

# Community Led Approach to Fuel Efficient Cook Stoves

*Developing methodology in Ethiopia*

Report I

Kamal Kar, Aparupa Datta and Megha Sen



## Acronyms

CRGE – Climate Resilient Green Economy

FES – Fuel Efficient Cook stoves

CLTS – Community Led Total Sanitation

CLT-S – Community Led Total Stoves

DA – Development Agents

FES – Fuel Efficient cook Stoves

OD – Open Defecation

ODF – Open Defecation Free

PRA – Participatory Rural Appraisal

NGO – Non-Governmental Organisation

MoA – Ministry of Agriculture

## List of figures

Fig 1 – Fuel wood final annual consumption – Global scenario

Fig 2 – Mirt model

Fig 3 – What does CLTS focus on?

Fig 4 – Elements of CLTS

Fig 5 – Problem Diagnosis of Slow Adoption of Fuel Efficient Cook stoves

Fig 6 – Top Three Constraints causing slow adoption of Fuel Efficient Cook stoves

Fig 7 – Problem Diagnosis on slow adoption of Fuel Efficient Cook stoves in Arba Minch

Fig 8 – Approach used to develop the draft methodology

Fig 9 – Mapping of households and sources of fuel wood in Molle kebele, Mirab Abaya

Fig 10 – Committee formation for increasing uptake of Fuel efficient cook stoves in Delbo kebele, Arba Minch Zuria

Fig 11 – Meeting with local cook stove producing enterprise in Arba Minch Zuria

Fig 12 – Surplus stoves lying unsold in the enterprise

Fig 13 – A pre-assembled Mirt model

Fig 14 – Outcome analysis of triggering with the community

Fig 15 – Intended and unintended consequences of triggering

Fig 16 – Community presentations in the workshop in Hawassa

Fig 17 – CLT-S Community Research Validation Workshop in Hawassa

Fig 18 – Households using traditional and Fuel Efficient Cook stoves

Fig 19 – Triggering session in Molle

Fig 20 – Children’s triggering in Delbo

## Contents

<b>1. Executive Summary .....</b>	<b>5</b>
<b>2. The current situation in Ethiopia .....</b>	<b>6</b>
<b>3. Overview of Fuel Efficient Cook Stove (FES) approaches .....</b>	<b>7</b>
<b>4. Basic Principles of CLTS.....</b>	<b>8</b>
<b>5. Introduction to the assignment and strategy .....</b>	<b>10</b>
<b>6. Steps of the assignment.....</b>	<b>10</b>
Planning and Problem Diagnosis .....	10
Field Identification.....	14
Field Trial of the approach.....	15
Outcome Analysis of the Field Trial.....	20
<b>7. CLT-S Community Research Validation Workshop.....</b>	<b>23</b>
<b>8. Recommendations and Way Forward.....</b>	<b>27</b>
<b>9. Annex 1: Guidelines to Community Led Approach to Fuel Efficient Cook Stoves .....</b>	<b>31</b>
Pre-triggering .....	31
Triggering .....	33
Children’s Triggering.....	37
Post Triggering Follow-up .....	39
<b>10. Annex 2: Agenda of the CLT-S Community Research Validation Workshop, Hawassa.....</b>	<b>41</b>
<b>11. Annex 3: Highlights from field visit to Eritrea.....</b>	<b>44</b>

## 1. Executive Summary

Keeping in line with its vision to become a middle income country with a Climate-Resilient Green Economy (CRGE) by 2025, Ethiopia has identified Water and Energy to be the key to achieving those goals and poverty eradication. One of the major strategic priorities for the Ministry of Water, Irrigation and Energy is to increase household adoption of fuel efficient cook stoves (FES), thereby reducing demand for biomass as a fuel source.

In Ethiopia, many agencies have used various methodologies in an attempt to increase uptake of improved cook stoves. However, the results have been disappointing as the uptake of improved stoves has been lower than expected. It was in this context that different development models were examined with a view to improving efforts to increase adoption of fuel efficient cook stoves. It was recognised that CLTS (Community Led Total Sanitation) offered a proven community-led model, which has had tremendous success in eliminating open defecation and improving sanitation practices in over 50 countries. In Ethiopia, almost 5,000 kebeles have been declared Open Defecation Free (ODF) with a total population of 24.6 million. (Ethiopian Ministry of Health, 2015). It was decided that the CLTS methodology could increase adoption of fuel efficient stoves and should be applied.

This document reports on an assignment undertaken by CLTS Foundation<sup>1</sup> in co-ordination with Vita<sup>2</sup> to explore the possibilities of utilizing the community led approach to promote faster uptake of fuel efficient cook stoves by the rural community in the selected regions of Ethiopia. The assignment took place between 20th November and 29th November 2018, and included a Research Validation workshop, extensive field visits and introductory and planning / strategy meetings with Vita, Irish Embassy project consortium members<sup>3</sup>, other key NGOs, representatives from the community, and senior SNNPR government officials from the Bureau of Water, Irrigation and Energy, the Bureau of Health, the Bureau of Agriculture and the Bureau of Women and Children's Affairs. GiZ, SNV, CARE and World Vision were also invited to the Research Validation workshop because of their expertise and experience in the area of improved cook stoves.

The results from the assignment were very promising. The field trial in two kebeles saw a great response from community members. Communities mobilized themselves and household demand for fuel efficient cook stoves increased dramatically. Key institutional players including the four relevant SNNPR bureaus, the Irish Embassy in Ethiopia, SNV, GiZ and others committed to using the community led approach to fuel efficient cook stoves. The Irish Embassy project consortium

---

<sup>1</sup> The CLTS Foundation is an INGO that provides a global platform for capacity building of key actors in CLTS. It was established by Dr. Kamal Kar, an international development specialist who pioneered the CLTS approach.

<sup>2</sup> Vita is an Irish development NGO that works with communities in Africa to fight hunger and climate change.

<sup>3</sup> SOS Sahel, Farm Africa, Self Help Africa and Vita are part of a consortium that delivers a project in Gamo Gofa Zone. The project is supported by the Irish Embassy in Ethiopia and focuses on improved smallholder livelihoods and resilience through climate smart agriculture.

members agreed to test and standardize the newly developed methodology for this approach in 2019. Community steering committees from the two kebeles where the field trial took place presented their plans to become ‘*Sost Gulicha* Free’ (Traditional Cook Stove Free). These two kebeles will act as model kebeles that stakeholders can learn from when rolling out this approach in the pilot and post-pilot stages. In summary, the Community Led Approach to Fuel Efficient Stoves is a very promising initiative with great potential to increase adoption of fuel efficient cook stoves, not just in Ethiopia but across Africa.

## **2. The current situation in Ethiopia**

The World Energy Council defines biomass as sources of energy that is being derived from organic matter provided that they are not embedded in geological formations, i.e., fossilized. Traditional forms of biomass imply forestry and agricultural residues. Data from The World Energy Council reveals that woody biomass is the source of over 10% of all energy supplied annually in the primary energy supply of forest biomass used worldwide. Overall, woody biomass provides about 90% of the primary energy annually sourced from all forms of biomass. About 90% of all the biomass consumption is in the traditional use. Major use of biomass (two-thirds) is in the form of cooking and heating in rural areas of developing countries

The traditional cook stoves (*Sost Gulicha* in Amharic) are the commonly used cook stoves by the Ethiopian rural community. The fuel (charcoal, fire wood) used in these do not undergo complete combustion and hence leads to inefficient usage of the resource and excessive demand for fuel wood. Smoke from the traditional cook stoves is a major cause of indoor air pollution and directly impacts the respiratory health of the women and children in particular. It is also dangerous since there is no covering surrounding the fire and can lead to fire hazard and burns. Indiscriminate and widespread collection of fuel wood is also a major cause of deforestation and degradation of the natural environment leading to soil erosion, loss of bio-diversity among other impacts.

Amongst several other implications for the Water and Energy sector’s contribution to Ethiopia becoming a Climate-Resilient Green Economy by 2025, it is alarming to note that by 2030, fuel wood availability in the country will be severely impacted by increase in temperature and changes in rainfall patterns.

The fuel wood final consumption in Ethiopia in the year 2017 was 82,853 thousand cubic meters and the country has already shown a rapid decline in forest cover from 15.2% in the year 1990 to 12.5% in the year 2015 (World Bank, 2015). With the current trend of declining forest cover and ever-growing demand for fuel wood, it has been estimated that up to 8.5 million people will be living in high risk areas in Ethiopia where they are unable to meet their household energy needs.

## Fuel wood Final Annual consumption – Global Scenario

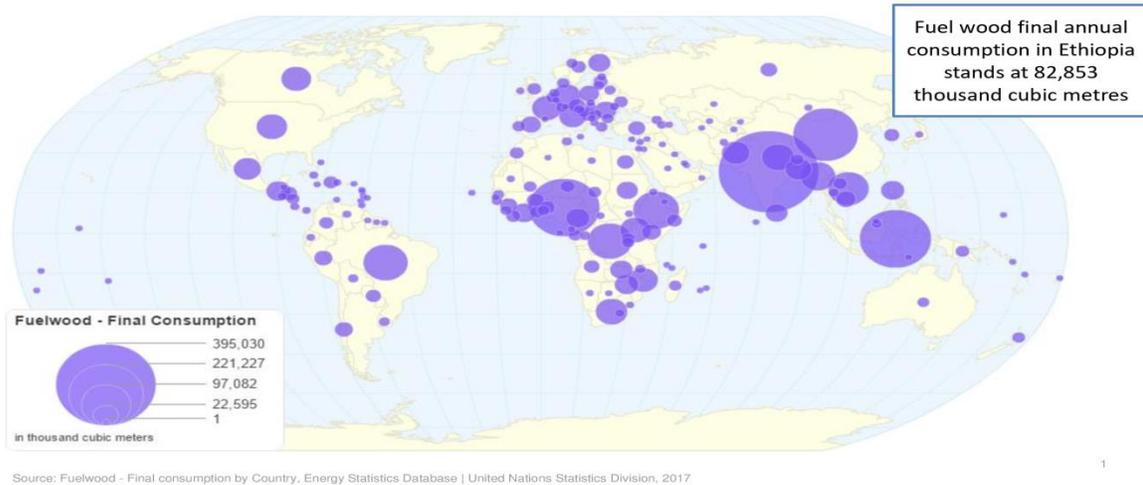


Fig.1. Fuel wood Final Annual consumption – Global Scenario

Hence, it can be stated with conviction that there is a dire need for efficient utilization of the available woody biomass and serious alarm needs to be raised not only on the sustainability of the current conservation, management and forms of collection and consumption of fuel wood but regeneration and creation of bio-mass and afforestation.

