LIVELIHOODS CHITETEZO MBAULA PROJECT

Document Prepared by CO2logic on behalf of Livelihoods Venture

Project Title	Livelihoods Chitetezo Mbaula Project
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1 PROJECT DETAILS

1.1 Summary Description of the Project

Summary of technologies/ measures

The present project promotes the distribution and utilization of the clay made Chitetezo Mbaula (CM) cookstove in Malawi. The efficient CM cookstove will replace the traditional open air three stone cooking method that is most popularly used. The CM cookstove is significantly more efficient than the traditional open fire three stone cooking method. The project will thus help reduce wood consumption by more than half in each household and therefore preserve the local forests and their biodiversity, as well as reducing greenhouse gas emissions resulting from unsustainably sourced wood. The CM cookstove has further benefits such as avoiding hazardous open flame systems and reducing the quantity of harmful smoke in the local rural village households. Local families and women also benefit significantly through a reduction in time spent and distance walked in collecting wood. The project does not consist in a fuel switch as locally available wood is still being used.

The end user will be informed in advance that the use of CM stoves generates carbon finance which in turn is used for subsidising the price of CM stoves and for recovering project implementation costs.

Location of the project

The project will be implemented in two districts (Machinga and Zomba) located in the Southern Region of Malawi. This region is the most populated one with around 45% of the total national population. See also section 1.12.

Generation of GHG emission reductions/ removals

The CM stove will substitute the currently common cooking on traditional three stone stoves. The CM stove burns wood more efficiently thereby improving thermal transfer to pots, hence saving fuel and lowering greenhouse gas emissions

Scenario prior to implementation of the project

The baseline scenario is the continued use of non-renewable wood fuel by the target population to meet similar thermal energy needs as provided by project cookstoves in absence of project activity.

Description of project activity instances implemented at time of validation

The first project instance (CM cookstove) was implemented on 26 March 2021. Up to 60,000 will be distributed in total.

Estimate of annual average and total GHG emission reductions and removals

It is estimated that this project will reduce about 128,119 tCO2e per year on average. Over the 10 year life span of the project, this project is expected to reduce 1,281,189 tCO2e.

1.2 Sectoral Scope and Project Type

The project is categorised under type/category as below:

a) Sectoral scope : 03 Energy demand
b) Type: II Energy efficiency improvement projects

The project is not a grouped project..

1.3 Project Eligibility

The project involves energy efficient cookstove distribution which falls under the category of efficiency improvements in thermal applications. The project activity is a voluntary initiative of the project implementer and meets all the requirements of VCS Standard 4.1. Its emission reductions focus on Kyoto protocol greenhouse gases (CO2, CH4 and N2O) and uses a methodology approved under the VCS Program, more precisely "VMR0006: Methodology for Installation of High-Efficiency Firewood Cookstoves". As per VCS Standard Version 4.1, efficiency improvements in thermal applications (e.g., cookstoves) are not excluded, hence the project is eligible under VCS.

1.4 Project Design

The project includes multiple locations or project activity instances, but is not being developed as a grouped project

Eligibility Criteria

The project is not a grouped project

1.5 Project Proponent

Organization name	Livelihoods Venture
Contact person	Bernard GIRAUD
Title	Co-Founder and President
Address	226 Boulevard Voltaire, Paris 75011 France
Telephone	+33 (0) 1 44 35 33 66
Email	contact@livelihoods.eu

1.6 Other Entities Involved in the Project

Organization name	United Purpose
Role in the project	Local Project Participant
Contact person	Patrick Banda
Title	Project Manager
Address	14 Cathedral Road Cardiff, Wales CF11 9LJ United Kingdom
Telephone	+ 44 (0) 2920 220066
Email	Up.uk@united-purpose.org

Organization name	CO2logic
Role in the project	Carbon project development support
Contact person	Herman Noppen
Title	Climate Projects Director
Address	Cantersteen 47 1000 Brussels Belgium
Telephone	+ 32 (0) 497 05 31 36
Email	herman@CO2logic.com

1.7 Ownership

Livelihoods Venture owns the project.

During the registration of the ICS, the participating household will sign a declaration to transfer the ownership rights of the carbon assets generated from this project to the project proponent. This is in compliance with the VCS Standard 4.1 paragraph 3.6.1.5.

