing. For the remaining activities, action plan should be as follows:

R	N°	Activity	Apr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Jan	Resp.	Remarks
1	A 1.5	Training of WWMC on O&M, organization and management		X									COOPI	Invite private sector who could provide future maintenance from Neghelle and Filtu
2	A 2.3	Procurement process of solar irrigation equipments (includes installation)			X	X	X						COOPI	Avoid free handouts, contribution in the digging of canals should be made by coop members
	A 2.5	Irrigation, O&M and technical training for members of coops						X					COOPI	Work closely with MSEDO
3	A 3.2	Ex ante vs. ex post assessment on use of FSS.										X	PAPDA	

	A 3.3	Organization of 2 of cooperatives and/or private sector (mechanical workshops) for the production of FSS	X	X	X	X	X	X	X	X	X		COOPI or PAPDA + COOPI	Deeply revise partnership with PAPDA
	A 3.4	Awareness campaigns in communities to promote FSS and sustainable use of natural resources		X		X		X		X	X		COOPI or PAPDA + COOPI	Engage all possible stakeholders
	A 3.5	Production and distribution of FSS and related marketing/dissemination material for FSS		X		X		X		X	X		COOPI or PAPDA + COOPI	Give attention to inhabitants of small towns
	A 3.6	Training in management, organization and accounting for members of FSS production coops			X								COOPI or PAPDA + COOPI	Work closely with MSEDO
	A 3.8	Follow-up and experience sharing among coops								X			COOPI or PAPDA + COOPI	Work closely with MSEDO
	A 3.9	Linking production cooperatives/private workshops with distribution marketing entities (shops, weekly markets, fairs, and woredas).			X	X	X	X	X	X	X		COOPI or PAPDA + COOPI	Pricing strategy should be put in place
4	**A 4.1**	Training of Regional, Zone and Woreda officials on solar technologies	X										COOPI	Pay great attention to the quality of the training since the activity is a very important one
	A 4.2	Training of Regional, Zone and Woreda officials on efficient use of biomass				X							COOPI or PAPDA + COOPI	Pay great attention to the quality of the training
	A 4.3	Support to Local Authorities to design a strategy on sustainable use of biomass (mapping of resources, regulatory mechanisms for charcoal production, promotion of FSS).					X						COOPI	Pay great attention to the quality of the training
	A 4.4	Study, mapping and classification of sustainable energy potentialities (Hydropower, solar, wind, biogas)							X				COOPI	

Overall Sustainability and exit strategy:

Regarding project sustainability FTS Strategy and Management Consulting strongly encourages COOPI to follow the recommendation detailed in section 5.5. However the evaluation team would like to stress the following points:

Creation of Market Linkages:

There is a huge demand for solar energy supplies in the pastoral and agro-pastoral communities as expressed by different respondent groups, including government offices, agricultural cooperatives, and private enterprises. Unfortunately, there is no solar power systems supply market in Neghelle Borena Town and its surroundings. To bridge this gap, COOPI, in collaboration with pertinent local government offices, should play an intermediary role by developing a list of capable and trustworthy solar power suppliers and linking them to local communities in the context of competitive market environments. Therefore, COOPI should encourage and work with the private sector to promote and expand the use of solar energy in the pastoral and agro-pastoral communities through competitive processes to deter any monopolistic tendencies. Optimum number of committed and trusted solar energy suppliers and spare parts dealers could be identified and linked with the local market based on clear and transparent criteria to guarantee effective and quality services.

Repair and maintenance services for solar systems:
There are capacity limitations to meet the repair and maintenance services needs of the solar systems in the project woredas. Besides building the capacities of government offices of both regions, focus should be given to identifying private enterprises or individuals at least in Neghelle Borena and Filtu towns and equipping them with necessary technical capacities and tools which will preposition them to effectively address solar systems maintenance services needs anywhere they arise.

For future projects

- COOPI should re-orient its mode of operation from service delivery solely based on free handouts to at least community based approach which encourages community participation from needs identification all through the different stages of project cycle. There is a need to replace free handouts with cost-sharing mechanisms to empower the beneficiaries and to crease a good sense of project ownership in the future. COOPI should make community contributions mandatory for community members, groups and institutions to benefit from project results by putting in place cost-sharing mechanisms at different levels and threshold contribution levels.
- Regarding IGA, the project has, according to its intervention strategy, entirely targeted individual enterprises owners who are generally better off compared to other community members. Despite being these members selected after a rigorous process which involved local authorities and traditional leaders, and despite the fact that female headed HH and young people owned business were preference criteria in the selection process, the evaluation team would like to insist that such high value solar systems could be owned and operated by either women self-help groups or youth groups.
- On the other side, these solar systems could be community property under kebele leadership and leased to individual enterprise owners who would pay rent fees to the community. Otherwise, the current targeting strategy, even if it benefits individuals who provide essential services to the communities, appears to be not cost-effective.

Annexes

Annex 1. References

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Annex 2. Mid-term Evaluation TOR

TERMS OF REFERENCE (TOR)

For
External mid Term Evaluation

Support to Efficient Utilization of Alternative Energy Sources to Improve the Livelihood of Pastoral and Agro pastoral Communities in Southern Ethiopia

Contract number: FED/2011/268-372

FINANCED BY: EUROPEAN COMMISSION (EC)
IMPLEMENTED BY: COOPERAZIONE INTERNAZIONALE – COOPI

Introduction

COOPI is an independent non-governmental organization, founded in Italy, committed to fighting against social injustice and poverty in the global South and to building a future that guarantees everyone adequate living conditions, equal opportunities and respect of their rights. Since 1965 COOPI has carried out more than 700 development projects and emergency interventions in 50 countries in co-operation with more than 50,000 local workers, this ensuring direct benefit to more than 60 million people. In Africa, Latin America, Asia and in Eastern Europe COOPI promotes the access to water and the right to proper health and education services in poorer communities, and gives immediate and long-term aid to populations hit by war or natural disasters.

Background

The National/Regional Indicative Programme (NIP/RIP) signed by the Government of Ethiopia and the European Commission reflects the EC's willingness to support the Energy sector in Ethiopia within the framework of this Indicative Programme 832,152.75 € were allocated to the project titled "Support to Efficient Utilization of Alternative Energy Sources to Improve the Livelihood of Pastoral and Agro pastoral Communities in Southern Ethiopia".

Full name, legal basis and commitment decision regarding the EC support:

Support to Efficient Utilization of Alternative Energy Sources to Improve the Livelihood of Pastoral and Agro pastoral Communities in Southern Ethiopia. Legally based on COM/2004/0711 final of the European Law (Communication from the Commission to the Council and the European Parliament on the future development of the EU Energy Initiative and the modalities for the establishment of an Energy Facility for ACP countries). Resource allocated in the framework of the 10th European Development Fund, Call of proposal reference: 129-364.

The overall objectives, purpose, result for the targeted groups/areas and activities (refer to the logical framework to be appended); any significant change to the original objectives.

Total duration of the action	36 months, started in august 2011
Objectives of the action	Overall objective: To contribute to increase the access to affordable and sustainable energy in order to improve livelihood in un-served rural areas of Southern Ethiopia Specific objective: To increase the production, supply and efficient use of renewable energies for basic social services, Household (HH) needs and Income Generating Activities (IGAs)
Partner(s)	Name: Partnership for Pastoralists Development Association (PAPDA) Nationality: Ethiopian, Established: June 2006
Target group(s)	70,490 people or 17.6% of the total population in the targeted five Woredas named as Arero, Gorodola, Filtu, Hudet and Liben will be directly benefited from the action
Final beneficiaries	The proposed project covers the section of the southern semi- pastoral and pastoral land of Borena and Gujji Zones of Oromia and Liben Zone of Somali, in southern Ethiopia which is dominantly populated by pastoral and agro pastoral communities of Oromo and Somali ethnic groups. The project will benefit a total of 396,594 people, the whole communities living in the project area.
Estimated results	Result-1 Basic social services (schools, health posts (HP), public wells and Veterinary Health Posts (VETHP) equipped with solar systems. Result-2 Private enterprises (Co-operatives and individuals) created and operational using solar facilities. Result-3 Use of Fuel Saving Stoves (FSS) promoted at HH level. Result-4 Capacity building of Oromia and Somali Regions Offices on sustainable energy systems

Origin of the project/programme, historical background, design and programming process, policies and strategies which the project/programme contributes to.

The project mainly targets pastoral communities of the southern semi- pastoral and pastoral land of Borena and Gujji Zones of Oromia and Liben Zone of Somali, in southern Ethiopia. In the target area, almost all rural villages do not have any access to electricity. Furthermore, from the total population (396,594 people[26]), in the targeted five Woredas', only 10.5 % recently have had access to 24 hours electric supply, while the remaining 89.5% do not have any access to electric power.

The overall low coverage of electricity coupled together with heavy reliance on biomass has serious implications on economic activities, public services and the natural resource base.

The project area is typically characterized by spatially dispersed small isolated rural villages which makes the provision of electric power supply using national grid very challenging if not impossible. Besides this, pastoral mode of production involves continuous movement of people from place to place in search of pasture and water.

The proposed energy schemes are off-grid electrification of public services, agricultural cooperative and individuals using alternative modern energy (solar energy). Solar energy is perhaps, the most abundant energy source in the area. Once it is installed it needs low technical skill for operation; require no operational cost and has no side effect on the environment. As the cost-effectiveness of solar schemes is not directly related to their size, it is one of the most appropriate technologies for scattered, off grid small size energy supply.

Regarding the households (HH) energy needs for cooking, the only timely option which is affordable, appropriate and easy to access is Fuel Saving Stoves (FSS).

As indicated by the energy sector strategic plan, the government of Ethiopia has committed itself to reverse the existing situation by shifting gradually from traditional to modern energy sources. In this regard, the operational five year national poverty eradication program, PASDEP-1, has set a target in the energy sector to increase the access rate from 16% in 2005/06 to 50% by 2009/10. The energy policy of Ethiopia has objectives of ensuring sustainable supply of energy at the right time and at an affordable price. In addition, the recently issued policies on environment give alternative sources of energy their due place in the future energy development of the country. The need for the use of alternative energy sources (e.g. solar power, wind, biogas, agricultural bio-fuel, liquid bio-fuel or small hydroelectric plants) for towns and villages remote from the national grid has also been well recognized.

In order to contribute to address the energy problem, the project proposes activities that result in the improvement of access to alternative renewable energy sources, efficient utilization of biomass resources and enhance the local capacity for proper management of resources.

Therefore the action takes into account and contributes to the achievements of objectives 3.2 & 3.5 of the National Energy Policy. Specifically;

To ensure and encourage a gradual shift from traditional energy sources use to modern energy sources:

To increase energy utilization efficiency and reduce energy wastage".

Moreover as stated on the national main policy issues "solar and geothermal energy will be used, wherever possible, for process heat and power generation" (6.1.3). Hence the project intends to achieve its objective through provision of sustainable and reliable energy source, particularly solar.

Evolution of the context – major trends – in the political, institutional, social and/or economic fields

Despite relatively clear National strategy in the sector, the pace of achievement of percentage of access to affordable and renewable sources of energy remains insufficient. Main causes hindering the achievement of the target can be summarized by lack of financial capacity, lack of technical capacity and know-how in the sector of renewable energies, logistic matters related to the vastness of the Country and scattered population in rural areas, capacity of the rural communities to meet costs of utilization. Lack of adequate resources to introduce and expand these

26 National Census commission Report, 2007

technologies is the other problem. The extent of damage on the environment as a result of utilizing inefficient stove is not given its due attention. Lack of local FSS producers is also a constraint. Moreover, research and study to introduce a better FSS technology at the federal level is also minimal.