The National Improved Cook Stoves Programme (NICSP) designed for this purpose has the goal of distributing 30 million improved cook stoves/ fuel efficient cook stoves of different models namely Gonzeye, Mirt, Opesi and Tikikil,<sup>4</sup> by 2031 and also linking second order benefits such as reduced emissions, deforestation, dam siltation. This would of course catalyse a massive positive health impact on millions of rural women, who would be able to protect themselves from respiratory disorders from directly inhaling smoke while cooking on traditional stoves.

### 3. Overview of Fuel Efficient Cook Stove (FES) approaches

Many organisations have used various approaches with the aim of increasing access to fuel efficient cook stoves in Ethiopia with limited success. Approaches have ranged from market—based approaches to a more traditional charity-based model i.e. free or heavily subsidised distribution of FES. One example of an approach used is Vita’s engagement with FES from 2012 – 2018. In collaboration with the Ministry of Water, Irrigation and Energy, Vita established and

---

<sup>4</sup> Tikikil is for boiling, making coffee, sauces and traditional stews known as *wot*. It is made of clay and metal. Mirt, made of concrete, is primarily for making *injera* but has an additional smaller chamber designed to hold pots for boiling. Gonzeye is a clay stove for making *injera*. Opesi is a clay stove for boiling.

trained local stove producer enterprises and provided them with construction support, initial capital, and equipment such as molds. These enterprises then produced and distributed fuel efficient stoves to the target community in Gamo Gofa Zone. Vita also ran awareness campaigns and public stove promotion as part of its FES projects. FES introduced have included Gonzeye, Mirt and Tikikil models.

Stoves provided had technical constraints since the stoves could not be used for dual purposes of cooking, that is, baking and boiling. Unfortunately, the Mirt design did not completely resolve this, despite its second chamber for boiling. On the whole, the projects summarized above were disappointing as target adoption of FES was not fully reached. These reflects the approaches used by other organisations in Ethiopia, which have had similar underwhelming results. Clearly a fresh approach needs to be applied for increase FES adoption. The Irish Embassy project consortium presents an opportunity to develop and pilot a new approach, which can assist learning from other development partners which will in turn strengthen the new community led approach.

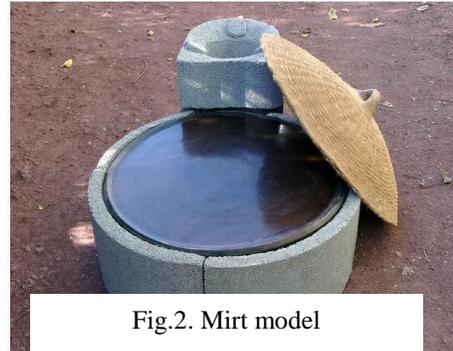


Fig.2. Mirt model

#### 4. Basic Principles of CLTS

Community Led Total Sanitation (CLTS) was born from the assumption where the community has the ability to solve their own problems. It was developed in Bangladesh in the late 1999 and 2000. It involves a total reversal of thinking (no subsidy, no teaching and hands-off facilitation) and focuses on collective behaviour change. It leads to a realization that few people using a toilet while others openly defecate puts the entire community at risk of contracting sanitation-related infections.



Fig.3. What does CLTS focus on?

Community Led Total Sanitation is an integrated approach to achieving and sustaining open defecation free (ODF) status. CLTS entails the facilitation of the community’s analysis of their sanitation profile, their practices of defecation and the consequences, leading to collective action to become ODF. It focuses on igniting a change in sanitation behaviour rather than constructing toilets. It does this through a process of social awakening that is stimulated by facilitators from within or outside the community. It concentrates on the whole community rather than on individual behaviours. Collective benefit from stopping open defecation (OD) can encourage a more cooperative approach. People decide together how they will create a clean and hygienic environment that benefits everyone. It is fundamental that CLTS involves no individual household hardware subsidy and does not prescribe latrine models. Social solidarity, help and cooperation among the households in the community are a common and vital element in CLTS. Other important characteristics are the spontaneous emergence of Natural Leaders (NLs) as a community proceeds towards ODF status; local innovations of low cost toilet models using locally available materials, and community-innovated systems of reward, penalty, spread and scaling-up. CLTS encourages the community to take responsibility and to take its own action. CLTS concentrates on ending open defecation (OD) as a first significant step and entry point to changing behaviour.<sup>5</sup>

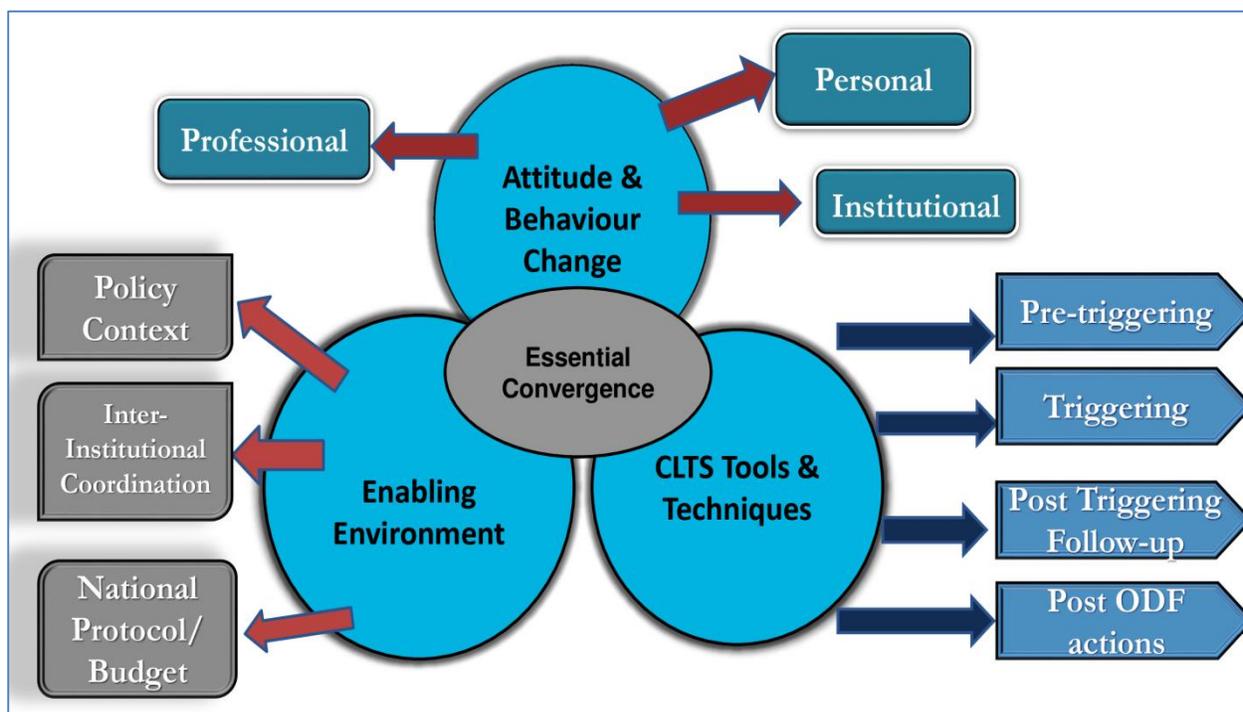


Fig.4. Elements of CLTS

<sup>5</sup> Source: Kar, K and Chambers, R. (2008) *Handbook on Community Led Total Sanitation*. London, Plan International (UK)

The conception of the CLTS approach stands firmly on the three circles of action/change: **Attitude and Behaviour Change** focused on professional, personal, required to successfully drive the approach; the establishment of capacity regarding **CLTS Tools and Techniques**; and the development of an **Enabling Environment**, including the policy context, inter-institutional coordination and a National protocol and budget (See Fig.4).

## 5. Introduction to the assignment and strategy

CLTS Foundation joined hands with Vita to commit to the cause of contributing to Ethiopia's strategy to improve efficiency of biomass use. The focus of the assignment was to conduct field trials for developing a new approach to enable community led engagement and participation resulting in rapid uptake of fuel efficient cook stoves in SNNPR.

The overall objective of the collaborative mission was: -

- To explore and identify how the community led approach can be utilised for mobilising communities to adopt fuel efficient cook stoves.
- To agree on a framework for a new community-based approach to adoption of fuel efficient cook stoves (Community Led Approach to Fuel Efficient Cook Stoves).
- To identify what agencies will take part in the pilot programme and what their roles and responsibilities would be and getting commitment from stakeholders.

As part of this assignment the Community Led Approach to Fuel Efficient Cook Stoves was shared the Irish Embassy project consortium members so that all four members of the consortium could pilot the approach in the next phase of the Embassy project.

