

## **Funding Proposal Template**

Application Template for Fully-Developed Proposal and Project Concept Proposal<sup>1</sup>



**ADAPTATION FUND**

## **PROGRAMME ON INNOVATION: LARGE GRANTS PROJECTS**

### **REQUEST FOR PROJECT FUNDING FROM THE ADAPTATION FUND**

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project must be fully prepared when the request is submitted.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat  
1818 H Street NW  
MSN N7-700  
Washington, D.C., 20433  
U.S.A  
Fax: +1 (202) 522-3240/5  
Email: [afbsec@adaptation-fund.org](mailto:afbsec@adaptation-fund.org)

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<sup>1</sup> Single Country and Regional Concept proposals should complete Part I and Part II of the Project Proposal Template.



ADAPTATION FUND

## SINGLE COUNTRY/ REGIONAL INNOVATION PROJECT/PROGRAMME PROPOSAL

### PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme: ACCESS (Adaptive affordable and alternative energy Cooking technologies Enables Sustainable Solutions) - Large Innovation Project (as per screening process classification)

Country/ Countries: Uganda

Thematic Focal Area<sup>2</sup>: Nature-based solutions and ecosystem based adaptation

Type of Implementing Entity: Ministry

Implementing Entity: Ministry of Water and Environment

Executing Entities: Mercy Corps

Amount of Financing Requested: 5,000,000 USD

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<sup>2</sup> Thematic areas are: Agriculture, Coastal Zone Management, Disaster risk reduction, Food security, Forests, Human health, Innovative climate finance, Marine and Fisheries, Nature-based solutions and ecosystem based adaptation, Protection and enhancement of cultural heritage, Social innovation, Rural development, Urban adaptation, Water management, Wildfire Management.

## Project / Programme Background and Context:

### 1. Environmental and socio-economic context and Climate Change vulnerabilities at national and project site level:

#### 1.1 Environmental and Climate vulnerability context

Uganda, a Least Developed Country in East Africa, covers an area of 241,555 square kilometres, including various water bodies. The country's climate is predominantly tropical, characterised by bi-modal rainy seasons, except for the northern region, and is strongly influenced by the Inter Tropical Convergence Zone (ITCZ) systems. (Uganda NDC). Uganda is the world's 13th most vulnerable country to climate change, according to the Climate Vulnerability Index.<sup>3</sup> Communities in Uganda urgently need to adapt to a changing climate, as their livelihoods and resilience depend significantly on natural resources. Climate change is now acknowledged as a significant threat to disaster risk reduction efforts and a major obstacle to meeting the increasing needs of the most vulnerable populations.<sup>4</sup> Uganda has in the past decade experienced more erratic rainfalls, leading to frequent floods, mudslides and landslides that lead to loss of lives and property. In December 2023 alone, Uganda experienced multiple extreme weather events including floods and landslides which affected 38,547 individuals. Of these, 15,962 people were displaced due to the adverse weather conditions which also affected infrastructure. These figures are part of a consolidated trend that saw from January 2023 to November 2023 a total of 215,299 individuals affected and over 47,467 people internally displaced.<sup>5</sup> Prolonged dry seasons are also frequent, leading to loss of crops and livestock. These changing weather patterns are closely correlated to loss of forest coverage, as there is clear evidence of the interrelation of changes in climate and coverage of forest ecosystems.<sup>6</sup> In the past 20 years, Uganda has lost over a million hectares of tree cover—nearly a third of the country's total. This forest loss is linked to agricultural expansion, wood extraction for energy, increased urbanisation due to high population growth, free grazing animals and wildfires. The need to adapt to a changing climate is stark, considering the high level of reliance on agriculture (40% of Uganda's GDP) for 80% of the growing population. Simultaneously, population growth (3%)<sup>7</sup> also increases the demand for energy, which is often met through combustion of biomass, including timber obtained through illegal logging, contributing to the forest loss of 50,147 hectares/year.<sup>8</sup> According to the Global Forest Resources Assessment (FAO, 2020), an estimated 1.2 million hectares of forest cover (approximately 5% of Uganda's total land area) was lost in the period from 1990 to 2020. The average annual loss of forest cover was 41,300 hectares between 1990 and 2020,<sup>9</sup> and it is expected that Uganda will lose most of its forest cover in less than 25 years, as the National Environment Management Authority (NEMA) had already warned in its State of the Environment for Uganda Report (2008).

#### 1.2 Social-economic Context

Between 1990 and 2010, Uganda had one of the highest GDP growth rates in Africa at around 8%, though economic growth since 2011 has barely surpassed population growth. In 2019, annual GDP growth was 6.8%, slowing to 2.9% in 2020, largely due to the impact of Covid-19 (World Bank, 2022).

<sup>3</sup> [University of Notre Dame](#)

<sup>4</sup> [https://climateknowledgeportal.worldbank.org/sites/default/files/2021-10/CCKP\\_Metadata\\_October%202021.pdf](https://climateknowledgeportal.worldbank.org/sites/default/files/2021-10/CCKP_Metadata_October%202021.pdf)

<sup>5</sup> [Uganda Multi-Hazard Infographic - Response/DRR Platform \(Published: 24th January 2024\)](#)

<sup>6</sup> [Climate change impacts and adaptation in forest management: a review](#)

<sup>7</sup> [Uganda profile](#)

<sup>8</sup> [Uganda's alarming deforestation rate, a broken promise to the Bonn Challenge](#)

<sup>9</sup> Global Forest Resources Assessment 2020

Vision 2040 aims for the country to become a lower middle-income country by 2017 and an upper-middle income one by 2032. As of January 2024, the World Bank categorised Uganda as a Lower Middle Income Country, i.e. one with a per capita income of USD 1 085 or less. Uganda faces several developmental constraints, including a high population growth rate of 3.3% p.a., post-conflict conditions in the North, soil erosion, and degradation, among others. The increase in the population and upcoming developments, including the continuous growth in the refugee population, triggers pressure on natural resources which is reflected in deforestation and ecosystems' degradation such as the degradation of wetlands for rice cultivation, brick manufacturing, food, water, and other construction materials.