Components and key implementation arrangements (management, contracts, monitoring, co-ordination, partnerships).
The project bases its methodology on the following strategic aspects:
Promotion of two environmental friendly technologies:
Solar energy to decentralized social services and Income Generating Activities (IGAs)
Fuel Saving Stoves to individual households
Other components are:
Support to Cooperatives/informal groups, who are already engaged in irrigation, are identified and reinforced with the means of solar pumping so as to increase their productivity and efficiency. Other cooperatives are engaged in commerce by the selling of stove are being organized, trained, registered and given the ways and means to start up a sustainable business.
Support to individual (family-run) micro enterprises identified and supported with capacity building and solar systems as source of energy.
Capacity building training given to government offices of the region and beneficiaries
Fair distribution of activities to all subgroups of the (agro) pastoral social structure according to their specific needs (men, women, students, elders, children)
Management approach used in this project focus on achieving outcomes, implementing participatory performance measurement, adopting learning and changing principles, and reporting performance to ensure effective decision making and accountability. At the beginning of the project, a survey has been conducted with stakeholders, as one of the instruments to formulate the base line for measuring the progress towards achieving the expected results.
Contracts: Major procurements for solar equipments and accessories (solar panels, inverter, regulator, electric cables, and storage battery), water pumps, storage tankers, pipe and fittings are carried out at central markets by adopting proper donor procedures. Other, complementary materials, tools and equipments necessary for the realization of proposed scheme are procured from the markets in the project area. Among the major purchases of the project are:

ASSET	Q.tity	Proposed ownership at EOP
Solar system for schools	4	Woredas Education Offices
Solar system for Health Posts (HP)	4	Woredas Health Offices
Solar pumping system boreholes	2	Woredas Water Res. Offices
Solar pumping system for hand dug wells (HDW)	3	Woredas Water Res. Offices
Solar system for VETHP	4	Woredas Agriculture Offices
Solar irrigation systems for agriculture cooperatives	3	Coops
Solar panels and start-up kit/capital for IGAs of private enterprises	25	Private enterprises
Start-up kits, basic equipment and for FSS producer cooperatives.	2	Coops
FSS (Improved stoves)	6000	Individual HH

Monitoring: COOPI HQ is in charge of performing punctual monitoring and evaluation missions at field and regional level; moreover the internal evaluation focus on the adoption of management and accounting best practices in the course of project implementation. The supervision provided by COOPI HQ assure high quality standard in measuring the achievement of the project in compliance with the rules and regulations of EC.
Timely yearly missions from COOPI HQ assure a constant commitment on organizational performance improvement.
The project hired an external consultant to design the monitoring and evaluation system to be used in the project and trained the staff to conduct participatory monitoring and evaluation processes.
Coordination: The Project Steering Committee, which meets at least once a year, revises and makes recommendations based on the monitoring and evaluation reports. Throughout project implementation, stakeholders meetings have been held to discuss progress and field visits are carried out to validate the reported information and have direct feedback from beneficiaries.

The following actors play key roles in the implementation of the action:

ACTORS	ROLE

COOPI	Lead organization. Co-ordination of partners and actors. Direct implementation of activities related to results 1, 2, 4. Relationship with the Donor.
PAPDA (partner)	Implementation of all activities in all aspects of production, quality control and marketing of FSS (result 3). Strengthen group marketing and cooperatives for the production of FSS. Managing any subcontracted actions for studies, assessments on issues related to use on biomass and FSS.
Rural Electrification Fund (REF)[27]	Provide funds to individuals who will be selected as beneficiaries for up-grading/establishing private enterprises using solar energy.
Oromia and Somalia Regional Offices	Facilitation and coordinating with other initiatives in their respective Regions. Actively involved in capacity building trainings that ensure sustainability
Oromia and Somalia Zonal and Woredas offices	Assure that the intended activities are implemented with the least impediments. Involved in capacity building trainings that ensure sustainability, and taking over the responsibility of managing the systems for social service facilities after hand over.
FSS Cooperatives Agric. Cooperatives	They are both beneficiary and actors. FSS coops ensure the dissemination of FSS in the area through market-base approach. Agric. Coops ensure sustainability of the solar irrigation systems through wise business plans and economically sustainable production.
Private solar system providers	They have been subcontracted for the supply of solar equipments. They are also responsible for proper installation and functioning.

At advisory level, the project is supported by a Board of Trustees composed of stakeholders' representatives – Regions, Woredas, FSS Cooperatives and target beneficiaries.

Cost, funding modalities, co-financing, significant changes, if any.

The total eligible cost of the action is 1.109.537,00 € of which 832.152,00 are financed by the European Union (75%) and the rest are co-financed by COOPI.

Duration and schedule, significant changes, if any.

Total duration of the action is 36 months, the project started in august 2001, and scheduled activities are on time.

State of implementation, indicating any noticeable successes or problems

The result of the action so far is positive, the procurement process, that is in one of the key activities for the whole project is finished, and the solar companies are confident that they can deliver and install the systems within the next 2 months. The activities related to Result 3 (FSS production and distribution) will take place in the third year of the project. One unforeseen challenge has been the fact that the rural electrification fund (RUF) doesn't provide for loans to individuals, only to cooperatives of more than 15 members, so the 25% of the IGAs solar systems cannot be loaned by them. As a consequence, COOPI in coordination with steering committees at local level has agreed to request in kind contribution to each beneficiary. Such a contribution will be defined and linked to the investment each beneficiary will do for the micro-enterprise.

Evaluation Objectives

This mid-term evaluation, which has been foreseen in the Technical and Administrative Provisions of the project's Financing Agreement, will provide the decision-makers in the Government of Ethiopia, the relevant external co-operation services of the European Commission and the wider public with sufficient information to:

[27] See state of implementation about the role played by the REF

make an overall independent assessment about the past performance of the project/ programme, paying particularly attention to the impact of the project actions against its objectives;

Identify key lessons and to propose practical recommendations for follow-up actions.

Issues to be studied

The evaluation study responds to the requirements of the second year of the project life. The consultants shall verify, analyses and assess in detail the issues outlined in Annex 2 "Layout, structure of the Final Report". The list of issues is not intended to be exhaustive. The issues refer to the five evaluation criteria endorsed by the OECD-DAC (relevance, effectiveness, efficiency, sustainability and impact), and to the EC-specific evaluation criteria (EC added value and coherence).

The consultants are requested to verify, analyses and assess the integration and impact of cross cutting issue in the project. The consultants are required to use their professional judgment and experience to review all relevant factors and to bring these to the attention of the Government and European Commission.

Methodology

For methodological guidance refer to the EuropeAid's Evaluation methodology website http://ec.europa.eu/europeaid/how/evaluation/methodology/index_en.htm

where guidance is available for both evaluation managers (Commission staff) and evaluation teams (consultants) as well as to "Aid Delivery Methods', Volume 1 'Project Cycle Management Guidelines (Europeaid, March 2004) http://ec.europa.eu/europeaid/multimedia/publications/publications/manuals-tools/t101_en.htm

Methodological guidance for the evaluation of integration of cross-cutting issues (environmental sustainability, gender, good governance and human rights) may be found in the following website (please note that this links could be changed):

http://ec.europa.eu/europeaid/what/development-policies/cross-cutting-issues/index_en.htm

5.1 Management and steering of the Evaluation

The evaluation is managed with the assistance of a reference group consisting of members of EC delegation and COOPI management under the coordination of the evaluator who oversees the evaluation on behalf of the Commission. The reference group member's main functions are:

To aggregate and summarize the views of the Commission services and to act as an interface between the consultants and the services, thereby supplementing bilateral contacts.

To ensure that the evaluation team has access to and has consulted all relevant information sources and documents related to the project/programme.

To validate the Evaluation Questions.

To discuss and comment on notes and reports delivered by the evaluation team. Comments by individual group members are compiled into a single document by the evaluation manager and subsequently transmitted to the evaluation team.

To assist in feedback of the findings, conclusions, lessons and recommendations from the evaluation.

For detailed information on the role of the reference group see the following link:
http://ec.europa.eu/comm/europeaid/evaluation/methodology/methods/mth_stg_en.htm

5.2 The evaluation approach / process

The evaluation approach should be developed and implemented as presented below (for further details consult the evaluation methodology website above mentioned).

Once the external evaluation team has been contractually engaged, the evaluation process will be carried out through three phases: a Desk Phase, a Field Phase and a Synthesis Phase, as described below:

5.2.1 Desk Phase – Inception

In the inception stage of the Desk Phase, the relevant programming documents should be reviewed, as well as documents shaping the wider strategy/policy framework. The evaluation team will then analyses the logical framework as set up at the beginning of the project/programme cycle. The relevant programming documents should also be reviewed, as well as documents shaping the wider strategy/policy framework. On the basis of the information collected the evaluation team should:

Describe the development co-operation context.

Comment on the logical framework.

Comment on the issues / evaluation questions suggested (see annex 2; section3) or, when relevant, propose an alternative or complementary set of evaluation questions justifying their relevance. Develop the evaluation into sub-questions, identify provisional indicators and their verification means, and describe the analysis strategy.

Propose the work plan for the finalization of the first phase.

Confirm the final time schedule.

During the inception stage an inception report shall be prepared (see section 5).

5.2.2 Desk phase - Finalization

In the finalization stage of the Desk Phase, the evaluation team should carry out the following tasks:
Review systematically the relevant available documents (see Annex 2);
Present an indicative methodology to the overall assessment of the project/programme.
Interview the Project management, EC services and key partners in Ethiopia.
Present each evaluation question stating the information already gathered and their limitations provide a first partial answer to the question, identify the issues still to be covered and the assumptions still to be tested, and describe a full method to answer the question.
Identify and present the list of tools to be applied in the Field Phase;
List all preparatory steps already taken for the Field Phase.

At the end of the desk phase a desk report shall be prepared (see section 5).

5.2.3 Field phase

The Field Phase should start upon approval of the Desk Phase report by the evaluation manager. The evaluation team should:
Submit its detailed work plan with an indicative list of people to be interviewed, surveys to be undertaken, dates of visit, itinerary, and name of team members in charge. This plan has to be applied in a way that is flexible enough to accommodate for any last-minute difficulties in the field. If any significant deviation from the agreed work plan or schedule is perceived as creating a risk for the quality of the evaluation, these should be immediately discussed with the evaluation manager.
Hold a briefing meeting with project management, and Delegation in the first days of the field phase.
While conducting the survey in the field, ensure adequate contact and consultation with, and involvement of, the different stakeholders; working closely with the relevant government authorities and agencies during their entire assignment. Use the most reliable and appropriate sources of information and will harmonize data from different sources to allow ready interpretation.
Summarizes its field works at the end of the field phase, discuss the reliability and coverage of data collection, and present its preliminary findings in a meeting with the project management.

5.2.4 Synthesis phase

This phase is mainly devoted to the preparation of the draft final report. The consultants will make sure that: Their assessments are objective and balanced, affirmations accurate and verifiable, and recommendations realistic.
When drafting the report, they will acknowledge clearly where changes in the desired direction are known to be already taking place, in order to avoid misleading readers and causing unnecessary irritation or offence.

If the evaluation manager considers the draft report of sufficient quality, [he/she] will circulate it for comments to the reference group members, and convene a meeting in the presence of the evaluation team.

On the basis of comments expressed by the reference group members, and collected by the evaluation manager, the evaluation team has to amend and revise the draft report. Comments requesting methodological quality improvements should be taken into account, except where there is a demonstrated impossibility, in which case full justification should be provided by the evaluation team. Comments on the substance of the report may be either accepted or rejected. In the latter instance, the evaluation team is to motivate and explain the reasons in writing.

5.2.5 Quality of the Final Evaluation Report

The quality of the final report will be assessed by the evaluation manager (in the delegation or in head quarters) using a quality assessment grid (see annex IV). The explanation on how to fill this grid is available on the following link: http://ec.europa.eu/europeaid/evaluation/methodology/egeval/guidelines/gba_en.htm

Reporting Requirements
The reports must match quality standards. The text of the report should be illustrated, as appropriate, with maps, graphs and tables; a map of the project's area(s) of intervention is required (to be attached as Annex).
The consultant will submit the following reports in English:
1. Inception report of maximum 12 pages to be produced after 5 days from the start of the consultant services in the report the consultant shall describe the first finding of the study, the foreseen decree of difficulties in collecting data, other encountered and/or foreseen difficulties in addition to his programme of work and staff mobilization.
2. Desk report (of maximum 40 pages, main text, excluding annexes) to be submitted at the end of the desk phase to address the issues mentioned in section 4

3. Draft final report (of maximum 40 pages) using the structure set out in Annex 2 and taking due account of comments received from the reference group members. Besides answering the evaluation questions, the draft final report should also synthesis all findings and conclusions into an overall assessment of the project/programme. The report should be presented within [number] days from the receipt of the reference group's comments.
4. Final report with the same specifications as mentioned under 3 above, incorporating any comments received from the concerned parties on the draft report, to be presented within 7 days of the receipt of these comments.

Distribution of all (4) reports in paper and electronic version will be as follows:

Contracting Authority:	(1) copies
EC Delegation	(1) copies
Europeaid	(1) copies

The consultant will include as an Annex the DAC Format for Evaluation Report Summaries (see Annex 5).
The report is to be disseminated under the full responsibility of the Commission.
Good Practices:
It is suggested that the evaluation manager (not the consultants) prepares (1) a 'fiche contradictoire' summarizing the recommendations (column 1), the comments of the addressees (relevant services) of the recommendations (column 2), and any actions taken one year later (column 3).

The report, the DAC summary model (see annex V), the quality assessment grid (see annex IV) and the two documents above may be published on the Internet (respective Delegation or headquarters websites)
For further details please consult this link
http://ec.europa.eu/comm/europeaid/evaluation/methodology/guidelines/gba_det_en.htm#06

The Evaluation Team
The evaluation team will be composed of at least 2 experts with the following profiles and qualifications:

Common features:
a solid and diversified experience in the specific field of expertise needed, including experience in evaluation of projects (for at least 1 of the experts, including the Team Leader);
experience in the region (years of experience may vary per expert irrespective of their position on the team);
full working knowledge of English, and preferably of local languages and excellent report writing
Fully conversant with the principles and working methods of project cycle management and EC aid delivery methods.