1.8 Project Start Date

26 March 2021 (Date of commissioning first ICS)

1.9 Project Crediting Period

26 March 2021 to 25 March 2031, ten years fixed crediting period

1.10 Project Scale and Estimated GHG Emission Reductions or Removals

Project Scale	
Project	X
Large project	

Year	Estimated GHG emission reductions or removals (tCO_2e)
Year 1	62,077
Year 2	131,656
Year 3	126,600
Year 4	154,833
Year 5	152,618
Year 6	126,600
Year 7	154,833
Year 8	152,618
Year 9	126,600
Year 10	92,756
Total estimated Ers	**1,281,189**
Total number of crediting years	**10**
Average annual Ers	**128,119**

1.11 Description of the Project Activity

The Chitetezo Mbaula (literally translated: “protecting stove”) is a portable cookstove that is produced locally by mostly women. It is made of clay with a hole fashioned in the side to allow air and fuel entry, and with fixed pot rests on the top. It is designed to burn fuelwood and crop residues.

These cookstoves are more efficient than the traditional cooking fires, reducing the amount of firewood needed by 30-60%[1]. They also reduce indoor air pollution, are safer since there is no open flame and they greatly benefit women and children since they can reduce their time collecting firewood by half.

Figure 1: Woman cooking on her CM cookstove

To date, the CM stoves have had the most success in rural Malawi due to its affordability, accessibility and appropriateness considering local preferences for energy needs. The stove is now in its third decade and has evolved from its embryonic start incorporating feedbacks from its many users. The optimal design has been agreed and is currently being standardized. The project does not consist of a fuel switch as locally available wood is still being used.

The project is implemented using two approaches. The first approach involves integrating the project into the Social Cash Transfer Program (SCTP) of the Government of Malawi whereby 30,000 households under the SCTP are provided with free stoves in the first 5 months of the project. The distribution of the stoves is carried out by members of the communities who are carefully selected and trained for that purpose.

The second approach, called the commercial model, seeks to reach out to people who are outside the SCTP by selling the CM at a market price of MWK 1500. Various marketing activities have been lined up in this model to activate demand for the stoves – these include cooking demonstrations, roadshows as well as school campaigns. Before launching the commercial model community meetings were held with local leaders in order to get their buy in and leverage their position of influence.

The ICS can be paid at once or in three instalments. Once the stove is fully paid, customers receive both the stove and two kg of pigeon peas. To further encourage communities to adopt

[1] kululeko Mpofu, 2015, An Analysis of Value Chain of Chitetezo Mbaula Cookstove in Dedza District, Malawi, page 14 (see document 'An Analysis of Value Chain of Chitetezo Mbaula Cookstove in Dedza District')

the cookstoves, a number of water boreholes will be repaired and monitored based on the adoption rates as follows:

- 30–40% adoption the project will repair and maintain 2 boreholes;
- 40-50% adoption the project will repair and maintain 5 boreholes;
- 50-60% adoption the project will repair and repair 10 boreholes.

The lifespan of this type of cookstove is about 4 years[2]. If a cookstove is damaged or non-functioning, the project will replace by a new one. The technical characteristics of the Chitetezo Mbaula stove are resumed in the table below.

Characteristics of the Chitetezo Mbaula stove	
Average Thermal Efficiency	31%[3]
Fuel	Wood
Stove Technology	Combustion
Materials	Clay
Single pot/ multi pot	Single Pot
Portable/ fixed model	Portable
Dimensions	300/300/265 mm
Weight	8.0 kg

The person responsible for the sale hands out an information leaflet in the local language and records all necessary data (for more details see the monitoring plan).

1.12 Project Location

Host Party: Democratic Republic of Malawi (-13°15'4.38" S 34°18'5.50" E)

[2] Average life span of Chitetezo Mbaula publicly available in the Catalog of Clean Cookstoves: http://catalog.cleancookstoves.org/stoves/385

[3] Average value of WBT results publically available in the Catalog of Clean Cookstoves: http://catalog.cleancookstoves.org/stoves/385

Region and community:
The project will be implemented in the Machinga (1) and Zomba (2) districts, located in the Southern Region of Malawi (Figure 2). This region is the most populated one with around 45% of the total national population.

The coordinates of each district can be found in the table below.