## 6. Steps of the assignment

### Planning and Problem Diagnosis

After a brief introduction of all the team members of Vita and CLTS Foundation, the discussion was started with a presentation on 'Story of Stoves' by Mr. Tsehayu Kassie, Programme Coordinator, Vita, Arba Minch. The discussion points were as follows: -

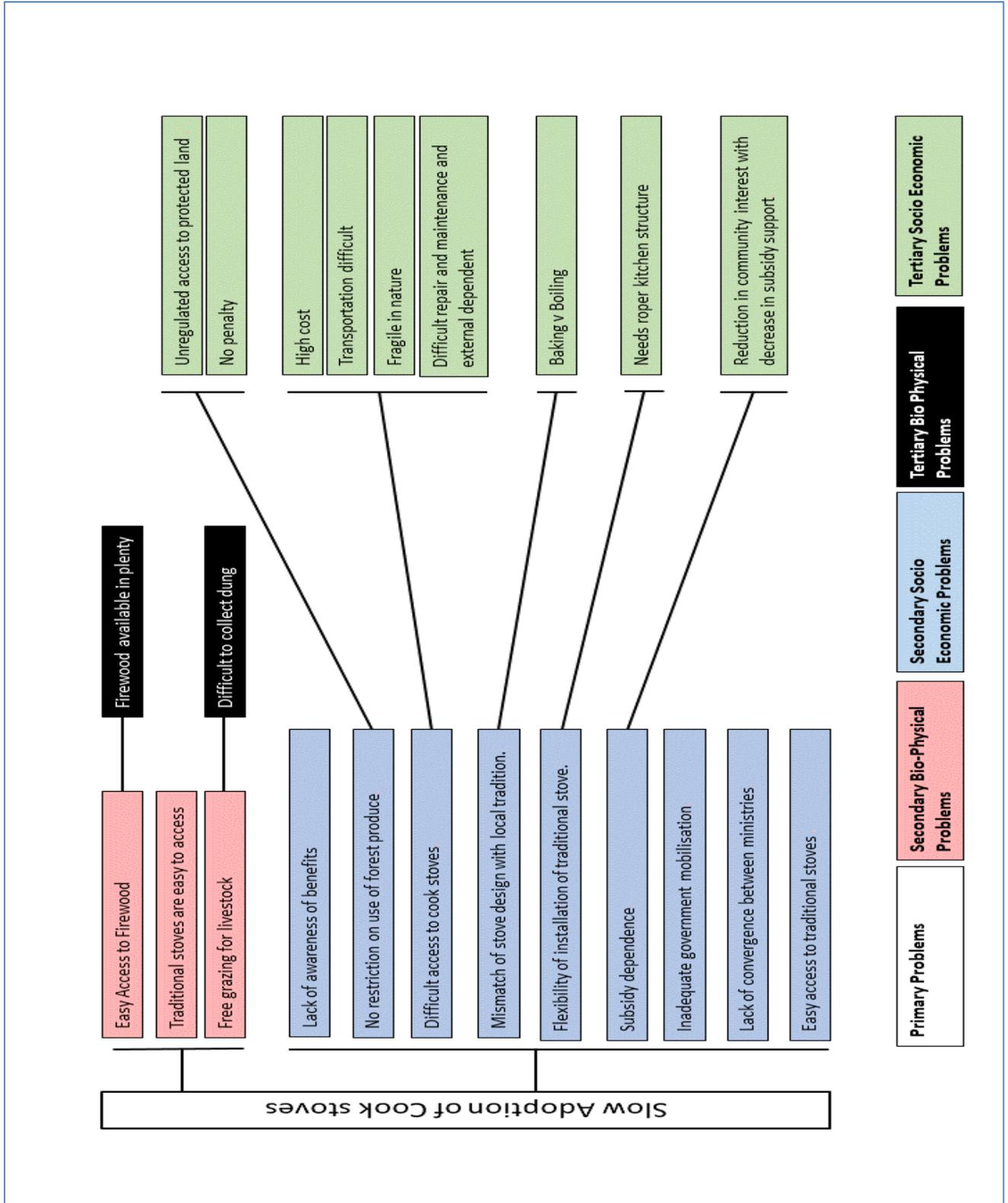
1. Traditional cook stoves, also known as 'three stones' (*Sost Gulicha* in Amharic) is the commonly used cook stove by the community. The fuel (charcoal, fire wood) used in these devices do not undergo complete combustion and hence leads to inefficient and wasteful usage of the resource. As a result, the frequency of fuel wood collection for cooking also increases exponentially. Excessive smoke released from such cook stoves due to incomplete combustion is a major cause of indoor air pollution and directly impacts the respiratory health of the women and children in particular. It is also extremely dangerous to use since there is no covering to shield the fire and can lead to burns and fire hazards. Not only the above but indiscriminate and widespread collection of fuel wood is also a

major cause of deforestation and degradation of the natural environment leading to soil erosion, loss of bio-diversity among other impacts.

2. Vita has been trying to introduce fuel efficient stoves (FES), mainly Mirt, in their operational kebeles since 2012. The standard operating procedure of Vita for promoting uptake of FES begins with capacity building and training to local enterprises and providing them with necessary equipment and starting capital for manufacturing the fuel efficient stoves. The average selling price of the Mirt model of the cook stove is 200 ETB. The finished stoves are sold to beneficiaries at a 30% subsidy rate. (Earlier, the subsidy rate for the fuel efficient cook stove was 70%)

The presentation was then followed by Problem Diagnosis facilitated by CLTS Foundation team to understand the primary, secondary and tertiary reasons for slow adoption of FES.

Fig.5. Problem Diagnosis of Slow Adoption of Fuel Efficient Cook Stoves



From the entire exercise, the top three constraints for the bio-physical factors were: -

1. Easy access to fuel wood from the forest
2. Fuel wood ‘available in plenty’ in the forest
3. Traditional cook stove (three stones) is easy to build from locally available materials

The top three constraints from the socio-economic factors were: -

1. Lack of awareness about the benefits of FES
2. Mismatch of the FES design with the local cooking style.
3. Lack of frontline staff of the Department of Water, Mines and Energy in the kebeles and lack of convergence with other Ministries (e.g. Ministry of Agriculture has front line staff, called Development Agents (DA) but they are not concerned about improved cook stoves)

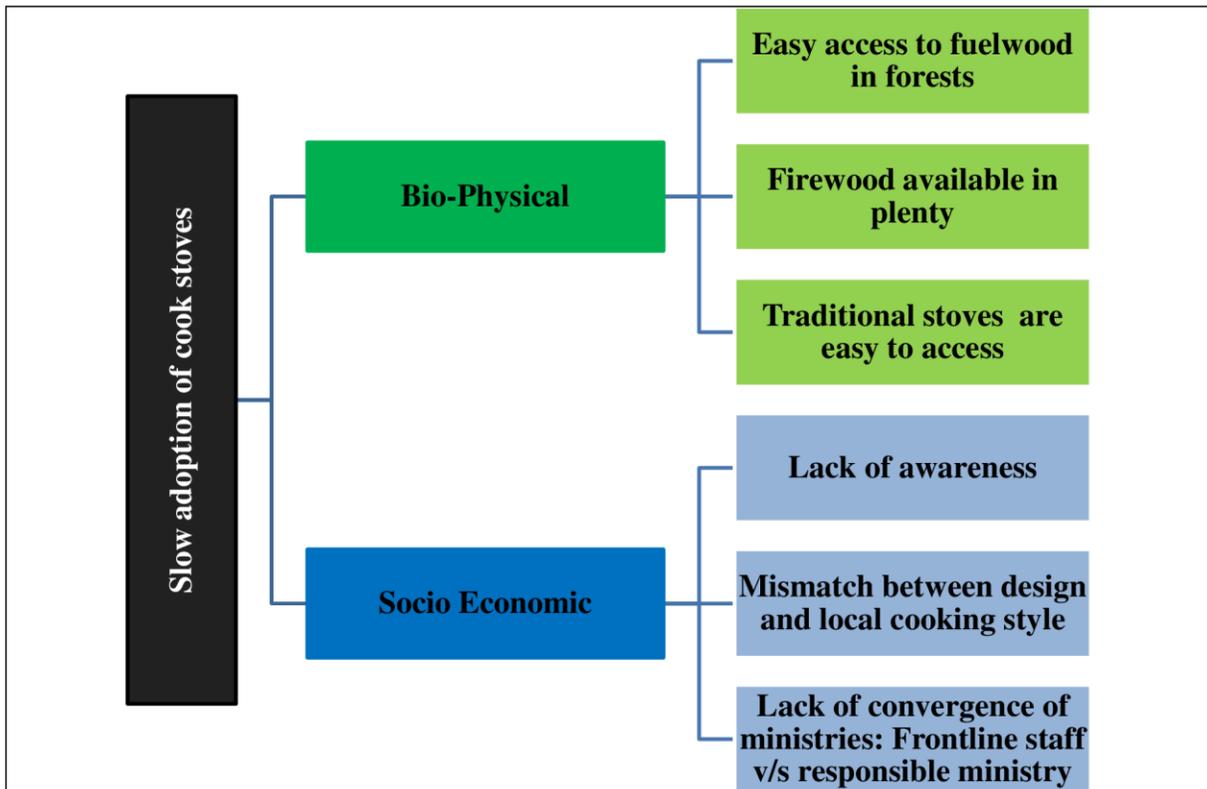


Fig.6. Top Three Constraints causing slow adoption of Fuel Efficient Cook Stoves

## Field Identification

The next exercise was conducted to pinpoint the kebeles (villages) which need to be visited by the CLTS Foundation team to understand the reasons behind slow adoption of FES. Members from the Vita team were asked to draw a map of the Gamo Gofa Zone and sketch the woredas and kebeles where Vita has FES interventions. The names of the woredas and the number of kebeles are: -

1. Arba Minch Zuria – 10 kebeles out of 29
2. Mirab Abaya– 5 kebeles out of 24
3. Chencha – 10 kebeles out of 55
4. Dita – 5 kebeles out of 25
5. Bonke – 3 kebeles out of 33

The Vita team was then asked to arrange the woredas in descending order of adoption of FES, i.e, woreda with the highest adoption of FES should come first. The list then stands as:-

1. Mirab Abaya
2. Chencha
3. Arba Minch Zuria
4. Dita
5. Bonke

The Vita members were then asked to rank the woredas in descending order of forest cover. The order is as follows: -

- 1.5.Bonke
- 2.5.Mirab Abaya
- 3.5.Chencha
- 4.5.Dita
- 5.5.Arba Minch Zuria



Fig.7. Problem Diagnosis on Slow Adoption of Fuel Efficient Cook Stoves in Arba Minch

Upon comparing the two lists, there seemed to be a correlation between the forest cover and the pace of adoption of FES which can be explained as follows: -

Bonke which has the most amount of forest cover amongst the five showed an extremely slow pace of adoption of FES. Although Mirab Abaya has the second highest forest cover, it needs to be noted that they are protected forest where any form of human intervention is not allowed. Hence, it can be clearly seen that lack of easy access to fuel wood catalysed the pace of adoption of FES. A similar correlation can be drawn for Arba Minch Zuria which has the least forest cover of the five, and also has a faster speed of adoption of FES than Bonke and Dita.