Additionally COOPI expects that the successful consultants to have the following experience:
- At least 1 of the experts proposed should have solid knowledge of and practical experience with gender issues and gender integration analysis.
- At least 1 of the experts should have hands-on experience with environmental impact assessment techniques for projects and un understanding of Alternative Energy sources especially on solar technology issues.

Experience using participatory and beneficiary focused approaches.
Experience facilitating discussions across broad stakeholder groups

The composition of the team of experts should be balanced to enable complete coverage of the different aspects of project evaluation (evaluation methods and techniques) as set out in these terms of reference, including cross-cutting issues.

The team as a whole should possess a sound level of knowledge and experience in the following: Ethiopia or Africa, Energy and Environment.

Work plan and timetable

The dates mentioned in the table may be changed with the agreement of all parties concerned.

Activity	Place	Duration
Desk Phase – Inception	Addis Ababa	[5] day(s)
Preparation - submission inception report		[5] day(s)
Desk Phase - Finalization	Addis Ababa	[8] day(s)
Reference group meeting		[1] day(s)
Interviews with programme management, EC services, etc.		[2] day(s)
Preparation – submission desk report		[5] day(s)
Field Phase	Zone of intervention	[20] day(s)
Briefing EC Delegation		[1] day(s)
Travel Addis Ababa/Negele Borena		[2] day(s)
Field work		[14] day(s)
Travel Negele Borena/Addis Ababa		[2] day(s)
Debriefing EC Delegation		[1] day(s)
Synthesis Phase	Addis Ababa	[12] day(s)
Drafting provisional final report		[5] day(s)
Reference group meeting		[1] day(s)
Finalization report		[6] day(s)
TOTAL		[45] days

Instruction for Proposal Submission

Interested consultants shall submit their technical and financial proposals in a wax sealed envelope signed and stamped to the under-mentioned address of the Organization on Monday 16th of December 2013 from 08h30 to 12h30 and from 13h30 to 17h30. Proposals submitted before of after the above mentioned date will be discarded.

Address

To: COOPERAZIONE INTERNAZIONALE (COOPI)
P. O. Box 2204
Bole Sub City, Kebele 10, House Number 13
Addis Ababa, Ethiopia
Tel +251 11 629 3149
Fax+251 11 629 8527
Email: addis@coopi.org

Evaluation of the Proposals will be carried out as per standard and criteria set by the Organization for Consultancy service procurement.

Awarding

Successful candidate will be contacted through telephone or by the address indicated on the CV, and will sign contract agreement with COOPI.

Annex 1: Key documents for the evaluation

Legal texts and political commitments pertaining to the project / programme

Country Strategy Paper [country/region] and Indicative Programmes (and equivalent) for the periods covered

Governmental national and sector policy documents

Project identification study

Project feasibility study

Project financing agreement and addenda

Project's Global and Annual Operational Plans

Project's quarterly and annual progress reports, and technical reports

EC's Result Oriented Monitoring Reports, and eventual other external and internal monitoring reports of the project

Relevant documentation from national/local partners and other donors

Relevant policy and planning documents from national/local partners and other donors]

Note: The evaluation team has to identify and obtain any other document worth analyzing, through its interviews with people who are or have been involved in the design, management and supervision of the project / programme. Resource persons to collect information and data are to be sought in the EC services, implementing body and / or public service in the partner country.

Annex II: Layout, structure of the Final Report
The final report should not be longer than approximately 40 pages. Additional information on overall context, programme or aspects of methodology and analysis should be confined to annexes.

The cover page of the report shall carry the following text:

" This evaluation is supported and guided by the European Commission and presented by [name of consulting firm]. The report does not necessarily reflect the views and opinions of the European Commission".

The main sections of the evaluation report are as follows:
Executive Summary
A tightly-drafted, to-the-point and free-standing Executive Summary is an essential component. It should be short, no more than five pages. It should focus mainly on the key purpose or issues of the evaluation, outline the main analytical points, and clearly indicate the main conclusions, lessons learned and specific recommendations. Cross-references should be made to the corresponding page or paragraph numbers in the main text that follows.
Introduction
A description of the project/programme and the evaluation, providing the reader with sufficient methodological explanations to gauge the credibility of the conclusions and to acknowledge limitations or weaknesses, where relevant.

Answered questions/ Findings
A chapter presenting the evaluation questions and conclusive answers, together with evidence and reasoning.

The organization of the report should be made around the responses to the Evaluation questions which are systematically covering the DAC evaluation criteria: relevance, effectiveness, efficiency, impact and sustainability, plus coherence and added value specific to the Commission. In such an approach, the criteria will be translated into specific questions. These questions are intended to give a more precise and accessible form to the evaluation criteria and to articulate the key issues of concern to stakeholders, thus optimizing the focus and utility of the evaluation.

This annex proposes an indicative list of issues which deserve to be studied in a project/programme evaluation. The evaluation should focus on a limited number of precise issues/questions. It should ensure that there is a balance of evaluation criteria.

Further guidance on evaluation questions for the following sectors - health, education, transports, rural development, water and sanitation - is available on the following link
http://ec.europa.eu/europeaid/evaluation/methodology/methods/mth_qes_en.htm
The appropriate evaluation questions and sub questions, based on this set of issues, should be elaborated for each project/ programme evaluation case.

3.1 Problems and needs (Relevance)
The extent to which the objectives of the development intervention (projects/ programme) are consistent with beneficiaries' requirements, country needs, global priorities and partners' and EC's policies.

The analysis of relevance will focus on the following questions in relation to the design of the project:
the extent to which the project has been consistent with, and supportive of, the policy and programme framework within which the project is placed, in particular the EC's Country Strategy Paper and National Indicative Programme, and the Partner Government's development policy and sector policies
the quality of the analyses of lessons learnt from past experience, and of sustainability issues;
the project's coherence with current/on going initiatives;
the quality of the problem analysis and the project's intervention logic and logical framework matrix, appropriateness of the objectively verifiable indicators of achievement;

the extent to which stated objectives correctly address the identified problems and social needs, clarity and internal consistency of the stated objectives;
the extent to which the nature of the problems originally identified have changed
the extent to which objectives have been updated in order to adapt to changes in the context;
the degree of flexibility and adaptability to facilitate rapid responses to changes in circumstances;
the quality of the identification of key stakeholders and target groups (including gender analysis and analysis of vulnerable groups) and of institutional capacity issues;
the stakeholder participation in the design and in the management/implementation of the project, the level of local ownership, absorption and implementation capacity;
the quality of the analysis of strategic options, of the justification of the recommended implementation strategy, and of management and coordination arrangements;
the realism in the choice and quantity of inputs (financial, human and administrative resources)
the analysis of assumptions and risks;
the appropriateness of the recommended monitoring and evaluation arrangements ;
3.2 Achievement of purpose (Effectiveness)
The effectiveness criterion, concerns how far the project's results were attained, and the project's specific objective(s) achieved, or are expected to be achieved.

The analysis of Effectiveness will therefore focus on such issues as:
whether the planned benefits have been delivered and received, as perceived by all key stakeholders (including women and men and specific vulnerable groups);
whether intended beneficiaries participated in the intervention

in institutional reform projects, whether behavioral patterns have changed in the beneficiary organizations or groups at various levels; and how far the changed institutional arrangements and characteristics have produced the planned improvements (e.g. in communications, productivity, ability to generate actions which lead to economic and social development);
if the assumptions and risk assessments at results level turned out to be inadequate or invalid, or unforeseen external factors intervened, how flexibly management has adapted to ensure that the results would still achieve the purpose; and how well has it been supported in this by key stakeholders including Government, Commission (HQ and locally), etc.;
whether the balance of responsibilities between the various stakeholders was appropriate, which accompanying measures have been taken by the partner authorities;
how unintended results have affected the benefits received positively or negatively and □ could have been foreseen and managed.
whether any shortcomings were due to a failure to take account of cross-cutting or over-arching issues such as gender, environment and poverty during implementation;

3.3 Sound management and value for money (Efficiency)
The efficiency criterion concerns how well the various activities transformed the available resources into the intended results (sometimes referred to as outputs), in terms of quantity, quality and timeliness. Comparison should be made against what was planned.

The assessment of Efficiency will therefore focus on such issues as:

the quality of day-to-day management, for example in:
operational work planning and implementation (input delivery, activity management and delivery of outputs),and management of the budget (including cost control and whether an inadequate budget was a factor);
management of personnel, information, property, etc,
whether management of risk has been adequate, i.e. whether flexibility has been demonstrated in response to changes in circumstances;
relations/coordination with local authorities, institutions, beneficiaries, other donors;
the quality of information management and reporting, and the extent to which key stakeholders have been kept adequately informed of project activities (including beneficiaries/target groups);
respect for deadlines;

Extent to which the costs of the project have been justified by the benefits whether or not expressed in monetary terms in comparison with similar projects or known alternative approaches, taking account of contextual differences and eliminating market distortions.
Partner country contributions from local institutions and government (e.g offices, experts, reports, tax exemption, as set out in the LogFrame resource schedule), target beneficiaries and other local parties: have they been provided as planned?
Commission HQ/Delegation inputs (e.g. procurement, training, contracting, either direct or via consultants/bureaux): have they been provided as planned?
Technical assistance: how well did it help to provide appropriate solutions and develop local capacities to define and produce results?
Quality of monitoring: its existence (or not), accuracy and flexibility, and the use made of it; adequacy of baseline information;
Did any unplanned outputs arise from the activities so far?

3.4 Achievement of wider effects (Impact)
The term impact denotes the relationship between the project's specific and overall objectives.

At Impact level the final or ex-post evaluation will make an analysis of the following aspects:
Extent to which the objectives of the project have been achieved as intended in particular the project planned overall objective.
whether the effects of the project:
have been facilitated/constrained by external factors
have produced any unintended or unexpected impacts, and if so how have these affected the overall impact.
have been facilitated/constrained by project/programme management, by co-ordination arrangements, by the participation of relevant stakeholders
have contributed to economic and social development
have contributed to poverty reduction
have made a difference in terms of cross-cutting issues like gender equality, environment, good governance, conflict prevention etc.
were spread between economic growth, salaries and wages, foreign exchange, and budget.

3.5 Likely continuation of achieved results (Sustainability)
The sustainability criterion relates to whether the positive outcomes of the project and the flow of benefits are likely to continue after external funding ends or non funding support interventions (such as: policy dialogue, coordination).

The final evaluation will make an assessment of the prospects for the sustainability of benefits on basis of the following issues:

- the ownership of objectives and achievements, e.g. how far all stakeholders were consulted on the objectives from the outset, and whether they agreed with them and continue to remain in agreement;
- policy support and the responsibility of the beneficiary institutions, e.g. how far donor policy and national policy are corresponding, the potential effects of any policy changes; how far the relevant national, sector and budgetary policies and priorities are affecting the project positively or adversely; and the level of support from governmental, public, business and civil society organizations.
- institutional capacity, e.g. of the Government (e.g. through policy and budgetary support) and counterpart institutions; the extent to which the project is embedded in local institutional structures; if it involved creating a new institution, how far good relations with existing institutions have been established; whether the institution appears likely to be capable of continuing the flow of benefits after the project ends (is it well-led, with adequate and trained staff, sufficient budget and equipment?); whether counterparts have been properly prepared for taking over, technically, financially and managerially;
- the adequacy of the project budget for its purpose particularly phasing out prospects;
- socio-cultural factors, e.g. whether the project is in tune with local perceptions of needs and of ways of producing and sharing benefits; whether it respects local power- structures, status systems and beliefs, and if it sought to change any of those, how well-accepted are the changes both by the target group and by others; how well it is based on an analysis of such factors, including target group/ beneficiary participation in design and implementation; and the quality of relations between the external project staff and local communities.
- financial sustainability, e.g. whether the products or services being provided are affordable for the intended beneficiaries and are likely to remained so after funding will end; whether enough funds are available to cover all costs (including recurrent costs), and continued to do so after funding will end; and economic sustainability, i.e. how well do the benefits (returns) compare to those on similar undertakings once market distortions are eliminated.

- technical (technology) issues, e.g. whether (i) the technology, knowledge, process or service introduced or provided fits in with existing needs, culture, traditions, skills or knowledge; (ii) alternative technologies are being considered, where possible; and (iii) the degree in which the beneficiaries have been able to adapt to and maintain the technology acquired without further assistance.
- Wherever relevant, cross-cutting issues such as gender equity, environmental impact and good governance; were appropriately accounted for and managed from the outset of the project.

3.6 Mutual reinforcement (coherence)
The extent to which activities undertaken allow the European Commission to achieve its development policy objectives without internal contradiction or without contradiction with other Community policies. Extent to which they complement partner country's policies and other donors' interventions.