District	Coordinates
Machinga	S -14°56'44.99" E 35°34'25.21"
Zomba	S -15°25'48.25" E 35°25'5.84"

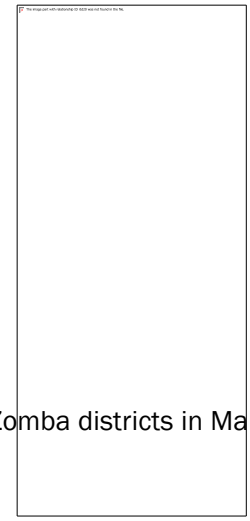

Figure 2: Location of Machinga and Zomba districts in Malawi

1.13 Conditions Prior to Project Initiation

The 2018 census of the Malawian population demonstrated 76% of the Southern region population uses firewood as their main fuel for cooking, and an additional 19% uses charcoal. In total, 95% of the population is dependent on wood fuel. This while the fraction of renewable biomass (f_{NRB}) in Malawi is currently at 98%[4]. Malawi has been taking action and has distributed 2 million Chitetezo Mbaula cookstoves between 2013 and 2020[5]. However, a baseline study of 151 households in the project intervention area shows that people in the project area still use traditional three-stone stoves/ open fires, charcoal stoves and other traditional stoves[6].

To distinguish the project cookstoves from possible other improved cookstoves, all cookstoves included in the project are marked with a unique code following the format LLL-YY-MM-DD-XXXXX, where LLL is a three letter code of the stove production group (SPG) that produced this stove, YY is the year in which the stove was produced, MM is the month and DD the day. XXXX is a ascending number counting the cookstoves per SPG.

The conditions prior to project initiation is therefore the continued use of non-renewable wood fuel (firewood) by the target population to meet similar thermal energy needs as provided by project cookstoves in absence of project activity.

1.14 Compliance with Laws, Statutes and Other Regulatory Frameworks

There are no laws and regulations governing the use of improved cookstoves in Malawi households.

1.15 Participation under Other GHG Programs

[4] N. Salonen, S Sunkur, M. Schleicher & K. Prayag, 2022, Calculation of the fraction of non-renewable biomass (f_{NRB}), page 6 (see document 'Malawi_Chitetezo Cookstoves_fNRB Report_23 Feb 2022')

[5] Ireland congratulates Malawi on meeting 2 million clean cookstoves (2020), https://www.dfa.ie/irish-embassy/malawi/news-and-events/news-archive/ireland-congratulates-malawi-on-meeting-2-million-clean-cookstoves.html

[6] See document 'Baseline Survey_GS_UP_Malawi', question 12 and 18 highlighted in yellow.

1.15.1 Projects Registered (or seeking registration) under Other GHG Program(s)

The project has also been listed under Gold Standard, but will not search further validation and/or verification under Gold Standard. The project is listed as GS11471 "Livelihoods Chitetezo Mbaula Project" by Livelihoods Fund SICAV SIF.

1.15.2 Projects Rejected by Other GHG Programs

The project has not been rejected by any other GHG program.

1.16 Other Forms of Credit

1.16.1 Emissions Trading Programs and Other Binding Limits

The project is not included in an emissions trading program or any other mechanism that includes GHG allowance trading.

1.16.2 Other Forms of Environmental Credit

The project has not sought or received another form of GHG-related environmental credit.

1.17 Sustainable Development Contributions

1.17.1 Sustainable Development Contributions Activity Description

The project will contribute to Sustainable Development Goals (SDGs) 1 "No poverty", SDG 3 "Good health and well-being", SDG 5 "Gender Equality", SDG 7 "Affordable and green energy", SDG 13 "Climate action" and SDG 15 "Life on land" in the following ways (specifying the used monitoring indicator in italic) :

•**SDG 1**: poverty is fought by providing an extra source of income to the stove producer groups and the stove promotors. On top of this, SDG 1 states in target 1.4 that basic services and access to natural resources should be available to all men and women. By providing the communities with functioning boreholes, access to one basic service is improved.