## Field Trial of the approach

Purposively, the villages which were selected, had achieved Open Defecation Free (ODF) status at least a year or before. The rationale was to piggyback on the ODF villages where the community has an experience of achieving the ODF status (the public good) through collective local action rather than depending on the external assistance and support. In all ODF villages triggered through the CLTS approach, the communities gain an enormous level of confidence on their collective capacity to solve common problems such as stopping the practice of open defecation, eradication of social abuse resulting from alcoholism, fighting against seasonal hunger and many others as well. In other words, the successful ODF communities realize the strength of their collective local action in sorting out many common problems of the community for which they largely depend on external agencies' help and support and never thought of tackling themselves. With this renewed enthusiasm and confidence, the ODF communities generally identify the next burning issue after open defecation and plan local action to resolve that.

In most countries in Africa, wood is still the primary source of fuel in rural areas of the regions. Indiscriminate felling of trees and consumption of biomass as fuel, charcoal making, building houses, furniture and many other uses have certainly reduced the forest cover at an alarming pace. As a result of burning fuel, making charcoal and other uses the production of carbon-dioxide has been continuing unabated. Not only that the forest cover which continued to act as carbon sink is also thinning out and disappearing at a pace which is rapid than before.

While cooking is a regular and unavoidable activity of human kind, one of the major reasons for loss of woody biomass is due to the faulty and primitive devices used by the rural communities like the 'three stones' stoves. More than half of the heat energy is lost through these primitive and faulty cooking devices causing enormous wasteful consumption of woody biomass which is directly affecting the forest cover and resulting in addition of carbon-dioxide and greenhouse gases in the atmosphere. Interestingly, the rural communities understand the damage caused and its deleterious effects on forest and environment. All communities realized that the forest which used to be close to their homes and often within the village has moved far away from their habitation resulting in huge investment of time, labour and transport cost to bring fuel wood from faraway distances. Mostly the women and children are the worst victims as they are also involved in collection of fuel wood. Not only is this, in some areas of Ethiopia and Eritrea, there is hardly any forest/source of fuel wood left for the community to collect from. Such situations have triggered an alarm amongst the rural community not only to think and act towards conserving the forest cover but also designing fuel-efficient stove for reduction of fuel consumption. While diversification of fuel had taken place many years before, comprising of dried animal dung, agricultural waste and by-products, fallen dry leaves and twigs, shrubs and bushes and others, sporadic efforts of plantation of trees has also been initiated.

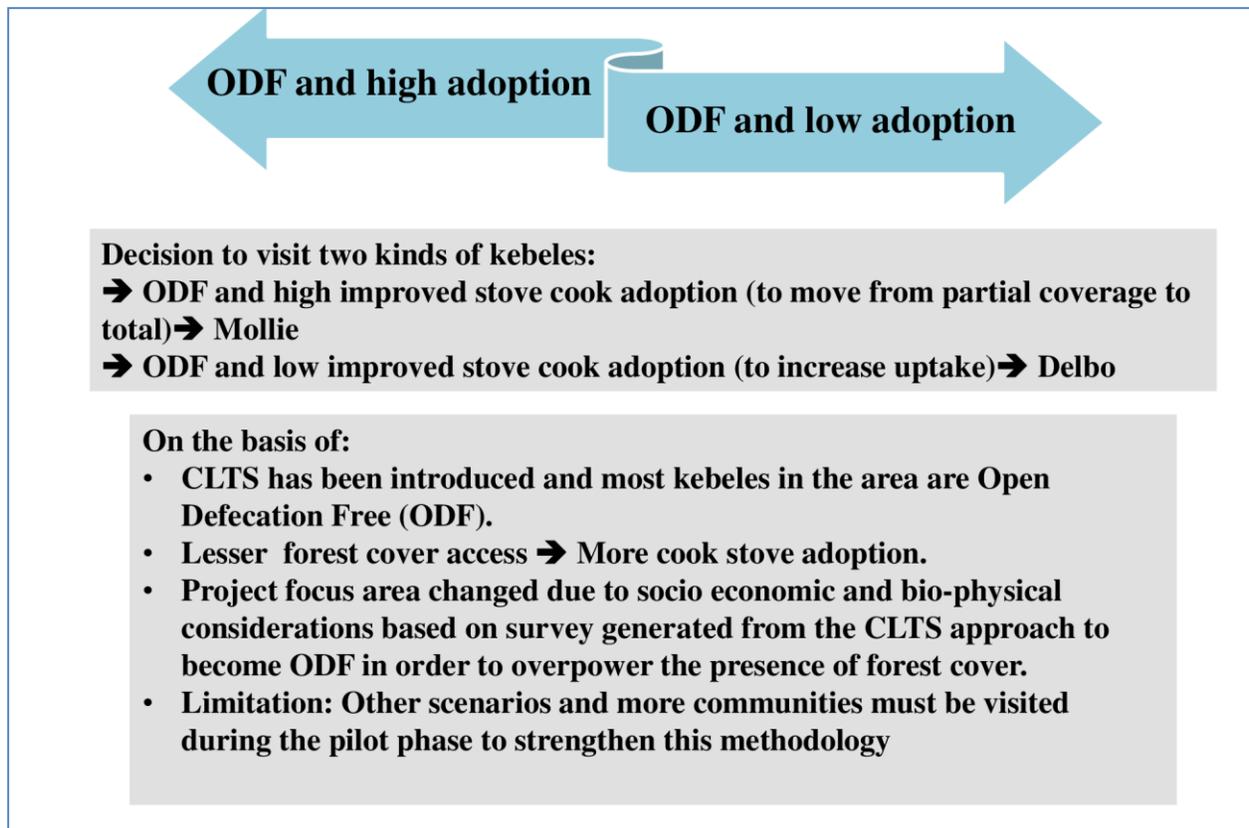


Fig.8. Approach used to develop the draft methodology

With the primary focus on harnessing the advantage of collective local action of the community already initiated through CLTS, two ODF village clusters were selected to undertake this trial of Community Led Approach to Fuel Efficient Cook stoves. One named Mollie kebele in Mirab Abaya woreda and the other named Delbo kebele in Arba Minch Zuria woreda. Mollie had a faster rate of adoption of Fuel-Efficient Cook stoves (50%) whereas Delbo had a much lower rate of 37% adoption.

The CLTS Foundation team along with the Vita team visited these two village clusters and conducted the triggering exercise. Community members were gathered at a location which was easily accessible. It had been encouraged that people from the entire community participate in the triggering which included men, women, children and the elderly population as well. The triggering exercise included different Participatory Rural Appraisal (PRA) tools to evoke a sense of alarm for the disappearing forest cover if the current frequency of fuel wood collection were to continue as usual. The final aim of the exercise is to trigger collective action and social solidarity from the community towards the burning issue of deforestation and to discourage the use of traditional cook stove completely.

It involved resource mapping, developing a timeline to establish the rate of decline in forest cover and various other tools. In Delbo kebele, a separate children's triggering was also conducted which involved using the triggering tools with a large group of children. The children's triggering was concluded with a procession of kids moving into the adult triggering area holding posters made by them on the importance of forests and the harmful impacts of traditional cook stoves; chanting slogans and songs about saving trees and benefits of using fuel efficient cook stoves. The external team (CLTS Foundation and Vita) only played the facilitator's role in the entire duration of the triggering exercise. The community was given the lead and the natural leaders that emerged from the exercise were given hand holding support to carry the exercise forward.



Fig.9. Mapping of households and sources of fuel wood in Molle kebele, Mirab Abaya

After the conclusion of the triggering exercise, the community members agreed to form a committee comprising of members from amongst themselves. This newly formed committee would take the responsibility of making their village (kebele) *Sost Gulicha* Free (Traditional Cook Stove-Free). The committee was encouraged to discuss within their group and to come up with a plan on how they intend to increase the uptake of Fuel Efficient Cook Stoves in their villages. They were also encouraged to make a list of the households who were demanding to buy Fuel efficient cook stoves immediately after triggering and to follow-up with the demands.



Fig.10. Committee formation for increasing uptake of Fuel Efficient Cook stoves in Delbo kebele, Arba Minch

Natural leaders who emerged from the entire activity were invited for a meeting with the CLTS Foundation and Vita team to discuss their plans on how they would like to speed up the pace of adoption of fuel efficient cook stoves. They were also subsequently invited to attend the CLT-S Community Research Validation workshop in Hawassa on 27<sup>th</sup> and 28<sup>th</sup> November 2018 to present their plans to larger group of major stakeholders involving multilateral agencies, government officials and non-governmental organisations.



Fig.11. Meeting with the local cook stove producing enterprise in Arba Minch Zuria

In order to understand the supply side of the project, the Team paid a visit to local cook stove producing enterprise in Arba Minch Zuria woreda. It was observed that there was a huge amount (over 1000 units) of surplus fuel-efficient cook stoves lying unsold in the warehouse which was blamed on the lack of demand from the community. It was also noted that the transportation of the fuel-efficient cook stoves to the kebele level is done only after receiving registration and payment by a minimum of ten households to the agent/front line staff in the kebele. If there is a demand from only one household, then the person has to contact the supplier/enterprise by himself to buy and transport the stove to his house. Many a times people register but do not pay at the same time, causing further delays.



Fig.12. Surplus stoves lying unsold in the enterprise



Fig.13. A pre-assembled Mirt model

It was also pointed out that the Mirt model suffered a technical flaw owing to the local cooking habits. Although the model has two chambers for baking and boiling, one cannot use the boiling chamber without igniting the baking chamber. The staple diet *injera*, which requires the baking chamber, is prepared once in three days but the boiling chamber is required for daily use. As a result, people slip back to using the traditional cook stove as it offers that flexibility.

### Outcome Analysis of the Field Trial

A meeting had been organized on 24th November 2018 involving community members from Molle and Delbo villages, representatives from the cook stove producing enterprise and team members from CLTS Foundation and Vita. The objective of the meeting was to facilitate a discussion between the beneficiaries and the suppliers. It was an attempt to understand and bridge the gap between the two. The meeting also aimed to be a Post-triggering follow-up exercise to check the reaction, outcomes and progress made by the community on uptake of fuel-efficient cook stoves after the triggering.



Fig.14. Outcome analysis of triggering with the community

Representatives from the two village clusters and from the cook stove producing enterprise were asked to present their plans and views and here is what we observed.