Considering other related activities undertaken by Government or other donors, at the same level or at a higher level:
likeliness that results and impacts will mutually reinforce one another
likeliness that results and impacts will duplicate or conflict with one another

Connection to higher level policies (coherence)
Extent to which the project/programme (its objectives, targeted beneficiaries, timing, etc .):
is likely to contribute to / contradict other EC policies
is in line with evolving strategies of the EC and its partners

3.7 EC value added
Connection to the interventions of Member States. Extent to which the project/programme (its objectives, targeted beneficiaries, timing, etc .)
is complementary to the intervention of EU Member States in the region/country/area
is co-ordinated with the intervention of EU Member States in the region/country/area
is creating actual synergy (or duplication) with the intervention of EU Member States
involves concerted efforts by EU Member States and the EC to optimize synergies and avoid duplication.
Visibility
The consultants will make an assessment of the project's strategy and activities in the field of visibility, information and communication, the results obtained and the impact achieved with these actions in both the beneficiary country and the European Union countries.
Overall assessment
A chapter synthesizing all answers to evaluation questions into an overall assessment of the project/programme. The detailed structure of the overall assessment should be refined during the evaluation process. The relevant chapter has to articulate all the findings, conclusions and lessons in a way that reflects their importance and facilitates the reading. The structure should not follow the evaluation questions, the logical framework or the seven evaluation criteria.
Conclusions and Recommendations
6.1 Conclusions

This chapter introduces the conclusions relative to each question. The conclusions should be organized in clusters in the chapter in order to provide an overview of the assessed subject.

Note:
The chapter should not follow the order of the questions or that of the evaluation criteria (effectiveness, efficiency, coherence, etc.)

It should features references to the findings (responses to the evaluation questions) or to annexes showing how the conclusions derive from data, interpretations, and analysis and judgment criteria.

The report should include a self-assessment of the methodological limits that may restrain the range or use of certain conclusions.

The conclusion chapter features not only the successes observed but also the issues requiring further thought on modifications or a different course of action.

The evaluation team presents its conclusions in a balanced way, without systematically favoring the negative or the positive conclusions.

A paragraph or sub-chapter should pick up the 3 or 4 major conclusions organized by order of importance, while avoiding being repetitive. This practice allows better communicating the evaluation messages that are addressed to the Commission.

If possible, the evaluation report identifies one or more transferable lessons, which are highlighted in the executive summary and presented in appropriate seminars or meetings so that they can be capitalized on and transferred.

6.2 Recommendations

They are intended to improve or reform the project/ programme in the framework of the cycle under way, or to prepare the design of a new intervention for the next cycle.

Note:

The recommendations must be related to the conclusions without replicating them. A recommendation derives directly from one or more conclusions.

The ultimate value of an evaluation depends on the quality and credibility of the recommendations offered. Recommendations should therefore be as realistic, operational and pragmatic as possible; that is, they should take careful account of the circumstances currently prevailing in the context of the project, and of the resources available to implement them both locally and in the Commission.

They could concern policy, organizational and operational aspects for both the national implementing partners and for the Commission; the pre-conditions that might be attached to decisions on the financing of similar projects; and general issues arising from the evaluation in relation to, for example, policies, technologies, instruments, institutional development, and regional, country or sectoral strategies.

Recommendations must be clustered and prioritized, carefully targeted to the appropriate audiences at all levels, especially within the Commission structure (the project/programme task manager and the evaluation manager will often be able to advise here).
Annexes o the report
The report should include the following annexes:
The Terms of Reference of the evaluation
The names of the evaluators and their companies (CVs should be shown, but summarized and limited to one page per person)
Detailed evaluation method including: options taken, difficulties encountered and limitations. Detail of tools and analyses.

Logical Framework matrices (original and improved/updated)
Map of project area, if relevant
List of persons/organizations consulted
Literature and documentation consulted
Other technical annexes (e.g. statistical analyses, tables of contents and figures)
page DAC summary, following the format in Annex V.

Annex III - Methodological observations

The evaluation team should refer to the project/programme's logical framework.
It is suggested that the evaluation team carry out:
a rapid appraisal through a field visit and a series of interviews
a questionnaire survey involving a sample of beneficiaries
a series of focus groups involving beneficiaries and non-beneficiaries
a series of case studies

The proposal in response to these terms of reference should identify any language and/or cultural gap and explain how it will be bridged.

The project/programme is to be judged more from the angle of the beneficiaries' perceptions of benefits received than from the managers' perspective of outputs delivered or results achieved. Consequently, interviews and surveys should focus on outsiders (beneficiaries and other affected groups beyond beneficiaries) as much as insiders (managers, partners, field level operators). The proposal in response to these terms of reference, as well as further documents delivered by the evaluation team, should clearly state the proportion of insiders and outsiders among interviews and surveys.

A key methodological issue is whether observed or reported change can be partially or entirely attributed to the project / programme, or how far the project/programme has contributed to such change. The evaluation team should identify attribution / contribution problems where relevant and carry out its analyses accordingly.

It must be clear for all evaluation team members that the evaluation is neither an opinion poll nor an opportunity to express one's preconceptions. This means that all conclusions are to be based on facts and evidence through clear chains of reasoning and transparent value judgments. Each value judgment is to be made explicit as regards:

the aspect of the project/programme being judged (its design, an implementation procedure, a given management practice, etc.)

the evaluation criterion is used (relevance, effectiveness, efficiency, sustainability, impact, coherence, EC value added)

The evaluation report should not systematically be biased towards positive or negative conclusions. Criticisms are welcome if they are expressed in a constructive way. The evaluation team clearly acknowledges where changes in the desired direction are already taking place, in order to avoid misleading readers and causing unnecessary offence.

Annex IV - Quality assessment grid

*This grid is annexed to the ToRs for information to the consultants

The quality of the final report will be assessed by the evaluation manager using the following quality assessment grid where the rates have the following meaning:

1 = unacceptable = criteria mostly not fulfilled or totally absent
2 = weak = criteria partially fulfilled
3 = good = criteria mostly fulfilled
4 = very good = criteria entirely fulfilled
5 = excellent = criteria entirely fulfilled in a clear and original way

Concerning the criteria and sub-criteria below, the evaluation report is rated:	1	2	3	4	5
1. Meeting needs:					
a) Does the report precisely describe what is evaluated, including the intervention logic in the form of a logical framework?					
b) Does the report clearly cover the requested period of time, as well as the target groups and socio-geographical areas linked to the project / programme?					
c) Has the evolution of the project / programme been taken into account in the evaluation process?					
d) Does the evaluation deal with and respond to all ToR requests. If not, are justifications given?					
2. Appropriate design					
a) Does the report explain how the evaluation design takes stock of the rationale of the project / programme, cause-effect relationships, impacts, policy context, stakeholders' interests, etc.?					
b) Is the evaluation method clearly and adequately described in enough detail?					
c) Are there well-defined indicators selected in order to provide evidence about the project / programme and its context?					
d) Does the report point out the limitations, risks and potential biases associated with the evaluation method?					
3. Reliable data					
a) Is the data collection approach explained and is it coherent with the overall evaluation design?					
b) Are the sources of information clearly identified in the report?					
c) Are the data collection tools (samples, focus groups, etc.) applied in accordance with standards?					
d) Have the collected data been cross-checked?					
e) Have data collection limitations and biases been explained and discussed?					
4. Sound analysis					
a) Is the analysis based on the collected data?					
b) Is the analysis clearly focused on the most relevant cause/effect assumptions underlying the intervention logic?					
c) Is the context adequately taken into account in the analysis?					
d) Are inputs from the most important stakeholders used in a balanced way?					
e) Are the limitations of the analysis identified, discussed and presented in the report, as well as the contradictions with available knowledge, if there are any?					
5. Credible findings					

Concerning the criteria and sub-criteria below, the evaluation report is rated:	1	2	3	4	5
a) Are the findings derived from the data and analyses?					
b) Is the generalisability of findings discussed?					
c) Are interpretations and extrapolations justified and supported by sound arguments?					
6. Valid conclusions					
a) Are the conclusions coherent and logically linked to the findings?					
b) Does the report reach overall conclusions on each of the five DAC criteria?					
c) Are conclusions free of personal or partisan considerations?					
7.Useful recommendations					
a) Are recommendations coherent with conclusions?					
b) Are recommendations operational, realistic and sufficiently explicit to provide guidance for taking action?					
c) Do the recommendations cater for the different target stakeholders of the evaluation?					
d) Where necessary, have the recommendations been clustered and prioritized?					
8.Clear report					
a) Does the report include a relevant and concise executive summary?					
b) Is the report well structured and adapted to its various audiences?					
c) Are specialized concepts clearly defined and not used more than necessary? Is there a list of acronyms?					
d) Is the length of the various chapters and annexes well balanced?					
Considering the 8 previous criteria, what is the overall quality of the report?					

Annex V - The Standard DAC Format for Evaluation Report Summaries
Evaluation Title (and Reference)

Abstract
(central, 4 lines maximum)

Subject of the Evaluation
(5 lines max. on the project, organization, or issue/theme being evaluated)

Evaluation Description
Purpose (3 lines max)
Methodology (3 lines max)

Main Findings
Clearly distinguishing possible successes/obstacles and the like where possible (25 lines/lignes max)

Recommendations
25 lines/lignes max

Feedback
(5 lines/lignesmax)

Donor: European Commission	Region:	DAC sector :
Evaluation type: Efficiency, effectiveness and impact.	Date of report:	Subject of evaluation :
Language :	N° vol./pages :	Author :

Programme and budget line concerned :			
Type of evaluation :	( ) ex ante	(x) intermediate / ongoing	( ) ex post
Timing :	Start date :		Completion date :
Contact person :		Authors :	
Cost : Euro		Steering group : Yes/No	

Annex 3. Profile of the Consultants

The Consulting Firm

FTS Management and Strategy Consulting is a management and strategy consulting firm founded and owned by an international development and management professional, Mr. Fromsa Taye, who holds a BA degree in Economics and an MBA degree (Business Administration) alongside extensive experiences and knowledge in program development, planning and management in integrated rural development programs and projects, community development, relief and disaster responses and advocacy projects and programs as well as strategy development and implementation in both NGO and public sectors in Ethiopia. FTS Management and Strategy Consulting (FTS MSC) is a national level consulting firm that provides a range of consultancy services that includes project identification and need assessments, baseline surveys, project feasibility studies; project development, planning and management; project social impact assessments; project mid-term and final evaluations; capacity building in the areas of project management, partnership building, and organizational capacity assessment and development across the different regional states of Ethiopia.

The major interest areas of the firm included, but not limited to, the following: food security, livelihood security, WASH, education, health, HIV & AIDS, child protection and development, gender, disability, energy, environmental protection, and rural micro-financing. FTS SMC partners with different consulting firms and serves NGOs, FBOs, bilateral and multilateral organizations and government offices.

In this particular, assignment the following two consultants, namely, Mr. Fromsa Taye (team leader) and Mr. HailuEjara (team member) are deployed for the mid-term evaluation.

Fromsa Taye, Managing Director for FTS Management and Strategy Consulting:

- Educated to master's level with MBA degree in Business Administration and BA degree in Economics
- Well experienced program development and management professional with over 20 years of practical field experiences in both NGO and government sectors;
- Strong research, strategic thinking and analytical skills; well versed with PRA tools and LFA techniques along with strong expertise in assessment, proposal development, budgeting, writing technical documents (strategic plans, technical reports, MoUs and agreement documents) as well as translating guidelines and manuals from English to Amharic and vice versa;
- Rich experience and knowledge in planning, implementing, and M&E of integrated community development programs and projects in the areas of food security, livelihood security, disaster management/emergency response, education, water, sanitation & hygiene (WASH), health & HIV/AIDS, rural micro-enterprises development, capacity building, environmental protection, advocacy, gender mainstreaming, disability, child protection/wellbeing, etc., particularly in the NGO environment;

- Excellent experience and extensive knowledge in development and management of multi-lateral and government grants for relief responses and long-term development programs aimed at building community livelihoods and resilience to impacts and effects of national disasters;
- He has got excellent experiences of both public and NGO sectors

HailuEjara, Senior Development Consultant:

Ato Hailu Ejara is a registered and licensed consultant economist by profession with more than 13 years of consulting and research experience in various organizations (including World Bank, SIDA, CIDA, Oxfam, Care, CRS, WV funded projects), highly conversant with large and small field surveys, qualitative and quantitative research methods, data management and analysis. He has a master's degree in Development Studies and Bachelor in Agricultural Economics. His special areas of expertise are rural development and agriculture, health and education, project design, monitoring and evaluation, urban and rural livelihoods, food security, vulnerability and poverty analysis, disaster and risk management, environmental and social impact assessments, Wash and Irrigation economics, institutions and financial services. He engaged in a number of similar evaluations. Some of the recent achievements, among few, are his work on three area development programs terminal evaluation of the World Vision in 2012 and 2013, terminal evaluation of the SIDA CSO support programme (2011), evaluation of CIDA support to national food security programme (2012), Social assessment of pastoral community development project phase III (2013), final evaluation of pastoral development project phase II (2013) and food security and financial services in Ethiopia for Association of Ethiopian micro finance institutions (2011) and recently the IDA/DFID supported national water, sanitation and hygiene programme (2014). .