•**SDG 3**: an improvement in health outcomes is accomplished since the improved cookstoves reduce the amount of harmful smoke emitted during cooking and other stove-related activities. On top of this, it reduces risks for small children since there is no open flame:

• **SDG 5**: gender equality is promoted since women spend less time collecting firewood and cooking, freeing up time for other activities they find useful or fulfilling:

• **SDG 7**: by providing families with more efficient cookstoves, their energy needs can be fulfilled in a more affordable and green way:

• **SDG 13**: by reducing the amount of non-renewable firewood burned, this project significantly reduces the amount of greenhouse gases emitted:

• **SDG 15**: this project promotes the sustainable use of forests by reducing the amount of firewood needed and raising awareness on the consequences of deforestation, protecting natural forest eco-systems and wildlife habitats:

1.17.2 Sustainable Development Contributions Activity Monitoring

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

Table 1: Sustainable Development Contributions

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime
Sequential row number	*SDG Target number*	*Number and text of SDG indicator or, if no official SDG indicator is applicable, user-defined indicator*	*Indicate the project's contribution to the SDG Indicator (implemented activities to increase or decrease)*	*Brief description of the quantifiable impact of the project's activities related to the SDG indicator, during the monitoring period.*	*Brief description of the cumulative quantifiable impact of the project's activities related to the SDG indicator, over the project lifetime.*
1)	1.1	1.1.1 Proportion of population below the international poverty line	Implemented activities to decrease	No further changes this monitoring period	The project has increased the 65 participants' total daily income from 1.20 USD/day to 2.57 USD/day, bringing them above the international poverty line
2)	3.2	3.3.3 Malaria incidence per 1,000 population	Implemented activities to decrease	Lowered the malaria incidence per 1,000 to 98 by distributing 200 additional bed nets and conducted malaria prevention workshops.	Lowered the malaria incidence per 1,000 from 157 to 98
3)	13.0	Tonnes of greenhouse gas emissions avoided or removed	Implemented activities to increase	By conserving 400 ha of tropical rainforest, Project X has prevented the release of 250 thousand tonnes of carbon into the atmosphere during the monitoring period	Prevented the release of 750 thousand tonnes of carbon into the atmosphere

4)	6.1	Proportion of the rural population who have easy access to a safe water supply	Implemented activities to increase	Completed construction of 4 additional improved wells to provide potable water to 230 people	Provided at least 10 liters of potable water per day to 1,200 people, a 40% increase in the catchment area, over the project lifetime by constructing improved wells

1.18 Additional Information Relevant to the Project

Leakage Management

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

Commercially Sensitive Information

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

Further Information

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

2 SAFEGUARDS

2.1 No Net Harm

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

2.2 Local Stakeholder Consultation

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

2.3 Environmental Impact

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

2.4 Public Comments

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

3 APPLICATION OF METHODOLOGY

3.1 Title and Reference of Methodology

VMR0006: Methodology for Installation of High Efficiency Firewood Cookstoves V1.1

3.2 Applicability of Methodology

Applicability criterion	How the project complies
Project activities shall be implemented in domestic premises or in community based kitchen	The proposed project involves deployment of ICS only in households
The project stove shall have specified high power thermal efficiency of at least 25% per the manufacturer's specifications and shall exclusively use woody biomass and can be single pot or multi pot;	The CM stoves that are distributed under this project are single pot wood cookstoves that have an efficiency of 31% as per the Catalog of Clean Cookstoves (http://catalog.cleancookstoves.org/stoves/385)
Both 'Projects' and 'Large Projects' can use the methodology	This project will generate 128,199 credits per year, making this a "Project".
Non-renewable biomass has been used in the project region since 31 December 1989, using survey methods or referring to published literature, official reports or statistics;	Non-renewable biomass has been used since 31 December 1989 in Malawi as demonstrated below.
For the specific case of biomass residues processed as a fuel (e.g. briquettes, wood chips), it shall be demonstrated that: (a) It is produced using exclusively renewable biomass (more than one type of biomass may be used). (b) The consumption of the fuel should be monitored during the crediting period and (c) Energy use for renewable biomass processing (e.g. shredding and compacting in the case of briquetting) may be considered as equivalent to the upstream emissions associated with the processing of the displaced fossil fuel and hence disregarded.	Not applicable. The ICS is introduced as energy efficiency measure to replace baseline stoves and reduce the use of non-renewable biomass for combustion.
The project design shall explain the proposed method for distribution of project devices including the method to avoid double counting of emission reductions such as unique identifications of product and end user locations (e.g. programme logo)	To avoid double counting of cookstoves within the projects and possible other cookstoves outside of the current project, each stove receives a stove identification code that is stamped on the stove when it is produced. The code consists of a three letters indicating the stove producer group, followed by the year and month in which was produced and a serial number, eg. KAL/2202/00001, where KAL stands for the Kalata SPG, 2202 refers to the year