### **1. Community members from Delbo kebele**

- a. Soon after the triggering was completed and the team left the community realized that the traditional cook stove is leading to rapid decline in forest cover. They wanted to adopt fuel-efficient cook stoves even if there was no subsidy available.
- b. Initially the list of the people wanting to adopt fuel-efficient cook stoves was 33 but the number got increased to 70 as more people were influenced by the discussion within the community. The 70 households committed that they would be ready with the amount that they are expected to pay for the fuel-efficient cook stoves within two weeks.
- c. Although the village had pledged to adopt fuel-efficient cook stoves, it does not indicate complete abolition of traditional stoves as they would be needed for every day boiling for cooking, making tea, coffee etc. However, the firewood consumption will be considerably reduced and the only alternative would be to use charcoal stoves.
- d. Out of the total of 580 households in the village, 200 of them already use fuel-efficient cook stoves. 70 households have already demanded fuel-efficient cook stoves after triggering. The remaining 380 households will be saturated between Decembers 2018 to March 2019.

- e. Ten years ago, there was plenty of forest and wood for housing, cooking and people used traditional cook stove. Five years ago, population became higher than the carrying capacity of the ecosystem. Deforestation was high due to increased construction of houses, charcoal making; firewood was still used indiscriminately in traditional cook stoves. There were no fuel-efficient cook stoves.
- f. In the current scenario, due to interventions carried out by the community, the forest is gradually being restored in the upper portion of the kebele. Fuel-efficient cook stoves are being used in the kebele reducing the time needed for fuel wood collection, labour especially for women have been reduced. There is a reduced pressure on the forest as the same amount of wood is being used for longer period of time; has also led to lowering of the price of the wood. Fire hazards and diseases from smoke have also decreased.

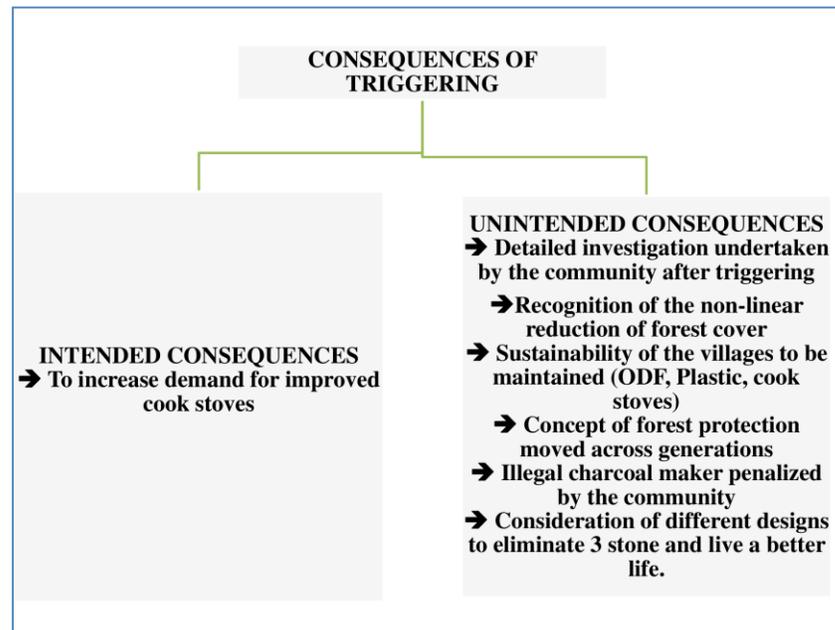


Fig.15. Intended and unintended consequences of triggering

## 2. Community members from Molle kebele

- a. A similar reaction could be seen after the triggering was completed and the team left the village. The demand for fuel-efficient cook stoves increased from 7 to 37 households. Information from the triggered village spread to other villages of the cluster and demand poured in from the other villages as well. In other words, the community was empowered to go into more details and find out the exact number of households demanding fuel-efficient cook stoves.
- b. The committee has planned to create awareness about fuel-efficient cook stoves within their village. Apart from that, they would reach out to the resource deprived households and try to link them to the project by assisting them.

- c. Concept of forest protection moved across the generation for them.
- d. The community went a step ahead and handed over an illegal charcoal maker to the authorities and penalized him.
- e. It made them think about other designs to abolish traditional cook stove completely. They also realised that the residual wood in fuel-efficient cook stoves could be washed after it is cooled and be used as charcoal again for boiling water, making tea and coffee.
- f. Neighbouring kebeles were curious as to what was happening in the other two kebeles.

### **3. Ms. Worknesh (Representative of the local cook stove producing enterprise, Arba Minch Zuria)**

- a. The enterprise has been working since 2009 Ethiopian calendar and there is a huge gap between the demand and supply for fuel-efficient cook stoves.
- b. But she has never experienced the kind of demand she is seeing today in the discussion. Using fuel efficient cook stoves also reduces the risk of miscarriage among pregnant women due to reduction in carrying heavy load, fire hazard and smoke inhalation.
- c. She suggested that they should think of a win-win approach to bridge the gap.

## **7. CLT-S Community Research Validation Workshop**

The CLT-S Community Research Validation workshop on 26<sup>th</sup> to 27<sup>th</sup> November 2018 in Hawassa was convened by Vita and facilitated by CLTS Foundation. The workshop saw the participation of officials from the Irish Embassy, Irish Aid consortium, senior government officials from the Water and Energy, Health, Women and Child Affairs department of Ethiopia, members from Vita offices in Eritrea, Ethiopia and Ireland and community members from the Molle, Delbo and local cook stove producing enterprise.

The workshop had been convened in order to present the field trial done so far to the stakeholders and also to identify and take commitment from agencies that would be willing to undertake the Community led approach in the pilot programme to increase the uptake of fuel efficient cook stoves under the Irish Embassy. Apart from these, the workshop also aimed to bring together the various government departments on a common platform in order to foster convergence resulting in positive outcomes as lack of coordination between the departments had been identified as one of the major constraints in the problem diagnosis activity (See page 12).

Day 1 (26<sup>th</sup> November 2018) of the workshop started with a brief round of introduction of all the participants and was followed by presentations by the SNNPR Bureau of Agriculture, Vita, SNV Ethiopia and Farm Africa summarizing their role and background in the fuel efficient cook stove project in Ethiopia.

The presentations were followed by a situational analysis facilitated by CLTS Foundation on the current scenario of Ethiopia in terms of fuel wood consumption and where it stands in terms of forest cover since 1990. The problem analysis activity (See page 13) was briefly explained to all the participants and the approach used to undertake the field trials were outlined.

The rationale for piggybacking the CLTS approach (See page 15 - 16) for increasing the uptake of fuel efficient cook stoves was explained in detail through reinforcing the basic principles of CLTS - attitude behaviour change. The participants were then divided into smaller groups of four and were explained the basic concepts of CLTS in detail through discussions and audio-visual aids in order to bring everyone on the same page.

Following the detailed briefing on CLTS, the participants were then shown a video on the triggering exercise done in the field trial in Molle and Delbo kebele for increasing uptake of fuel efficient cook stoves. Discussions were facilitated in order to take a peer review of the field trial. This was also followed by presentations made by the community members explaining their own experiences of decline in forest cover over the years, participation in the triggering exercise, outcomes of triggering and the committee's plans on increasing the uptake.



Fig.16. Community presentations in the workshop in Hawassa

The groups were then asked to discuss amongst themselves on how confident they are about the proposed methodology, will they implement it in their operational areas and what is the potential of the proposed methodology. Encouraging comments were received from all the three groups. They are as follows: -

**Comments from group 1: -**

They were convinced to scale up, support private enterprise for production, synergy and coordination amongst the stakeholders.

**Comments from group 2: -**

The group believed that there is a need to identify strong committee leaders from within the community to carry out the task of leading others and triggering. Capacity building of natural leaders and relevant stakeholders on the proposed method is needed. There is also a need to look into the design issue of the current models of fuel efficient cook stoves.

**Comments from group 3: -**

SOS-Sahel showed enthusiasm to adopt the methodology and scale up in the woredas where they are working. They would start with the kebeles that are relatively easy to work with and then move up to the challenging areas.

Day 2 (27<sup>th</sup> November 2018) of the workshop focused more on in-depth discussion about the nuances of the Community Led Approach to increase uptake of fuel efficient cook stoves. It was reiterated that the Community Led Approach is an outcome focused approach and Post-triggering follow-up activities were necessary to bridge the gap between demand and supply. Using the example of ‘free toilet distribution’ in Ghana representing ‘institutional open defecation’ (a term coined by Dr. Kamal Kar), it was advised that usually when different kinds of organisations work in similar operational areas for the same goals, it leads to a lot of confusion amongst the communities. The institutions must never compromise on the basic principles of the Community Led Approach derived from CLTS. They can rather focus on empowering the local community and encourage them towards social solidarity and initiating collective local action to solve their own problems.

In case of sanitation, the community understands the basic principles of stopping fecal-oral contamination but in their own different styles. Similarly, in case of uptake of fuel-efficient cook stoves, the community is well aware of the decline in forest cover, harmful effects on health etc. as the disadvantages of using traditional cook stoves in their own different styles. Hence, institutions can get into participatory technology development with the communities for addressing the design issue which is very similar to the concept of ‘Moving up the Sanitation Ladder’ in CLTS.



Fig.17. CLT-S Community Research Validation Workshop in Hawassa

The discussion was followed by a detailed presentation and explanation of the approach used on field – Pre-triggering, Triggering and Post-triggering follow-up activities. The participants were then divided into four groups representing the community members, multi-lateral agencies, the Irish Aid Consortium and senior government officials respectively. They were asked to come up with an action plan on how the methodology can be scaled up and institutionalized effectively.

It was a pleasure to note that officials from the Water and Energy Department, Arba Minch Zuria planned to implement the approach in 30 kebeles, make use of 60 health extension workers, 30 kebele DA (agriculture), and 30 kebele administrative agents. They were interested to provide training to the above group, make use of them to conduct triggering in the particular village that they come from. They also have a plan to disseminate 6000 fuel efficient cook stoves in three woredas using the approach and they are keen on collaborating with other government departments and NGOs.