Annex 4. List of People Contacted

1. Ato Mohammed, PAPDA Program Manager. 10/01/2014
2. Ato Yohannes, PAPDA Finance Director,10/01/2014
3. Ato Alemayehu Sambi. Oromia Bureau of Finance and Economic Development NGO Desk Coordinator. 24/01/2014
4. Ato Tulu Bosomsa. Oromia Bureau of Finance and Economic Development NGO Desk Expert. 24/01/2014
5. Ato Birhanu Hirpha. Oromia Bureau of Finance and Economic Development NGO Desk Expert. 24/01/2014.
6. Ato Tadios Adaba. Oromia Water, Mineral and Energy Development Bureau. Community participation and Mobilization Desk (NGO desk) Coordinator. 24/01/2014
7. Dereje Tolosa (Dr). Oromia Pastoralist Area Development Commission. 24/01/2014
8. Feyisa Defar. Oromia Pastoralist Area Development Commission. 24/01/2014
9. Mr. Alberto Trentini. COOPI Energy Facility Project Manager, Neghelle COOPI Office. 17/01.2014
10. Mr. Roberto Orlando, COOPI Country Mission Head. 17.01.2014.
11. Mr. Alemayehu Samunigus, Program Manager, EU, Rural Development and Food Security Sector. 17/01/2014.
12. Mr. Riccardo Claudi, EU, Program Manager (incoming). 17/01/2014.

List of People Contacted (Cont'd)

Participants of the Focus Group Discussion and key Informant Interviews
Mid Term Evaluation of the Support to Efficient Utilization of Alternative Energy Sources
to Improve the Livelihood of Pastoral and Agro pastoral Communities in Southern Ethiopia

No	Name	Age	Sex	Education	Representation	Thematic Area	Date	Kebele
1	Umer Jamael	40	M	3	community	water	20.1.14	Masajid/Filtu
2	Ibrahim Salah	30	M	Illiterate	community	water	20.1.14	Masajid/Filtu
3	Mumina Ai	48	F	Illiterate	community	water	20.1.14	Masajid/Filtu
4	Fatima Farah	40	F	2	community	water	20.1.14	Masajid/Filtu
5	KamilaIsah	50	F	Illiterate	community	water	20.1.14	Masajid/Filtu
6	Ambuye Jamal	20	F	3	community	water	20.1.14	Masajid/Filtu
7	Amina Abdi	25	F	2	community	water	20.1.14	Masajid/Filtu
8	Habib Malin	30	F	3	community	water	20.1.14	Masajid/Filtu
9	Meka Ibrahim	20	F	2	community	water	20.1.14	Masajid/Filtu
10	Salada Qorane	30	F	1	community	water	20.1.14	Masajid/Filtu
11	Halima Mohamed	39	F	2	FSS member	FSS FGD	20.1.2014	Filtu
12	Shams Mohammed	18	F	1	FSS FGD	FSS FGD	20.1.2014	Filtu
13	Mohamed Mimed	34	M	8	FSS FGD	FSS FGD	20.1.2014	Filtu
14	Aden Hansen	30	M		FSS member	FSS FGD	20.1.14	Filtu
15	Ahmed Billow	32	M		FSS member	FSS FGD	20.1.14	Filtu
16	Husen Dubu	20	M		FSS member	FSS FGD	20.1.14	Filtu
17	Ahmed Ibrahim	48	M		FSS Non member	FSS KII	20.1.14	Filtu
18	Mohamed Bow	35	M	8	KDC	FSS KII	20.1.2014	Filtu
19	Mohamed Qatari	24	M	8	KDC	FSS KII	20.1.2014	Filtu
20	Mohammed Musa	21	M	10	KDC	FSS KII	20.1.2014	Filtu
21	Nor Mohamed Abdo	45	M		KDC	FSS KII	20.1.14	Filtu
22	DahabBu'ul	35	F		FSS member (cashier)	FSS coop	20.1.14	Filtu
23	Talil Hasen	33	M		FSS Member	FSS coop	20.1.14	Filtu
24	Ahmed Mohammed		M		Woreda administrator	WDC	21.1.2014	Filtu
25	Mohammednur Yusuf	30	M	Degree	Agriculture office, head	WDC	21.1.2014	Filtu
26	Mustafa Maxid		M	Diploma	Head, education office	WDC	21.1.2014	Filtu
27	Ahmed Mahmud	38	M	degree	woreda administration	WDC	21.1.2014	Filtu
28	Muhidin Mohammed	32	M	degree	Head, WCPO	WDC	21.1.2014	Filtu
29	Iden Ibrahim	27	M	none	Bohelseden Coop, chairman	COOP FGD	22.1.2014	Hudet

No	Name	Age	Sex	Education	Representation	Thematic Area	Date	Kebele
30	Nur Abdi	30	M	none	Coop member	COOP FGD	22.1.2014	Hudet
31	Sar Dida	20	M	7	Coop member	COOP FGD	22.1.2014	Hudet
32	Yasin Indris	57	M	51	Coop member	COOP FGD	22.1.2014	Hudet
33	Aliyo Husen	40	M	8	Kebele administrator	KDC	22.1.2014	Hudetboholsaden)
34	Mohamed Kore	48	M	12	WMC chairman	KII	20.1.2014	Hudet 01
35	Mohamed Ali	50	M	4	WMC vice chairman	KII	20.1.2014	Hudet 01
36	Mohamed Dida	50	M	8	WMC secretary	KII	20.1.2014	Hudet 01
37	Ibrahim Nuno	55	M	8	WMC operator	KII	20.1.2014	Hudet 01
38	Tuhe Hassen	30	F	6	WMC cashier	KII	20.1.2014	Hudet 01
39	Addo Alamkuru	55	m	8	WMC operator	KII	20.1.2014	Hudet 01
40	Isak Malin Eda	44	M	10	DC &coop member	KDC	22.1.2014	Hudet
41	Aliyo Husen	24	M	diploma	DC &coop member	"	22.1.2014	Hudet
42	Edalbreen	55	M	4	DC &coop member	"	22.1.2014	Hudet
43	Mohammed Hussien		M	degree	Cooperative agency head	WDC	23.1.2014	Hudet
44	Ibrahim Elmi		M	degree	Water office head	WDC	23.1.2014	Hudet
45	Ismael Nur	M	M	degree	Pastoral office head	WDC	23.1.2014	Hudet
46	Ahmed Ibrahim		M	degree	Woreda, administrator	WDC	23.1.2014	Hudet
47	Hussien Araga	45	M	5	IGA beneficiary	IGA	23.1.2014	Arero (Wachile)
48	EdinWaqo	45	M	4	IGA beneficiary	IGA	23.1.2014	Liben (malkaGuba)
49	Shakure Roba	38	F	none	IGA	IGA	24.1.2014	GorDola (Adadi)
50	MuktarAman	28	M	Degree	Kerero School Director	PTA	24.1.2014	Gorodola
51	Hana madebo	26	F	Degree	Kerero school vice "	PTA	24.1.2014	Gorodola
52	Godanatadacha	24	M	degree	PaPDA, coop expert	KII	24.1.2014	Neghelle
53	Mohamed Amin	30	M	degree	PaPDA, coordinator	KII	24.1.2014	Neghelle
54	Balako Chirate	38	M	7	IGA beneficiary	IGA	25.1.2014	Adadi
55	Fatuma Ahmed	37	F	2	Dursitu Coop, Secretary	Coop FGD	25.1.2014	GoroDolagenale)
56	Kemeria Hassen	35	F	0	Dursitu, Cashier	Coop FGD	25.1.2014	GoroDolagenale)
57	Kaltumo Hassen	40	F	0	Dursitu Vice chairman	Coop FGD	25.1.2014	GoroDolagenale)
58	Zeinaba Aga	42	F	0	Dursitu, Auditor/inspection	Coop FGD	25.1.2014	GoroDolagenale)
59	Hasna Boro	38	F	0	Dursitu, Member	Coop FGD	25.1.2014	GoroDolagenale)
60	Mariama Waqo	43	F	0	Dursitu, Member	Coop FGD	25.1.2014	GoroDolagenale)
61	Sadia Mohammed	25	F	0	Dursitu, Accountant	Coop FGD	25.1.2014	GoroDolagenale)
62	Ayele Dhiphiso	30	M	2	Community member	Water, FGD	25.1.2014	GoroDolaNurahumba)
63	Tadacha Hudesa	18	M	5	Community member	Water, FGD	25.1.2014	Gorodola(Nurahumba)

No	Name	Age	Sex	Education	Representation	Thematic Area	Date	Kebele
64	Utura Dhiphiso	33	M	0	Community member	Water, FGD	25.1.2014	Gorodola (Nurahumba)
65	Lole Birbirsa	60	M	0	Community member	Water, FGD	25.1.2014	Gorodola (Nurahumba)
66	Abayo Hadhesa	35	F	0	WMC, member	Water, FGD	25.1.2014	Gorodola (Nurahumba)
67	Hudesa Godana	45	M	4	Community member	Water, FGD	25.1.2014	Gorodola (Nurahumba)
68	Waqo Hudesa	25	M	6	WMC, chairman	Water, FGD	25.1.2014	Gorodola (Nurahumba)
69	Nenqo haro	52	M	2	Community member	Water, FGD	25.1.2014	Gorodola (Nurahumba)
70	Hussien Bekay	30	M		Community member	FGD	20.1.2014	Benhigili, Filtu
71	Mohamed Ali	20	M		Community member	"	20.1.2014	Benhigili, Filtu
72	Wormoge Abiker	50	M		Health extension	KII	20.1.2014	Benhigili, Filtu
73	Abdurahman Mohamed	20	M		Community member	FGD	20.1.2014	Benhigili, Filtu
74	Ali Abdo	28	M		NGO worker	KII	20.1.2014	Benhigili, Filtu
75	Farah Osman	20	M		Community member	FGD	20.1.2014	Benhigili, Filtu
76	Bishar Abdi	38	M		Kebele vice chairman	KII, KDC	20.1.2014	Benhigili, Filtu
77	Abdi Dawid	47	M		Kebele chairman	KII, KDC	20.1.2014	Benhigili, Filtu
78	Mohammed Abdi	15	M		Community member	FGD	20.1.2014	Benhigili, Filtu
79	Oman Bilow	26	M		Community member	FGD	20.1.2014	Benhigili, Filtu
80	Osman Farah	15	M		Community member	FGD	20.1.2014	Benhigili, Filtu
81	Haji Mohammed	35	M		KDC	KII	20.1.2014	Benhigili, Filtu
82	Guliye Abdulahi	15	M		Community member	FGD	20.1.2014	Benhigili, Filtu
83	Mohammed Mumed	25	M		KDC	KII	20.1.2014	Benhigili, Filtu
84	Hassen Abdile	25	M		KDC	KII	20.1.2014	Benhigili, Filtu
85	Hassen Mohammed	50	M		Community member	FGD	20.1.2014	Benhigili, Filtu
86	Abdulahi Alisow	58	M		Community member	FGD	20.1.2014	Benhigili, Filtu
87	Buno Borama	33	M	6	IGA beneficiary	IGA FGD	27.1.2014	Adadi, Liben
88	Zeinaba Godana	39	F	3	IGA beneficiary	IGA FGD	27.1.2014	Hadhessa, Liben
89	TemesgenWariyo	33	M	degree	Mercy Corps	KII	28.1.2014	Neghelle
90	Abdulaziz Mohamed	35	M	degree	WMSEDA, Neghelle	KII	28.1.2014	Neghelle
91	Bekeletaye	45	M	Dgree	WDC	KII	28.1.2014	LNIBEN
92	YidnekachewZewud	36	M	Degree	WDC	KII	28.1.2014	LIBEN

No	Name	Age	Sex	Education	Representation	Thematic Area	Date	Kebele
93	Mengistu Worede	48	M	Degree	WDC	KII	28.1.2014	LIBEN
94	Adugna Diriba	37	M	deree	WDC	KII	28.1.2014	LIBEN
95	Alberto Trentini		M		COOPI, project manager	KII	29.1.2014	Neghelle
96	Shawol K/Mariam		M		COOPI assistant PM	KII	29.1.2014	Neghelle
97	Kebede Hailu		M		Guji zone Coop office	KII	29.1.2014	Neghelle
98	Wondimagegn Nigussie		M		Guji zone water supply office	KII	29.1.2014	Neghelle
99	Jarso Edema		M		Water, mineral and energy office, guji zone, head	KII	29.1.2014	Neghelle

Annex 5. Review of Project Performance over Semesters

No	Indicators	Planned duration (semester)	Performance (1st 6 months (04/08/2011 to 03/02/2012)	Performance 2nd 6 months (04/02/2012 to (3/08/2012)	Performance 3rd 6 months (04/08/2012 to 03/02/2013)	Performance 4th 6 months (04/02/2013 to 03/08/2013)	Performance 5th 6 months (04/08/2013 to 31/12/2013[28]
Result 1: Basic social services (schools, health posts (HP), public wells and Veterinary Health Posts (VETHP) equipped with solar systems							
1.1	signature of MoUs with Regional and Local Authorities and final selection of sites (HP, Wells, schools, VP)	1st and 2nd (9 months)	The memorandum of understanding signed with the regions, woredas and PAPDA				
1.2	Technical design for solar	2nd (from 9th			The design was		