Applicability criterion	How the project complies
	(2022) and month (February) and 00001 is the stove count. These codes are stored in the database, linked to the household that bought the stove and checked when stove replacement campaigns are taking place.
The project design shall also explain how the proposed procedures prevent double counting of emission reductions, for example to avoid that project stove manufacturers, wholesale providers or others claim credit for emission reductions from the project devices	All end users sign a carbon waiver, declaring that they relinquish their carbon rights to the project. All relevant stakeholders involved in the manufacturing, distribution or commercialization of the improved cookstoves will be communicated by contract or clear written assertion in the transaction paperwork about the entity claiming ownership rights on the credits and that they themselves cannot claim for emission reductions from the project.

Evidence that the non-renewable biomass has been in use since 1989

Non-renewable biomass has been in use since December 31, 1989 as evidenced by various FAO statistical data. The Global Forest Resources Assessment 2020[7] (FAO) indicates that forest areas decline yearly, and that the total forest area declined by 36% from 1990 to 2020, as summarized in the table below. The CDM calculated in 2012 that the fNRB of Malawi was 81%[8] and a recent study in 2022 done by C4 EcoSolutions (Pty) LTD calculated a current fNRB of 98%[9]. In view of the combined evidence of declining forested areas since 1990 and presently such a high fraction of non-renewable biomass, it may be deducted that the majority of fuelwood used across Malawi since December 31, 1989 was from non-renewable sources.

Trends in extent of forest 1990-2020 -Malawi

Area (1000 hectares)				
	1990	2000	2010	2020
Forest	3,501	3,081	2,661	2,241

[7] FAO, Global Forest Resources Assessment 2020, Country Reports, Malawi p7 (see 'ForestReport_Malawi.pdf') https://www.fao.org/3/cb0032en/cb0032en.pdf

[8] The fNRB of Malawi as calculated by the CDM https://cdm.unfccc.int/DNA/fNRB/index.html

[9] Calculation of the fraction of non-renewable biomass (f_{NRB}) Malawi (2022). N. Salonen, S. Sunkur, M. Schleicher & K. Prayag. C4 EcoSolutions (Pty) Ltd. p6 (see 'Malawi_Chitetezo Cookstoves_fNRB Report_23 Feb 2022.pdf')

3.3 Project Boundary

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

Source		Gas	Included?	Justification/Explanation
Baseline	Source 1	CO_2		
		CH_4		
		N_2O		
		Other		
	Source 2	CO_2		
		CH_4		
		N_2O		
		Other		
Project	Source 1	CO_2		
		CH_4		
		N_2O		
		Other		
	Source 2	CO_2		
		CH_4		
		N_2O		
		Other		

In addition to the table, provide a diagram or map of the project boundary, showing clearly the physical locations of the various installations or management activities taking place as part of the project activity based on the description provided in Section 1.11 (Description of the Project Activity) above.

For non-AFOLU projects, include in the diagram the equipment, systems and flows of mass and energy. Include the GHG emission sources identified in the project boundary.

For AFOLU projects, include in the diagram or map the locations of where the various measures are taking place, any reference areas and leakage belts.

3.4 Baseline Scenario

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

3.5 Additionality

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

3.6 Methodology Deviations

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

4 ESTIMATED GHG EMISSION REDUCTIONS AND REMOVALS

4.1 Baseline Emissions

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

4.2 Project Emissions

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

4.3 Leakage

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

4.4 Estimated Net GHG Emission Reductions and Removals

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

5 MONITORING

5.1 Data and Parameters Available at Validation

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

5.2 Data and Parameters Monitored

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

5.3 Monitoring Plan

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

6 ACHIEVED GHG EMISSION REDUCTIONS AND REMOVALS

6.1 Data and Parameters Monitored

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

6.2 Baseline Emissions

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

6.3 Project Emissions

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

6.4 Leakage

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.

6.5 Net GHG Emission Reductions and Removals

This section has been omitted intentionally as per the section 3.1.3 VCS registration and issuance process V4.1.