The Irish Aid consortium also showed their enthusiasm and agreed to apply the approach in their projects. Vita as an organisation also showed commitment towards developing at least 20 villages as ‘*Sost Gulicha Free*’ (Traditional Cook Stove Free) using the Community Led Approach in six months’ time.

## 8. Recommendations and Way Forward

The following recommendations emerged after a series of interactive discussions, meetings, consultations, site visits and workshops with community, village leaders, NGOs, government functionaries at different levels, local entrepreneurs, and various other formal and informal institutions. The recommendations have been grouped under the following categories.

### A. Institutional Way Forward

- a. It is necessary for organisations to agree a common framework for using the Community Led Approach increasing uptake of fuel efficient cook stoves. Then several organisations who have agreed a common framework should trial the Community Led Approach in several locations to test and strengthen the methodology and develop an evidence base that proves the effectiveness of the approach.
- b. Time was a constraint for the field research and development of the methodology. Hence it is **recommended that the methodology of Community Led Approach to Fuel Efficient Cook Stoves needs to be standardized and field trials need to be conducted in diversified field settings** in Ethiopia. The approach also needs to be tested in areas which have not been triggered earlier through CLTS and are non-ODF areas. It is likely that the community can be triggered in non-CLTS villages as well since destruction of forests (which is a ‘public good’) has a negative impact on the entire community as partial open defecation has on public health. The entry point for triggering in such cases would be maintaining the local environment sustainably by the community.<sup>6</sup>
- c. The members of the Irish Embassy consortium can start by piloting the Community Led Approach in one region, with the buy-in and support of the Irish Embassy itself and the following SNNPR bureaus: Water, Irrigation and Energy, Health, Agriculture, and Women and Children’s Affairs. The pilot should have a target developing at least 20 kebeles as *Sost Gulicha* Free within a span of six months. In the future these kebeles can be used to influence the regional and the federal governments to create an enabling environment for scaling up the achievements of these kebeles. Guidelines can also be developed for validation of the ‘*Sost Gulicha* Free’ kebeles through third party verification mechanisms and setting up of monitoring indicators and standards. This pilot of the Community Led Approach could be strengthened by the collaboration of other INGOs who attended in the workshop e.g. GiZ, SNV, CARE and World Vision.

---

<sup>6</sup> The CLTS Foundation carried out a brief scoping visit to Eritrea after the conclusion of the workshop. The key learning from this visit was that triggering points will be different in different countries and regions depending on varying bio-physical, cultural, social or economic factors. Areas of Eritrea which have witnessed complete destruction of forests should be another important context for conducting field trials for the approach. Triggering tools for such areas can focus of scarcity of forest resources, harmful impacts of smoke on women and children and so on. Please see Annex 3 for more details.

- d. It is essential to develop a capacity building programme for the staff members of all INGOs, Natural Leaders, and officials of government bureaus who have committed to using this Community Led Approach in participatory facilitation. These skills are essential for implementing the Community Led Approach to increasing uptake of fuel efficient cook stoves. This is especially relevant for staff members who will be engaged in piloting this approach e.g. Irish Embassy consortium staff members and Irish Aid personnel from the Irish Embassy in Ethiopia.
- e. It is necessary that the pilot of the Community Led Approach is in line with the SNNPR government framework as activities cannot be undertaken in isolation from government.
- f. It is essential to develop cooperation between the different ministries concerned with rural development of Ethiopia. For example: It can be encouraged that the Ministry of Water, Energy and Mines and the Ministry of Agriculture (MoA) collaborate since the latter has DAs already stationed at the kebele level. The front line staff of MoA can play an effective role in rolling out this approach at kebele level to encourage a collaborative approach between institutions.

#### **B. Learning and Collaboration**

- a. It is crucial that a strong evidence base for the Community Led Approach be developed as part of the pilot. The evidence base should be developed in a collaborative, multi-partner way and should involve all agencies and institutions involved in the pilot.
- b. In planning for the pilot, all partners should ensure that they use a standardized baseline and establish common indicators to be measured during the pilot.
- c. Coordination between implementing agencies is key to the success of the pilot. Regular meetings should take place and clear communication channels should be established between the agencies carrying out the pilot to facilitate lesson learning and knowledge sharing during and after the pilot.

#### **C. Community Participation in Integrated Fuel Management**

- a. It is essential to identify and develop at least 20 kebeles (well spread within the operational areas of workshop participants covering different woredas, which have successfully embraced the CLTS approach, become and maintained the ODF status for at least one or two years) which are totally free from traditional/primitive cook stoves (*Sost Gulicha* Free). It is important to mention here that there are many villages that are partially free from traditional cook stoves which demonstrate the lack of total community involvement. These are not the good examples of achieving a public ‘good’ of a *Sost Gulicha* Free village. Rather these are acquisition of improved cook stoves by a few as individual ‘good’.

- b. Celebrating the first '*Sost Gulicha Free*' kebele by inviting the chiefs of the neighbouring kebeles to these villages to disseminate the new revolution that has happened.
- c. Initiating and showcasing good examples of local government's (kebele/woreda administration) involvement in advocating and promotion of *Sost Gulicha Free* villages.
- d. Organise visual displays of 'before' and 'after' impacts of *Sost Gulicha Free* villages appropriately on signboards/hoardings at the kebele entry points for wider dissemination and adoption.
- e. Identify and develop Natural Leaders and Community Consultants from *Sost Gulicha Free* villages that have achieved ODF status earlier, and train them to act as catalytic agent to spread the message of efficient fuel wood consumption in the entire woreda or outside. Such community-to-community exchange of ideas on integrated fuel management should be encouraged based on participatory assessment of available fuel from all sources and planning actions to mitigate the gaps in consumption. The villages of Molle and Delbo can be developed as a learning laboratory after becoming '*Sost Gulicha Free*' and subsequent 50 to 100 kebeles can come for an exposure visit to learn from them.
- f. Organise a demonstration of participatory assessment of total availability of fuel in a community/goth/kebele and the requirement of consumption to find out the gaps or surplus.

#### **D. Technology management**

- a. Participatory technology development and trial needs to be initiated in selected villages to find possible alternatives for cook stove models that would solve the problem of the existing model (Mirt) that is used for both baking and boiling, Since, *injera* is made only thrice a week and since boiling is a daily requirement, the present cook stove model needs to be developed in such a way that these two functions are independent of one another.

#### **E. The Missing link between producer and end user**

- a. It has been seen in all the villages that the community is keen to abolish the traditional cook stove and adopt an improved cook stove of any kind where fuel wood lasts longer than that in traditional cook stoves. Demand for Mirt stoves is very high in the two kebeles where field research took place. Yet some local producers in neighbouring woredas have a surplus of unsold fuel efficient cook stoves. It is recommended that organisations initiate actions with the local government to bridge the gap between producers and consumers.
- b. One way of bridging the gap between producers and consumers would be to assist in stove distribution. A truck load of fuel efficient cook stove produced by a local

entrepreneur may be taken to the villages where the community members are interested to purchase them and abolish the use of *Sost Gulicha*. The list of the names of potential purchasers may be prepared in advance and the route of the supply truck planned accordingly. Organisations can organise the distribution process free of cost to the beneficiaries. This could be an appropriate avenue for organisations to provide a hidden subsidy, which could off-set a portion of the price of the fuel efficient cook stove at the producer level. It is also important that organisations stay away from providing individual household subsidy for fuel efficient cook stoves to beneficiaries without which the collective local action to stop using *Sost Gulicha* will never be ignited.

## 9. Annex 1: Guidelines to Community Led Approach to Fuel Efficient Cook Stoves

Field trials of the approach were conducted in two village clusters named Molle and Delbo in Mirab Abaya and Arba Minch Zuria respectively. These villages were chosen after a thorough discussion and strategizing after a Problem Diagnosis session by CLTS Foundation and Vita team. Both these villages were ODF through CLTS approach. Molle had a higher rate of adoption of fuel efficient cook stoves (50%) and Delbo had a much lower rate of 37% adoption. For detailed documentation of the field identification process, refer to Section 5.3 of the Mission Report.<sup>7</sup>

The following is a step-by-step guideline on the approach that was adopted in the field trial in Molle and Delbo villages.

### Pre-triggering

It is crucial to prepare for the triggering exercise, in consultation with the community.

There are certain factors which must be considered for the choice of the villages with regards to the triggering process. The factors are as follows:

1. It is important to focus on villages that have successfully embraced the CLTS approach and become and maintained the ODF status for at least a 1 or 2 years. These villages must be chosen for the triggering for improved cook stoves since these communities have already undertaken collective local action and witnessed the success of such initiatives. It will be easier to introduce another participatory assessment for sustainable living in a community which is more open to wanting to support themselves and use their resources to depart from traditional lifestyle ways. Therefore, there is more potential if the process includes piggy-backing on the CLTS success while choosing the village for improved cook stove introduction and can manifest itself into more successful outcomes.
2. It is crucial to ensure that these villages are not placed in very interior areas since the transformation of these villages from traditional cook stoves to improved cook stoves must be utilized the spread the approach and implementation. The villages must have a strategic location related (along the main roads, near administrative areas, etc.) advantage which will showcase better demonstration potential and the Natural Leaders and Community

---

<sup>7</sup> Kar, K. et al (2018) *Community Led Approach to Fuel Efficient Cook Stoves Developing methodology in Ethiopia, Mission Report*, CLTS Foundation, Vita, Irish Aid Consortium.

Consultants emerging from these areas can be utilized as important resource persons in and around the particular village to spread the awareness and increase the uptake.

3. The community must be aware of the improved cook stoves and there must at least be some households who have already adopted these designs. It is crucial for this awareness to be present in the area, otherwise the lack of understanding of the need or benefits of the improved cook stoves can majorly devalue the triggering process.
4. The community must not have undeterred access to forest areas since an unlimited supply of fuel wood can act as a deterrent to introducing fuel wood efficient cook stoves. The community must carefully chosen which either is away from a significant amount of forest cover or one where there are strict government rules and regulations against illegal felling of trees, making it very difficult to access this amount of fuel wood.
5. It is also important to choose areas which do not have rampant illegal charcoal production since access to through influential community members may act as an impediment to the introduction of fuel efficient cook stoves.
6. It will be a good strategy to choose a community which is more aware of the changing timeline of the forest cover and the community members have understood the changing volume of forest around them over a period of time.
7. There must be a supportive community leadership and mechanism to ensure no disturbance before, during or after the triggering exercise.
8. It would be ideal to choose a community which has not received subsidy for improved cook stoves thereby, creating no sense of expectations from the facilitators.
9. Social and economic cohesion within the community would be an ideal setting to conduct triggering.
10. It is important to interact and conduct in-depth discussion with the community leaders and other community members to discuss about the possible time, location and particular features of the community in order to ensure complete participation of all the members of the community during the triggering process.
11. The objectives in terms of the role reversal (community members are the teachers and the facilitators are going to come to the village to learn) should be well established and rapport should be built in a proper and comfortable manner well before triggering is to take place.