[28] Time of this evaluation

No	Indicators	Planned duration (semester)	Performance (1st 6 months (04/08/2011 to 03/02/2012)	Performance 2nd 6 months (04/02/2012 to (3/08/2012)	Performance 3rd 6 months (04/08/2012 to 03/02/2013)	Performance 4th 6 months (04/02/2013 to 03/08/2013)	Performance 5th 6 months (04/08/2013 to 31/12/2013[28]
	system for school, HP, VP and wells)	month) and 3rd			completed for all with modification of energy outputs and site changes		
1.3	Procurement for solar system for school, HP, vet post and wells	2nd (12th month) and 3rd			Not completed	Completed	
1.4	Construction and installation of the solar system for HP, school, VP and wells	3rd to 5th					Completed
1.5	Training of VWMC, organization and management	3rd to 5th					Not implemented yet, will be late for a couple of weeks
1.6	Conduct experience sharing among communities	3rd to 5th					Not implemented, will be late
1.7	Handover of the systems to the Woreda Relevant Offices	5th and 6th					Proceeding well so far
Result 2: Private enterprises(Co-operatives and individuals) created and operational using solar facilities							
2.1	Selection of sites for agricultural cooperatives	2nd (from 9th month)	Not completed, but discussion made, data collection tools developed, meetings organized	The selection of the 3 cooperatives completed together with those of the social service			

No	Indicators	Planned duration (semester)	Performance (1st 6 months (04/08/2011 to 03/02/2012)	Performance 2nd 6 months (04/02/2012 to (3/08/2012)	Performance 3rd 6 months (04/08/2012 to 03/02/2013)	Performance 4th 6 months (04/02/2013 to 03/08/2013)	Performance 5th 6 months (04/08/2013 to 31/12/2013[28]
				facilities			
2.2	Technical design of irrigation systems	3rd			Not implemented	Not implemented	Not implemented
2.3	Procurement process of solar systems for irrigation	4th				Not implemented	Not implemented
2.4	Construction of pumping and irrigation systems for coops	4th and 5th					Civil works all done, solar system installation delayed
2.5	Irrigation, O&M and technical training for members of coops	4th-5th					Not implemented
2.6	Management, organization and accounting training for members of coops.	4th and 5th			77 members of agricultural cooperatives and 17 IGA beneficiaries trained		
2.7	Registration of cooperative with relevant Woreda Offices	5th		Selection completed	Legalized and certified in this semester		
2.8	Experience sharing among cooperatives and private enterprises	4th-5th					Not implemented, will be late
2.9	Study for market and social feasibility of establishment of IGAs private enterprises	2nd		A group of consultant professionals for Addis Ababa visited the field for a week and conducted different	Validated		

No	Indicators	Planned duration (semester)	Performance (1st 6 months (04/08/2011 to 03/02/2012)	Performance 2nd 6 months (04/02/2012 to (3/08/2012)	Performance 3rd 6 months (04/08/2012 to 03/02/2013)	Performance 4th 6 months (04/02/2013 to 03/08/2013)	Performance 5th 6 months (04/08/2013 to 31/12/2013[28]
				surveys and group discussions in the 5 woredas At the time of writing a first draft report was provided by the consultant. The findings of the report will be validated in the early months of the II year of the project (postponed)			
2.10	Selection private enterprises (IGAs)	2nd -3rd			The selection is completed for 25 individuals and the system designed for all		
2.11	Technical and financial trainings of IGAs private enterprises	3rd-4th			17 were trained together with agricultural cooperatives		
2.12	Linkages with financial institutions(Rural Electrification Fund)	3rd-4th			Unless in coops form, REF have no lending policy for individuals		
2.13	Procurement and distribution of solar panels and start-up kit/capital for IGAs of private enterprises	4th-5th					Completed

No	Indicators	Planned duration (semester)	Performance (1st 6 months (04/08/2011 to 03/02/2012)	Performance 2nd 6 months (04/02/2012 to (3/08/2012)	Performance 3rd 6 months (04/08/2012 to 03/02/2013)	Performance 4th 6 months (04/02/2013 to 03/08/2013)	Performance 5th 6 months (04/08/2013 to 31/12/2013[28]
2.14	Handover of solar irrigation and IGAs systems to cooperatives and private enterprises	5th-6th					IGAs performed, COOPS will be late
3.1.	Assessment on social and technical acceptability of improved stoves (design/identification of most adapted model to socio-environmental context)	1st (4-6 month)-2nd (6th-9th months)	Assessment made by local consultant in Filtu and Liben between 11-28, December 2011. Stakeholder and community meetings made and workshop organized. Awareness creation made				
3.2	Ex ante vs. ex post assessment on use of FSS	1st (4th-6thmonths)	Assessment made in two woredas on beneficiary needs, market and desires				
3.3.	Organization of 2 of cooperatives and/or private sector (mechanical workshops) for the production of FSS	2nd (7th-9thmonth)		cooperatives established at Neghelle and Filtu as planned	One cooperative at Neghelle (9 male, 6 females) and one At Filtu(8 female, 7 male) organized and licensed. Construction of workshop on 90% at Neghelle and not in Filtu		

No	Indicators	Planned duration (semester)	Performance (1st 6 months (04/08/2011 to 03/02/2012)	Performance 2nd 6 months (04/02/2012 to (3/08/2012)	Performance 3rd 6 months (04/08/2012 to 03/02/2013) due to delay of land acquisition	Performance 4th 6 months (04/02/2013 to 03/08/2013)	Performance 5th 6 months (04/08/2013 to 31/12/2013[28]
3.4	Awareness campaigns in communities to promote FSS and sustainable uses of natural resources	2nd-6th	Not reported	Not reported	Not reported	Not reported	Not reported
3.5	Production and distribution of marketing/dissemination material for FSS	2nd (9-12th months)		Not started	Not started	Not started	Production started only in Neghelle
3.6	Training in management, organization and accounting for members of FSS production coops	2nd (9th-12th months)		Not reported	Not reported	Not reported	Not reported
3.7	Registration of cooperatives with relevant Bureaus	3rd			Not started	Performed	
3.8	Follow-up and experience sharing among coops	3rd-6th					
3.9	Linking FSS production coops with distribution marketing entities (shops, weekly markets ,fairs, woredas)	3rd-6th			Not reported	Not reported	Not reported
4.1	Training of Regional, Zone and Woreda officials on solar technologies	4th				Not reported	Not reported
4.2	Training of Regional, Zone and Woreda officials on efficient use of biomass	4th				Not reported	Not reported

No	Indicators	Planned duration (semester)	Performance (1st 6 months (04/08/2011 to 03/02/2012)	Performance 2nd 6 months (04/02/2012 to (3/08/2012)	Performance 3rd 6 months (04/08/2012 to 03/02/2013)	Performance 4th 6 months (04/02/2013 to 03/08/2013)	Performance 5th 6 months (04/08/2013 to 31/12/2013[28]
4.3	Support to Local Authorities to design a strategy on sustainable use of biomass (mapping of resources, regulatory mechanisms for charcoal production, promotion of FSS).	4th-5th				Not reported	Not reported
4.4	Study, mapping and classification of sustainable energy potentialities (Hydropower, solar, wind, biogas)	4th 5th				Not reported	Not reported
4.5	Launching Workshop of the project	5th		Workshop conducted at Neghelle, there was a mistake in the action plan			
4.6	External MTE and restitution conference	5th					Has been performed in time
4.7	Annual external financial audits	3rd, 5th and 6th			Performed		Performed
4.8	*Production and distribution of visibility materials*	1st-6th		In the launching workshop several materials were used: 1 banner, 120 T-shirts, 120 pens. All visibility materials bear EC logo and project title.			

Annex 6. Solar installations by sites and size of beneficiaries

Social services	Original Sites	Woreda	Original No. of beneficiaries	Planned annual Kwh production	New sites	New beneficiaries	*Actual annual Kwh production*	Difference in beneficiary number	Difference in Kwh/year
Shallow well	Nurahumba	Gorodola	2000	2000	Nurahumba	2000	2360	visited	
Borehole	Korati	Liben	2000	5000	Mugayo	2000	2250		
Borehole	Weyb	Arero	2000	5000	Kekelo	3500	5640		
Shallow well	Washakajenay	Filtu	2000	2000	Washakajenay	2000	1110	visited	
Shallow well	Hudet town	Hudet	2000	2000	Kebele 01	2000	2400	visited	
Total Water wells			***10000***	***16000***		***11500***	***13760***	***115%***	***86%***
School	Kararo	Gorodola	508	2000	Kararo	641	***1780***	visited	
School	MelkaGuba	Liben	417	2000	Mi'essa	499	***1750***		
School	Messajid	Filtu	578	2000	Messajid	702	***1780***	visited	
School	Halona	Arero	474	2000	Halona	461	***1780***		
Total Schools			***1977***	***8000***		***2303***	***7090***	***116%***	***89%***
Vet post	Hadhessa	Liben	2672	2000	Hadhessa	2672	***1020***	visited	
Vet post	Madedunum	Gorodola	4392	2000	Dilalesa	3600	***1780***		
Vet post	Weyb	Arero	4511	2000	Wachile	2620	***1760***	visited	
Vet post	Galhariri	Hudet	4467	2000	Galhariri	4500	***1730***		
Total VETHP			***16042***	***8000***		***13392***	***6290***	***83%***	***79%***
Health post	Bandher	Filtu	3320	2000	Benegli	3220	***1750***	visited	
Health post	Bodbod	Filtu	1966	2000	Bodbod	1966	***1770***		
Health Center	Hadhessa	Liben	2672	2000	Hadhessa	5500	***2380***	visited	

Social services	Original Sites	Woreda	Original No. of beneficiaries	Planned annual Kwh production	New sites	New beneficiaries	*Actual annual Kwh production*	Difference in beneficiary number	Difference in Kwh/year
Health post	Mededunun	Gorodola	4392	2000	Mededunun	3600	***1750***		
Total HP			***12350***	***8000***		***14286***	***7650***	***116%***	***96%***
SUBTOTAL RESULT 1			**40369**	**40000**		**41481**	**34790**	***103%***	***87%***

Annex 7. PV Array for each site and grand total KWh/year production[29]

No	*Public Facilities*	*Zone*	*Woreda*	*Kebele*	*GPS position*			*target pop.*	*Installed capacity (KwP)*	*Average Energy from PV array KWh/day*	*Energy from PV array KWh/year*
					N	*E*	*Alt (m)*				
1	Miessa school	Guji	Liben	Mi'essa	5°20'8.37"	39°40'19.76"	1567	499	1,05	4,80	1750
2	Kerero school	Guji	G/dola	Kerero	5°38'56.43"	39°26'0.15"	1454	641	1,05	4,86	1780
3	Halona school	Borena	Arero	Halona	4°47'49.27"	38°31'48.62"	1557	461	1,05	4,87	1780
4	Messajid school	Liben	Filtu	Mesajid	5° 8'48.04"	40°46'19.31"	1024	702	1,05	4,88	1780
SUBTOTAL SCHOOLS								**2303**			**7090**
5	Hadhessa Health center	Guji	Liben	Hadhessa	5° 1'3.80"	39°42'38.95"	1431	5500	1,47	6,52	2380
6	Madhadunun Health post	Guji	G/dola	Madhadhunun	5°35'21.33"	39°34'15.99"	1565	3600	1,05	4,81	1750
7	Bodbod Health post	Liben	Filtu	Bpodbod	4°31'8.12"	40°42'18.93"	474	1966	1,05	4,86	1770
8	Benhigle Health post	Liben	Filtu	Willo	4°41'4.60"	40°41'4.60"	811	3220	1,05	4,81	1750
SUBTOTAL HP								**14286**			**7650**
9	Hadhessa vet post	Guji	Liben	Hadhessa	5° 1'9.33"	39°42'44.24"	1428	2672	0,63	2,80	1020
10	Dilelessa vet post	Guji	G/dola	Dilelessa	5°43'15.96"	39°23'21.08"	1588	3600	1,05	4,88	1780
11	Galhariri vet post	Liben	Hudet	Galhariri	4°28'19.99"	39°36'59.47"	1107	4500	1,05	4,74	1730
12	Wachile vet post	Borena	Arero	Wachile	4°32'34.79"	39° 4'0.03"	1043	2620	1,05	4,82	1760
SUBTOTAL VETHP								**13392**			**6290**
13	Hudet Hand dug well	Liben	Hudet	Hudet town	4°44'25.44"	39°14'21.48"	851	2000	1,36	6,58	2400
14	Washakajenay HDW	Liben	Filtu	Mesajid	5°13'11.00"	40°46'32.00"	1141	2000	0,65	3,04	1110
15	Mugayo BH	Guji	Liben	Kalada	5°12'22.14"	39°26'2.62"	1245	2000	1,34	6,16	2250
16	Agafari BH	Guji	G/Dola	Nurahumba	5°25'5.45"	39°28'49.80"	1411	2000	1,36	6,47	2360
17	Kakalo BH	Borena	Arero	Kaqalo	4°29'27.49"	38°49'0.70"	1171	3500	3,24	15,45	5640

[29]The PV array is calculated by COOPI with the online tool of the Photovoltaic Geograhical Information System (PVGIS) provided by European Commission, Joint Research Centre, Institute for Energy, Renewable Energy Unit, Ispra (VA), Italy

No	Public Facilities	Zone	Woreda	Kebele	GPS position			target pop.	Installed capacity (KwP)	Average Energy from PV array KWh/day	Energy from PV array KWh/year
					N	E	Alt (m)				
SUBTOTAL WATER WELLS								**11500**			**13760**
18	Dursitu Coop	Guji	G/Dola	Genale	5°42'03"	39°32'38"	1122	40	1,3	6,24	2280
19	Bholsedien Coop	Liben	Hudet	Dirir	4°43'03"	39°31'10"	700	22	1,3	6,31	2300
20	Gediweine Coop	Liben	Filtu	Bandher	4°59'59"	41°25'45"	228	15	1,3	6,53	2390
SUBTOTAL AGRICULTURAL COOPERATIVES[30]								**77**			**6970**
21	Average IGA	default - zone of intervention						1	0,20	0,91	334,80
SUBTOTAL IGA (x25)								**25**			**8370**
TOTAL								**41583**	**24,65**	**114,43**	**50130**

Annex 8. Daily water generation capacities of water wells

COOPI Energy Facility Project

Daily Water Volume Generated After Installation of Solar Pumping Systems for Water Wells in Project Target Woredas

February 2014

No	Public Facilities	Zone	Woreda	Kebele	# of Beneficiaries	Average Energy from PV array Wh/day	Daily water volume (lt.)	Lt. per person/per day
1	Hudet Hand dug well	Liben	Hudet	Hudet town	2000	6575.34	37910	18.955
2	Washakajenay HDW	Liben	Filtu	Mesajid	2000	3041.1	27520	13.76
3	Mugayo BH	Guji	Liben	Kalada	2000	6164.38	32970	16.49
4	Agafari BH	Guji	G/Dola	Nurahumba	2000	6465.75	35340	17.67
5	Kakalo BH	Borena	Arero	Kaqalo	3500	15452.05	47010	13.43
TOTAL					**11500**	**37698.62**	**180750**	**15.72**

Annex 9. Ten Core Evaluation Questions, Scope, Indicators and Judgment Criteria

Evaluation questions	why the question needed	Scope	Evaluation criteria	Judgment criteria	Indicators	Data source

[30] Regarding the 3 agricultural cooperatives, since the systems are not installed yet, the information above is to be considered as estimation

Evaluation questions	why the question needed	Scope	Evaluation criteria	Judgment criteria	Indicators	Data source
To what extent do costs of the project justify gained benefits or on track to obtain the results of the project at low cost? And/or are activities implemented/achieved in the desired quality, quantity and time as planned?	To know whether the project provide services at low cost compared to available projects	Finance(amount, disbursement, utilization), human resources, costs of activities and procurements	Efficiency	A mix of qualitative scores (high, moderate, low) and quantitative expressed in terms of number, finance/money	No. of personnel, amount of fund used and unit costs, timeliness of intervention and fund allocation and utilization, other performance indicators	Secondary data from field and head offices
To what extent the participation of the community and contribution of the stakeholders improved cost saving, timely completion of activities and technical support at the desired level?	Low participation and commitment of the government and the community undermine sustainability, contribute to rising costs, lagging completion period and failure of the project	Degree of community contribution (in kind and in cash), frequency of monitoring and evaluation, speed of solving the challenges	Efficiency	% of contribution from total project cost (adequate, inadequate, none), frequency of technical support and Monitoring (adequate, inadequate, none), capacity to address problems (adequate, inadequate, none)	Community contribution (in kind, cash), participation in all cycles, share of regional and local government in total financing, degree of technical support	Reports of COOPI, FGD with beneficiaries of social services, key informant interview of woreda key stakeholders and PAPDA
To what did the objective of providing solar system to the 17 basic social services, the 3 agricultural cooperatives and 25 private enterprises and the production and dissemination of 6000 FSS met?	To know and measure whether the three results of the project have been met/or not in accordance with the design information	The three result indicators particularly those that should be completed in the 29 months period	Effectiveness	Satisfactory/not satisfactory	People served/to be served from the basic social services, no. of beneficiaries of the cooperatives and the private enterprises and households	Key informant interview, FGDs with beneficiaries and stakeholders, secondary data from COOPI
To what extent do assumptions and risks identified at design stage accurate and how flexible was the project to adjust	The capacity developed, commitments made and existence of	Overall stakeholder capacity assessment, risk and risk	Effectiveness	Satisfactory, partially satisfactory, unsatisfactory	The number of risks identified and involved, number effectively mitigated	Key informant and formal discussion with stakeholders, COOPI staff, EU and FGD with

Evaluation questions	why the question needed	Scope	Evaluation criteria	Judgment criteria	Indicators	Data source
and adapt to emerging risks?	proper preparedness for emerging challenges should be investigated since it is a serious hurdle to the progress and meeting the results	mitigation strategies, what significant impacts on the project as a result				beneficiaries
To what extent did the objective of providing solar energy to cooperatives and basic social services as well as provision of the FSS consistent and supportive of the government policies and strategies and that of the EU and COOPI?	To investigate whether the project is coherent and in support of the government, EU and coopi strategies	assessment and critical investigation of national policies and strategies of the government, the country Aid policy and priority of EU, and the mission of COOPI	Relevance	High, moderate, low	Consistency with the GTP, national energy policy, PRSP of Ethiopia and EU priority and country AID policies	Review of documents, discussion with EU and regional government stakeholders, woreda institutions
To what extent is the project consistent with the beneficiary priority, and circumstances and improving quality of livelihoods and services?	To know whether the project is a priority of the community and has a capacity to improve wellbeing	Need assessment results (baseline), expected and gained changes	Relevance	High, moderate low	Proportion of beneficiaries responding affirmatively	FGD with households, school, health posts , vet services and wells, members of cooperatives

Evaluation questions	why the question needed	Scope	Evaluation criteria	Judgment criteria	Indicators	Data source
What were the intended and unintended positive and negative changes occurred on the livelihood of the four groups of beneficiaries (social services, Cooperatives, IGAs, FSS households). Is the project on the right track to bring the intended positive impacts (where no impact is not likely to be observed due to timing of evaluation)	The ultimate goal of the project is to change wellbeing of the beneficiaries to the better as measured by different parameters related to the project	O be verified at field level using qualitative methods	Impacts	Satisfactory, moderately satisfactory, unsatisfactory	Qualitative/quantitative access indicators (enrolment, adult education, gender disparity ratios, quality of health and vet services (morbidity and mortality, vaccination, water coverage,), income growth, % depend on biomass fuel and open air stoves, fuel and energy saved, declining deforestation etc.	FGD with the three group of beneficiaries (Households, IGAs, social services)
To what extent is the project embedded in local institutional structures; appears capable of continuing the flow of benefits after the project ends and ready to take over the project, technically, financially and managerially			sustainability	Satisfactory, moderate, low	Availability of budget for O&M, No. of technical staff in the subject matter, commitment, availability of local maintenance personnel and spare parts, beneficiary organization and strength (level of income, saving, etc)	Qualitative investigation (key informant interview of partner institution, stakeholders, project staff of COOPI and FGD with community/beneficiaries
To what extent is the participation of the beneficiaries to promote sense of ownership and ensure continuous flow of benefits?	Lack of or low participation rates undermine sustainability and effectiveness of the project and finally to failure	Level and type of participation	sustainability	Satisfactory, moderate, low	% of beneficiaries positively responded to the questions (satisfactory/moderate)	FGD with parent teachers associations and school, staff, health extension workers, WMCs, vet personnel and the beneficiaries
To what extent do the project addresses and satisfied the priorities and needs of the community;	Disarray with policies and strategies of the government and	Current, present and future needs of the community, their	Coherence and community value	Satisfactory, moderate, low	%of communities satisfied, satisfaction of the government and the	Focus group discussion and key informant interview with

Evaluation questions	why the question needed	Scope	Evaluation criteria	Judgment criteria	Indicators	Data source
enable the government, EU and COOPI to achieve their development objectives?	the EU will result in poor sustainability and support and inadequate attention to community needs undermine sustainability	priority, EU aid criteria and priority in Ethiopia, Government priority in GTP and the energy sector	added		EU as well as COOPI	beneficiaries, stakeholders and EU

Specific Evaluation questions

Evaluation questions	Evaluation criteria	Judgment criteria	Indicators	Data Sources
To what extent is the quality of day to day management of the project efficient in terms of operational work planning and implementation, and management of the budget, personnel, information, property, etc.	efficiency	% of achievement (quantitative),satisfactory, moderately satisfactory, unsatisfactory (qualitative)	Planned and achieved targets	Interim and annual reports
management of risk has been adequate, i.e. whether flexibility has been demonstrated in response to changes in circumstances	"	Satisfactory, moderately satisfactory, unsatisfactory	No of risks observed and solved and the quality and speed of addressing the issue	Interim and annual reports, key informant interview with local stakeholders
relations/coordination with local authorities, institutions, beneficiaries, other donors	"	Satisfactory, moderately satisfactory, unsatisfactory	Degree of shred responsibilities, joint decision making and timeliness and quality of addressing issues	Key informant interview
the quality of information management and reporting, and the extent to which key stakeholders have been kept adequately informed of project activities (including beneficiaries/target groups);	"	Satisfactory, moderately satisfactory, unsatisfactory) number (adequate/inadequate),	No. of reports produced and submitted to stakeholders, availability of consistent data and information on the project, no meetings,	Secondary information, reports, discussion with the stakeholders

Evaluation questions	Evaluation criteria	Judgment criteria	Indicators	Data Sources
			communication letters, etc.	
Timely accomplishment of planned activities	"	Satisfactory, moderately satisfactory, unsatisfactory	Plan and accomplished period (ratio or %)	Reports and discussion with the COOPI head and field office, EU and regional and woreda institutions
To what extent is partner country contribution from communities, local institutions and government adequate and provided as planned, if any?	efficiency	Satisfactory, moderately satisfactory, unsatisfactory	Amount planned and accomplished (%)	Project documents and reports, discussions (KII and FGD)
To what extent is the capacity building and technical support to the community improve project progress, knowledge and awareness? Are they adequate, timely?	efficiency	Satisfactory, moderately satisfactory, unsatisfactory	No of trainings and trainees planned and accomplished, satisfaction rating of beneficiaries,	FGD with training beneficiaries (individuals and government), key informant interview, reports of the project (interim, quarter and training reports)
Are there circumstances that lead to implementation of unintended activities?	Efficiency	Yes/no	No. and type of unintended accomplished activities	Reports, key informant interview, FGD
To what extent, intended beneficiaries participated in the intervention?	effectiveness	Yes/no	Type, quality and number of participation (kind, cash, others)	Reports, Key informants, FGD (community, social services, cooperatives., IGAs)
To what extent behavioral patterns have changed in the beneficiary organizations or groups?	Effectiveness	High, moderate, low, none	New approaches and knowledge gained and the results of these gains	Key informant interview, FGD, case stories
How far the changed institutional arrangements and characteristics have produced the planned improvements?	Effectiveness	High, moderate, low, none	New procedures, modalities and practices developed	Key informant interview, FGD, case stories
To what extent appropriate is the balance of responsibilities between the various stakeholders? Are there clear duties and responsibilities for each? Are these responsibilities executed accountably?	Effectiveness	High, moderate, low, none, yes/no	List and type of responsibilities, accountability mechanisms established	SWOT analysis of stakeholders
To what extent do the cross cutting issues addressed in project design, implementation and M&E?	Effectiveness	High, moderate, low, none	Gender equity, environmental sensitivity, poverty reduction/food	Review of documents, reports, key informant interview

Evaluation questions	Evaluation criteria	Judgment criteria	Indicators	Data Sources
			security	
What are the major problems encountered to effect the results stated in the project document?	effectiveness	Not applicable	Type, nature, cause, and effect of the problems	Reports, FGD, Key informant interview
Is there a practice of documenting and analyzing lessons learnt and best practices and linking these to improve performance, sustainability and effectiveness of the project?	Relevance	Yes/no	% of positive responses, No of best practices and lessons learnt and applied practically to project implementation	Key informant, FGD
Is the project coherent with current/ongoing initiatives, the priorities and needs of the majority of community members?	relevance	Yes/no	Results of the review of local and community initiatives	Review of documents, key informant interview, FGD with community and social services operators, IGAs and cooperatives
Is the project flexible to adapt and to facilitate rapid responses to changes in circumstances?	relevance	Yes/no;	No. of changes made, causes of changes and type of responses and their effectiveness	Review of documents, key informant, focus groups
To what extent are appropriate and relevant stakeholders identified and targeting mechanisms of beneficiaries adequate and acceptable?	Relevance	Satisfactory, moderate, unsatisfactory	The type of stakeholders, their clear responsibility, type of and number of target groups (vulnerable and poor)	Review of documents, key informants, community FGD
To what extent is the participation of stakeholders in the design and management/implementation of the project, and to what extent is the level of local ownership, absorption and implementation capacity;	Relevance	Satisfactory, moderate, unsatisfactory	To be determined based on the responses of beneficiaries	Key informants, focus groups of communities, service operators, cooperatives and IGAs
Are the designed monitoring and evaluation system, procedure, process and quality appropriate and adequate to ensure proper follow up, supervision, sustaining results, speeding up progress and problem solving	Relevance		To be determined by the consultants after review and discussion	Document review, Key informants, FGD