12. It is also important to make the arrangements separately for the adults and the children, while keeping in mind the local context for the triggering process.
13. The facilitators must have a thorough conversation with the community members in order for them to be able to be flexible to changing context both within that particular community and around the area.

## Triggering

The aim of Community Led Approach is to trigger self-realisation among community members that they need to change their own behaviours, so the facilitator must never lecture or advise on the community's habits, and should not provide external solutions in the first instance with respect to cook stoves. The goal of the facilitator is purely to help community members see for themselves that using traditional cook stoves has harmful consequences and creates an unpleasant environment. It is then up to community members to decide how to deal with the problem and to take action.<sup>8</sup>

The rough sequence of steps that are generally followed while triggering are:-

- Introduction and rapport building
- Participatory analysis
- Ignition moment
- Action plan by community
- Follow-up

The guideline below draws lessons from the field trial of the triggering session conducted in Molle and Delbo villages. It aims to provide a step-by-step idea of how the triggering exercise for increasing uptake of fuel-efficient cook stoves can be conducted. The steps are as follows:-

1. Brief introduction and rapport building with the community.
2. Ask the community to draw a map of their village. Ideally facilitate the community into drawing the boundary of the village then move on to roads, schools, religious places and other areas of importance. Make sure that there is maximum participation of all members who are present.
3. Ask the community to mark their own houses within the map and ask them to stand next to the point demarcating their own house.

---

<sup>8</sup> Source: Kar, K. (2005) *Practical Guide to Triggering Community Led Total Sanitation (CLTS)*, IDS UK

4. Facilitate the community towards revealing their daily routine and gradually move to the topic of cooking asking them what is source of fuel and how do they get it. Do they collect?
5. Ask the community to mark the fuel wood collection areas by putting sawdust on the points from where they collect. Ask them to make a bigger heap of sawdust if that particular collection point is used most frequently by them.
6. Move on to ask whether the collection point had always been at that place or has it changed.
7. If they answer yes, then ask where was the collection point ten years earlier? Ask them how long does it take to go to that point now and how long did it take earlier?
8. Ask the community to rate the forest cover that was present in A) ten years ago B) five years ago C) Current scenario D) ten years from now. The community can use stones to mark the change. More number of stones would mean more forest cover.
9. If you see that there has been a decline in the forest cover over the four points, ask them who destroyed the forest? Ideally, in such a situation the community should have understood the relation between indiscriminate fuel wood collection and rapid decline of forest over the years. The community would point out that they had destroyed the forest.

OR

- a. After the community members marked the areas from where they receive fuel wood, specifically the areas where they acquired more volumes of fuel wood from, the community members were asked how much time they spent on an average in a week engaged in this process.
- b. The average number of days was 2 days a week. The facilitators asked if this was the situation 10 years prior to the current date. The community members answered that the distance was much shorter and they did not have to spend as much time to travel long distances to get fuel wood.
- c. The facilitator asked the reason for the distance increasing over the years and the community members stated that as the population has increased, more fuel wood has been acquired resulting in reduction in the nearby forest cover, forcing them to travel longer distance currently.
- d. The facilitator asked if this was an ideal situation and the community members disagreed. Upon this moment, the facilitators asked if the community members were making any efforts to improve the forest cover situation. At this point, some of the community members stated that they were using the improved cook stoves which used less fuel wood, thereby reducing the amount they had to procure every week to reduce the pressure on the forests. They also stated that they were planting trees to try and increase forest cover.

10. If there is a child in the group, point to the child and ask that when he/she grows up where will the forest cover be by then? The community should realize here that by then the forest cover would have declined much more than what is there now. Ideally, this should be the ignition point of the triggering process.
11. Move on and ask how many households use FES (in local language)? Ask them to stand on one side of the map. Then ask how many still use traditional stoves and ask them to stand on the other side of the map facing the first group. (Note: In some areas, this tool might create a sense of hesitation since household assets such as cook stoves are also a reflection of their economic status.)
12. Then ask the community that using which kind of cook stove will ensure a longer lease on the forest cover, the traditional cook stoves or the improved one. In an ideal situation, the community members (larger community perspective) should answer that utilizing the improved cook stoves is better for the health of the forests.
13. Now ask the group representing the users of the traditional cook stoves if they agreed and they did concur the same conclusion and stated that if they continue their practice, they will completely destroy the forest resources leaving nothing behind for the future generations
14. Facilitate with the second group and ask them what do they want to do? Do they want to continue rapid destruction of forest? If the answer is No, then ask what should the right way be according to them?



Fig.18. Households using traditional and fuel-efficient cook stoves



Fig.19. Triggering session in Molle

15. If the triggering has been done favourably, the community should respond saying that we want to use FES. Move on here and ask the other group to explain the benefits of the FES to them and whether they are willing to help their neighbours? (Note: We had invited community members from Molle kebele who were using FES to come with us to the triggering in Delbo kebele. They were now invited to explain to the people here on the benefits of using FES)
16. After they have explained the benefits to each other, at this point the group of children who were being triggered at a distance (See Section 4.3) can enter the area shouting slogans and appealing to their parents to stop cutting trees and to use FES.
17. After this it is ideal to take the children aside and have a discussion with the parents/adults and ask them if and when they are willing to make their village traditional cook stove free and ask them to discuss their plans amongst themselves.
18. Provide the groups with charts and markers to make a plan to conserve the forests.
19. After both the groups make their charts, ask one member representing the respective groups to make the presentation. It was noticed during the field work that the presentations by the community included points about using improved cook stoves, reducing wastage, using electric stoves, using straw as fuel, adopt better designs in the context of the local needs among others.

20. Ask if they are willing to form a committee to facilitate and help everyone in their village to adopt FES. Ask them to write down the names on the chart paper. Call out the names one by one. Encourage and congratulate them for taking this step for the betterment of the village. It is also important here for the facilitating team to note down the names of the committee members and their contact numbers as it will be essential for Post Triggering Follow up.
21. Lastly, thank the community for taking the initiative and encourage them to become completely free of the traditional cook stoves and that they would become a 'learning laboratory' for others to take lessons from.

### Children's Triggering

It is crucial to involve all the children for the triggering, as well. Therefore, the schedule for school or other activities should be kept in mind. Children's triggering should be conducted in a neutral location so as not to alienate any children of the community. The children's group should be facilitated separately from the adults by facilitators who are trained well in working with children.

The purpose for this is to trigger children into changing the collective behaviour of the community and the expected outcome is for children to chant slogans and songs while holding the charts prepared by them during the triggering process, urging the adults to make the move from the traditional cook stoves to the improved cook stoves. The focus for this triggering is to spread awareness and discourage everyone from using the traditional cook stoves.

For the process, the children were moved to a location not too far from the adults for their separate triggering. This area should not be very far from the adult's triggering area since this could create a panic amongst the parents. At the same time, this distance needs to be enough so that the preparation and activities as part of the children's triggering does not disturb the proceedings of the adult triggering exercise. The area chosen for the children's triggering had a significant part with shade, where the children could sit without any disturbance and participate in the triggering.

1. Similar to the adults, start the children's triggering with the process of mapping. Encourage participation from all children gathered and ask them to volunteer and make the map of the kebele, including all the goths. It was observed that the children used a stick to make the map and marked out the main road as a starting point. As they moved along, they marked the school, church and the kebele administrative office using coloured flip cards. They also pointed out the households in detail during the process.
2. Then request them to mark the areas where they traveled to acquire fuel wood using sawdust and the volumes of the same. Through the analysis, it was pointed out that the

children traveled to the denser forest areas outside the kebele, signifying a considerable distance.

3. Ask the group on how much time they spent on acquiring fuel wood in a week (The children stated that between 12 to 16 hours a week).
4. Ask if all of them spent the same amount of time. (A group of them said that they spent longer than the others).
5. Facilitate the children into revealing the reason for this. (The children said that their consumption of fuel wood is higher.) Inquire further about the reason for the need for larger quantities of fuel wood (The children stated that their families use the traditional cook stoves which require more amount of wood. Due to this, they have to travel longer distance and more often to access to forest areas.)
6. Ask if the children were alright with the time the spent on this. (The children answered that they missed out on time for school and other activities and would like to have spent lesser time on this).
7. Ask for a possible solution to reduce the time spent. (They replied that using fuel efficient improved cook stoves would be a good way to reduce the consumption of fuel wood and the time spent to acquire it. The children also added that this would reduce the pressure on the forests and they would not have to cut as many trees.)
8. Ask if they would like to make slogans and charts to urge their parents and other adults to use the improved cook stoves instead of the traditional cook stoves. This usually brings out a lot of enthusiasm and excitement amongst children and most of the time, they immediately start working. Here, they started to rhyme words to make up new slogans which were in different languages, including the local dialect and English. Some of the children with the help of the facilitators also started to draw and prepare charts.



Fig.20. Children's triggering in Delbo

After rehearsing for a while, the children proceeded to the adult's triggering area, holding the charts up and loudly chanting the slogans and songs about saving trees and using the improved cook stoves. At this point of time, the adults had just reached the 'ignition point' and the entry of the children's group to urge the adults to make the change solidified the triggering and the transition to the planning stage was smooth.

It is very important to time the entry of the children's group into the adult's triggering area since an ill timed move will probably not create the enthusiasm and momentum which will be crucial for the entire triggering process.

### Post Triggering Follow-up

It is crucial to ensure that regular follow-up activities are initiated in the villages to sustain the momentum and enthusiasm generated within the community after the triggering exercise has been completed. It must be kept in mind that the Community-Led approach is an outcome-focused approach. Post-triggering follow-up activities must be designed in such a manner that the demand generated can be fulfilled with adequate supply of the fuel efficient cook stoves in the optimum manner.

We had invited community members from Molle and Delbo kebeles and representative of the local enterprise that produces fuel efficient cook stoves in Arba Minch Zuria woreda for a meeting to facilitate a discussion between the beneficiaries and the suppliers. It was an attempt to understand and bridge the gap between the two. The meeting also aimed to be a Post-triggering follow-up

exercise to check the reaction, outcomes and progress made by the community on uptake of FES after the triggering.

### **Follow-up activities**

- a. Facilitating formation of a committee inclusive of people using traditional cook stoves as well as fuel efficient cook stoves for setting of a target date to achieve *Sost Gulicha* Free village, plan follow up activities according to the target date and initiate community monitoring of uptake and progress. Potential natural leaders from the triggering exercise to be given lead during follow up activities.
- b. Children's procession and other similar activities can be planned to trigger the adults into taking action and also to inculcate a sense of urgency in the children and youth regarding the rapidly depleting forest area.
- c. Planning a celebration after a kebele has achieved *Sost Gulicha* Free status. The community should invite kebele leaders from neighbouring areas and explain why they undertook this mission, demonstrate the different models of fuel efficient cook stoves that are used, discuss amongst each other about any technical difficulties that they faced and how can they improve upon it locally.
- d. All local producers around the area should be invited and a discussion can be facilitated in a manner such that the demands from various kebeles are listed and supply is initiated. Vita can also lead this activity by subsidizing the transport cost.

## 10. Annex 2: Agenda of the CLT-S Community Research Validation Workshop, Hawassa

Day 1: 26<sup>th</sup> November 2018

9:00am – 10:30am	<p><b>Session 1: Introductions, Context and Climate Setting</b>  <b>Facilitators: Vita</b></p> <p><b>Aim:</b></p> <ul style="list-style-type: none"> <li>• Set the context for the workshop.</li> <li>• Introduce the role of regional government in rolling out fuel efficient cook stoves and build regional ministries ownership of the new community led approach to increase the uptake of fuel efficient cook stoves.</li> </ul> <ol style="list-style-type: none"> <li>1. Welcome and introductions</li> <li>2. Presentation from regional bureaus - Health, Women and Children’s Affairs, Energy, Agriculture</li> <li>3. SNV Ethiopia and other agencies/NGOs summarise their role and background in improved cook stoves projects</li> </ol>
10:30am – 11:00am	<p><b>Session 2: Identifying roadblocks to improved cook stoves projects in Ethiopia</b>  <b>Facilitators: CLTS Foundation and Vita</b></p> <p><b>Aim:</b></p> <ul style="list-style-type: none"> <li>• Review main barriers to improved cook stoves projects in Ethiopia</li> </ul> <ol style="list-style-type: none"> <li>1. Plenary Session - Participants give feedback of the highs and lows of fuel efficient cook stove programme and community interest/take up</li> <li>2. Presentation on findings from improved cook stove community research in Gamo Gofa Zone</li> <li>3. Rating barriers- highest and lowest</li> </ol>
11:00am – 11:30am	<p><b>Coffee break</b></p>
11:30am – 12:00pm	<p><b>Session 3: Power of CLTS</b>  <b>Facilitator: CLTS Foundation</b></p>
	<p><b>Aim:</b></p>

	<ul style="list-style-type: none"> <li>• Present the principles, practice and process of CLTS and its strengths</li> </ul> <ol style="list-style-type: none"> <li>1. Presentation</li> <li>2. Q&amp;A</li> </ol>
12:00pm – 1:00pm	<p><b>Session 4: Using CLTS approach to increase take up of fuel efficient cook stoves</b></p> <p><b>Facilitator: CLTS Foundation</b></p> <p><b>Aim:</b></p> <ul style="list-style-type: none"> <li>• Explore if and how the Community Led Approach can help to overcome obstacles to uptake of fuel efficient cook stoves</li> </ul> <ul style="list-style-type: none"> <li>✓ Presentation results of rating barriers to fuel efficient cook stoves from before lunch</li> <li>✓ Discussion and audio-visual presentation of the approach used in the field trials.</li> </ul>
1:00pm – 2:00pm	<p><b>Lunch Break</b></p>
2:00pm – 3:30pm	<p><b>Session 5: Community Presentations and Outcome Analysis</b></p> <p><b>Facilitator: CLTS Foundation</b></p> <p><b>Aim:</b></p> <ul style="list-style-type: none"> <li>• Detailed outline of the field activities undertaken and outcome analysis of the field trial</li> </ul> <ul style="list-style-type: none"> <li>✓ Presentation by community members</li> <li>✓ Group discussion</li> </ul>
3:30pm – 3:45pm	<p><b>Coffee Break</b></p>
3:45pm – 5:30pm	<p><b>Session 6: Peer Review</b></p> <p><b>Facilitator: CLTS Foundation</b></p> <p><b>Aim:</b></p> <ul style="list-style-type: none"> <li>• Feedback and review on the potential of the proposed approach</li> </ul> <ul style="list-style-type: none"> <li>✓ Group discussion</li> <li>✓ Presentation</li> <li>✓ Q&amp;A</li> </ul>

## Day 2: 27<sup>th</sup> November 2018

9:00am – 10:00am	<p><b>Session 1: Recap on day one of workshop</b> <b>Facilitator: CLTS Foundation</b></p> <ul style="list-style-type: none"> <li>• Recap of the methodology for community-led approach to fuel efficient cook stoves presented and discussed on day 1</li> <li>• Core points from kebele committee presentations and group work</li> </ul>
10:00am – 10:30am	<p><b>Session 2: Fuel efficient cook stove triggering step by step</b> <b>Facilitator: CLTS Foundation</b></p> <ul style="list-style-type: none"> <li>• Step by step breakdown of triggering methods used in two kebeles</li> </ul>
10:30am – 11:00am	<b>Coffee break</b>
11:00am – 12:00pm	<p><b>Session 2 cont.: Fuel efficient cook stove triggering step by step</b> <b>Facilitator: CLTS foundation</b></p>
12:00pm – 1:00pm	<p><b>Session 3: Way forward for roll out of methodology in pilot project</b> <b>Facilitator: Vita</b></p>
	<p>Discussion of:</p> <ul style="list-style-type: none"> <li>➤ Timeline</li> <li>➤ Locations</li> <li>➤ Outstanding implementation issues that emerging from kebele committee presentations and group work– stove design issue (injera, baking and boiling), linking stove enterprise with end users, transportation of stoves, subsidy vs. hidden subsidy vs. no subsidy, engaging kebele-level govt. extension agents</li> </ul>
1:00	<b>Lunch</b>
2:00pm – 3:30pm	<p><b>Session 3 cont.: Way forward for roll out in pilot project</b> <b>Facilitator: Vita</b></p> <ul style="list-style-type: none"> <li>• Summary of discussion before lunch</li> <li>• Further discussion on: <ul style="list-style-type: none"> <li>➤ Capacity building that we need before piloting methodology</li> <li>➤ Baseline and monitoring of methodology pilot – What do we need to measure during the pilot (quantitative and qualitative)?</li> <li>➤ Defining channels of communication and avenues for lesson learning between consortium members</li> </ul> </li> </ul>
3:30pm – 3:45pm	<p><b>Coffee Break</b></p> <ul style="list-style-type: none"> <li>• Closing Remarks</li> </ul>

## 11. Annex 3: Highlights from field visit to Eritrea

Because Vita believes the Community Led Approach to Fuel Efficient Stoves has great potential, two participants from Vita's team in Eritrea attended the workshop. When the workshop in Ethiopia concluded the CLTS Foundation followed up with these team members in Eritrea and conducted a brief visit to some of Vita's fuel efficient stove projects in Eritrea. The following is a summary of this brief scoping visit to Eritrea carried out by the CLTS Foundation in the week following the workshop.

The CLTS Foundation team along with the team from Vita, visited Gheshinashim, a village in the central region of Eritrea (Zoba Maekel) almost 15 kms away from the capital city of Asmara. This particular village has been declared Open Defecation Free and almost 90% of the households have adopted the fuel efficient cook stoves. The team facilitated a short focus group discussion and identified the pattern of sanitation and the timeline for usage of fuel wood over the last 10 years against the implementation of CLTS and introduction of the fuel efficient cook stoves, respectively.

The team also conducted a focus group discussion with the community members of Fanna Village in Anseba Zoba. This village had successfully attained and maintained their Open Defecation Free status for almost a decade, following the CLTS principles. This discussion revolved around the next step for the community to improve their health and surroundings. Through the discussion, the community members agreed that they would like to use '*Adhanet*' (fuel efficient cook stoves) as the next step and will ensure complete coverage in the next 3 months. The community members stated that the use of fuel efficient cook stoves will be beneficial for the health of all, especially the women who have to cook and often, inhale much of the soot from the traditional stoves. The community also presented this plan during the National Sanitation Conference in Asmara on the 12th of December, 2018.

This experience, though limited, proved the strength of collective local action in two distinct ways. One scenario is, if the village is ODF through quality implementation of CLTS, introducing and increasing uptake of fuel efficient cook stoves can receive more support than in a fragmented, reluctant community. It is crucial to keep the non-negotiable principles in mind while conducting analysis during the triggering session, so that the community feels that this is the next step forward just as was felt during CLTS sanitation triggering. An ODF community always aspires to ascend along the lifestyle ladder across the different areas and therefore, piggybacking on the ODF success probably makes it easier to introduce and sustain other initiatives.

On another note, it was apparent that the fuel shortage as a looming crisis in Eritrea is enormous. There is every chance that this can be used as an effective trigger for increasing uptake of fuel

efficient cook stoves. In view of this, the community can also be triggered without being ODF because non-availability of fuel wood is as collective a concern as open defecation is. As open defecation by some adversely affects all including those who have toilets, non-availability of fuel affects all and is a serious concern for those who use fuel efficient cook stoves against those using traditional stoves. Both of these are public concerns - 'public good' rather than 'individual concern - ' individual good'. The underlying principle of triggering for ensuring 100% usage of FES is to trigger social solidarity, collective local action and peer pressure.

The key learning point from this scoping visit is that triggering points will be different in different countries and regions.