Evaluation questions	Evaluation criteria	Judgment criteria	Indicators	Data Sources
capacity?				
To what extent did the project contributed to livelihood improvement, poverty reduction, reduce vulnerability, and ensure equity?	Impact	High, moderate, low, none	Qualitative indicators (poverty level, diversification of income and employment, reduced exposure to shock and rapid resilience, reduced disparities between poor and the rich) as there is no baseline and benchmark data	In-depth discussion with the community, members of cooperatives and beneficiaries of IGA and operators of services, Key informant interview, case stories
Are these changes significant and due to only the project intervention or counterfactual reasons?	Impact	Yes/no	Qualitative magnitude of changes due to the project and other interventions	In-depth discussion with the community, members of cooperatives and beneficiaries of IGA and operators of services, Key informant interview, case stories
Are there and unintended project outcomes?	Impact	Yes/no	Decided by evaluators after data analysis	In-depth discussion with the community, members of cooperatives and beneficiaries of IGA and operators of services, Key informant interview, case stories
To what extent communities and service operators as well as members of cooperatives and IGAs developed financial capacities or reliable modalities to sustain the solar system and FSS and the outcomes?	Sustainability	High, moderate, low, none	Income growth, saving for operation, repair and maintenance, commitments and bylaws established to contribute in times of damage or replacement	Focus group discussion with beneficiary community members, cooperative members, IGA owners, service operators, key informant interview with key stakeholder
To what extent the responsible government prepared to support the community (beneficiaries) in times of heavy maintenance and poor operations? What is the financial capacity of the local governments allocated for such activity	sustainability	Satisfactory, moderately satisfactory, unsatisfactory, not at all	Total and annual budget allocated for operating costs, maintenance and repairs over the past 5 years; past	Budget plans and utilization reports of stakeholders, key informant interview with stakeholders and discussion with service operators

Evaluation questions	Evaluation criteria	Judgment criteria	Indicators	Data Sources
(annually) and what did the trends look like?			exemplary practices in water, education, health, water and agriculture sector	
To what extent does the communities (beneficiaries have access to financial services in times of heavy maintenance, replacements, and expansion of the solar system?	sustainability	Satisfactory, moderately satisfactory, unsatisfactory, not at all	Availability and procedures as well as eligibility criteria of the MFI or financial service providers, no, and their loan portfolios, polices and priorities	Discussion with the beneficiaries, interview with COOPI, EU, regional governments, MFI in the areas
To what extent does local skilled solar system operators available and are there suppliers of the spare parts in the locality with adequate capital and expertise?	sustainability	Satisfactory, moderately satisfactory, unsatisfactory, not at all	No of skilled solar system private operators, no. of community members trained in minor maintenance, no. of spare part suppliers and capital	Secondary information, key informant interview with stakeholders, discussion with skilled operators and trained community members and suppliers
To what extent the capacity of community institutions built for the proper management of the solar systems (PTA, WMC, DC,)?	sustainability	Satisfactory, moderately satisfactory, unsatisfactory, not at all	No of community institutions organized and capacitated to manage the system, their knowledge, confidence and commitment (qualitative responses)	Key informant interview with stakeholders, focus group discussion with established institutions
To what extent does the solar system technology introduced adapt to the knowledge, practice and priorities of the beneficiaries?	Sustainability	Satisfactory, moderately satisfactory, unsatisfactory, not at all	To be decided by the consultants up on analysis of data and information	Discussion with experts of solar systems designs and technologies, communities and stakeholders

Annex 10. Guide to FDGs (Community Representatives, Groups and Individual Beneficiaries)

Project Relevance

- What are the problems this project is addressing?
- What was your involvement when this project was developed?
- How were you organized or selected as a target of this project?

Project Efficiency

- Who are the implementers of this project?
- How are you participating in the implementation of this project? What contributions have you made? Do you think your contributions are adequate?

Project Effectiveness

- What major outputs and activities have been implemented under the project? What have you (as an individual or a community) benefited from this project?
- Has the project been effective in meeting its stated objectives?

Project Impacts

- What are the main achievements of this project? Any tangible benefits?

Project Sustainability

- What training have you received so far? What further capacity building training do you need?
- How much prepared to effectively use the solar systems after project closure?

EU Specific Criteria (Added Value plus Coherence) and Visibility

- What makes COOPI unique compared to other NGOs? How visible is the donor?
- What strengths and growth areas does COOPI have?

In addition, a number of probing questions were also asked.

Annex 11. Guide to Key Informants Interview (Government Offices and Stakeholders)

Project Relevance

- Is the project consistent with and supportive of government's energy policy?
- Is the project relevant to the energy needs of pastoral and agro-pastoral communities?

Project Efficiency

- What is the role and responsibility of WDC regarding this project?
- Do you monitor the project regularly and give support to it in the implementation process?
- Has the project been implemented according to the agreed upon schedule?
- How is quality maintained in the implementation processes?
- How often do you receive project reports?

Project Effectiveness

- What major outputs and activities have been implemented under the project?
- Has the project been effective in meeting its stated objectives? Is the project on track or not?
- How effective has the project been in terms of mobilizing community participation?
- Do you have a regular forum/meeting at which you review project progress, problems and challenges?

Project Impacts

- What (positive or negative) changes are brought about due to the implementation of this project?
- What are the replication effects of this project?

Project Sustainability

- What capacity building activities have been given to government officials so far?
- What further capacity building activities do government offices need?
- How much is the government prepared (in terms of budget allocation and administrative supports) to ensure proper running of the installed solar systems for social facilities?

EU Specific Criteria (Added Value plus Coherence) and Visibility

- What makes COOPI unique compared to other NGOs? How visible is the donor? What strengths and growth areas does COOPI have?

Annexe12. The Standard DAC Format for Evaluation Report Summaries

Evaluation Title (and Reference)

Midterm Evaluation Report of Project: "Support to Efficient Utilization of Alternative Energy Sources to Improve the Livelihood of Pastoral and Agro-pastoral Communities in Southern Ethiopia"

Abstract

COOPI launched a three year energy facility project in August 2011 with the financial support of European Commission and started its implementation in collaboration with Oromia and Somali Regions and PAPDA. This is the mid-term evaluation report of the project that covers project description, methodologies used, findings and discussions, overall assessment, EC visibility as well as conclusions and recommendations.

Subject of the Evaluation

The project's specific objective is to increase the production, supply and efficient use of renewable energy for basic social services, household needs and income generating activities. The project has four results: (1) equipping 17 basic social services [31] with solar energy, (2) provision of solar energy for 3 agricultural cooperatives and 25 private enterprises, (3) promotion of fuel saving stoves for 6000 households and (4) capacity building/training of the regional and woreda government offices on sustainable energy systems.

Evaluation Description

Purpose

The main purpose of this mid-term evaluation was to evaluate the project in terms of EC evaluation criteria[32], to assess the major constraints and problems faced by the project, and to forward recommendations to solve them and to speed up the progress of the project in the remaining period as well as to draw lessons.

Methodology

[31] The social services include 4 health posts, 4 vet posts, 4 schools and 5 public wells in three woredas of Oromia and two woredas of Somali Regional States.

[32] EC uses seven evaluation criteria which include relevance, efficiency, effectiveness, sustainability, impact, and EC specific evaluation criteria (EC added values and coherence).

The midterm evaluation of the project has adopted mixed evaluation methods including both qualitative and quantitative approaches and came up with following major findings, conclusions and recommendations.

Main Findings

All the four project results have proved to be relevant to government's energy policy, EC's and COOPI's country strategies and community needs and problems. Result one is fully on the right course and at the right pace in terms of efficiency and effectiveness criteria of evaluation. Result two is also on the right track but still there are delays regarding installation of solar systems for agricultural cooperatives. Result three is way behind schedule because PAPDA, COOPI's implementing partner, could not implement key project activities like production and promotion of fuel saving stoves as agreed. Result four also has not been implemented according to schedule. Even though more time is required to see impacts and sustainability of the energy facility project, the introduction of solar energy has really given the target communities reason for hope. So far, 41504 people or 59% of the total beneficiaries have already started benefiting from the installation of solar power systems at social services and private enterprises running IGAs. Quality and timeliness of social services has started improving; private enterprises running IGAs have provided evidences that this project can contribute to the improvement of livelihoods. However, the beneficiaries need solar systems supply market and technical backstopping for effective and sustainable management of the systems.

It is expected that the effectiveness of the project is seen in light of the project's capacity to deliver on its promise to produce, supply and ensure efficient use of renewable energies for basic social services, Household (HH) needs and Income Generating Activities (IGAs) as well as for agricultural cooperatives. It was planned to install solar systems with the capacity of 40,000 KWh/year for social services but the achievement so far has been 34,790 KWh/year or 87%.The production, dissemination and use of FSS in the target communities will be important to fully meet the overall target of producing 389,919 KWh/year for the project. The participation and involvement of the community in all project cycles has been limited except for their contribution in terms of labor. Moreover, COOPI strategy to ask IGA beneficiaries to contribute buying their own equipment necessary to fulfill their business plan is insufficient. Regarding IGA targeting, the project targeted relatively better off individual instead of the poor, particularly women and the youth who are often economically dependent on men.

Recommendations

<u>Community contributions and beneficiary targeting:</u>
COOPI should make community contributions mandatory for community members, groups and institutions to benefit from project results by putting in place cost-sharing mechanisms at different levels and threshold contribution levels. This will increase community commitments and sense of project ownership. Relatively better off individuals were selected for solar systems despite a rigorous process screening by local authorities and traditional leaders. Such high value solar systems installed by COOPI could be owned and operated by either women self-help groups or youth groups.

<u>Market linkages and maintenance services:</u>
There is a huge demand for solar energy supplies in the project area. Unfortunately, there is no solar power systems supply market in Neghelle Borena Town and its surroundings. To bridge this gap, COOPI, in collaboration with pertinent local government offices, should play an intermediary role by developing a list of capable and trustworthy solar power suppliers and linking them to local communities in the context of

competitive market environments. An enabling environment should also be created for private enterprises to start solar systems maintenance services.

Adopt appropriate FSS promotion and marketing strategies:

The production and dissemination of fuel saving stoves should engage important stakeholders with the duties and capacities to create awareness, marketing and promotion of the product at woreda and community level. All the relevant stakeholders, including micro and small enterprise, women, children and youth affairs, and traditional authorities, should be considered in FSS promotion and implementation strategy.

Revisiting the partnership between COOPI and PAPDA:

The partnership between COOPI and PAPDA should be revisited. The remaining activities are very critical and time taking which require big commitment in terms of management attention and further resource allocations. COOPI should take over the implementation of result three from PAPDA. It would be good to hire two additional staff for FSS activities: one officer responsible for FSS production, promotion and dissemination at COOPI Neghelle office level; the other officer at Filtu town.

No-cost time extension:

Activities under result three and four definitely need enormous efforts and time to complete because 6,000 FSS will be promoted, produced and disseminated to target woredas. Therefore, no-cost time extension should be allowed for this project for six more months from August 4 to January 31, 2015. This includes five months of operation and one final month for consolidation and report writing.

Donor: European Commission	Region: Ethiopia, Borena and Gujji Zones of Oromia Region and Liben Zone of Somali Region	DAC sector : Energy Generation and Supply
Evaluation type: Midterm Evaluation	Date of report: April 4, 2014	Subject of Evaluation: relevance, effectives, efficiency, sustainability , impact, EC added value and coherence
Language : English	N° vol./pages : 41	Author : FTS Strategy and Management Consulting

Programme and budget line concerned :Support to Efficient Utilization of Alternative Energy Sources to Improve the Livelihood of Pastoral and Agro-pastoral Communities in Southern Ethiopia -Contract No.: FED/2011/268-372 - Budget line: 5.4.1 External MTE			
Type of evaluation : Midterm Evaluation	( ) ex ante	(x) intermediate / on-going	( ) ex post
Timing : 29 month	Start date : January 18, 2014	Completion date : April 4, 2014	
Contact person : Alberto Trentini, Evaluation Manager, trentini@coopi.org	Authors : Fromsa Taye, tfromsa@gmail.com		
Cost : Euro 7,100	Steering group : Yes/No		

Approved

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