## **2. Project Target Area**

Following the comments received from the Adaptation Fund through the Ministry of Water and the Environment (MWE) on March 5, 2024, extensive strategic discussions were initiated within the consortium to reassess the project's targeted locations. After careful consideration among the consortium leadership, discussions within the MWE, and consultations with the communities involved, as outlined in the attached letter submitted to the MWE, the proposed project location shifted from Masaka to Gulu and its neighbouring districts (Acholi sub-region). This decision was made to optimise impacts, enhance efficiency, promote sustainability, and improve sequencing, layering, and integration (SLI) with current Mercy Corps projects in the area. Considering the area has vulnerable community with less adaptive capacity to climate change impacts, it was determined that Gulu would better align with the Adaptation Fund objectives as well as meet the needs of the communities involved.

Secondly, implementing the project in Gulu and the greater Acholi areas would enable the consortium to leverage existing climate adaptation initiatives like Mercy Corps' *Powering the Uptake of Climate Change Mitigating Pumps (Pump-Up) project*. In fact, ACCESS will be borrowing the same business model implemented by Pump Up which is already effective in the area, where awareness campaigns on climate resilient technologies are also already ongoing.

The project targeted-area, the Acholi sub-region is a district in the Northern Region of Uganda and is also the administrative capital of Northern Uganda. The Acholi sub-region which comprises the 8 districts of Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo has for decades been known both for its climate change vulnerability and the 20 year long Lord's Resistance Army (LRA) war.<sup>10</sup> This Northern region of Uganda is home to the largest population of people living in poverty (about twice the national level). 90% of the same population were Internally Displaced Persons following the LRA rebel conflict which subsided in 2006 after a ceasefire agreement between the rebels and the government of Uganda.<sup>11</sup>

Specifically, the project will coordinate its activities from Gulu district, which serves as the main administrative and economic hub for the region. Project activities will take place primarily in Gulu and the neighbouring districts of Omoro and Nwoya. Mercy Corps' experience of delivering social behaviour change and market systems development projects in the sub-region demonstrates that activities implemented in these three core districts are able to influence systems change across the region.

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<sup>10</sup> [Gulu District Hazard, Risk, and Vulnerability Profile](#)

<sup>11</sup> Ibid 33



Gulu in particular is a high vulnerability district, exposed to among other hazards; floods, prolonged dry spells, crop pests and diseases, heavy storms, animal vectors and diseases and human epidemics.<sup>12</sup> The climate of Gulu and its neighbouring districts is tropical dry in nature and with two main seasons: a wet season and a dry season. The wet season in Gulu occurs from April to October, with the heaviest rainfall usually falling between June and September. Gulu district has experienced a huge reduction of its tree cover since 2010 extending over 50% of its land area. Between 2001 and 2023, Gulu lost 42.4kha<sup>13</sup> of tree cover equating to a 6.8% decrease in tree cover since 2000. Additionally, an average of 603kt per year was released into the atmosphere. In total, 13.3Mt of CO<sub>2</sub>e was emitted in this period. Gulu district is generally warm, however, extreme seasonal rainfall and temperature variation continues to be consistently attributed to negative human-environment interactions directly affecting rural livelihoods of smallholder farmers since they lose their abilities to plan for the season resulting in poor crop productivity and exposing households to risk of food insecurity and starvation. Gulu is located in the Acholi sub-region where agriculture is the backbone of the regional economy. The major source of household incomes is sale of crops. More than 80% of the population is estimated to engage in subsistence agriculture. In Gulu, the monthly household income is 105,000 UGX (vs national average 190,000 UGX), 77.9% of the population cooks with firewood, and 17.6% of households use charcoal.

Gulu district, with whom consultations have been held in the month of April 2024, has laid out a vision to become a district offering a high quality of life and sustainable holistic development, with natural resource management being one of the key service areas.<sup>14</sup>

### **3. Problem the proposed project is aiming to solve**

#### **3.1 Current situation and gaps**

Uganda has been gradually improving its readiness and taking actions to adapt to the impacts of climate change. As part of its adaptation planning processes, Uganda formulated a National Adaptation Plan for the Agriculture Sector (NAP Ag) in 2018 and in 2020, submitted an updated Nationally Determined Contribution (NDC) with an adaptation component which aims to foster the use of renewable energy sources and energy-efficient technologies to achieve a climate resilient energy sector and enhance ecosystem resilience in addressing climate change. The NDC specifically targets to achieve a 24% reduction in greenhouse gases by 2030.

These efforts demonstrate Uganda's progress towards medium-to-long-term planning for adaptation. However, Uganda's adaptation efforts face several challenges, including inadequate local-level climate adaptation financing, limited individual and institutional capacity, and limited access to international climate finance and support for technology and capacity-building. Addressing these challenges will be crucial for Uganda to effectively adapt to the impacts of climate change.

In May 2022, Mercy Corps conducted an Energy Access Assessment to better understand the connections between climate change adaptation and sustainable access to clean energy while analysing the viability of market-based energy access solutions in last mile communities in Uganda and to recommend appropriate energy access interventions at selected sites. This assessment showed that

<sup>12</sup> [Gulu District Hazard, Risk and Vulnerability Profile', Ministry for Relief, Disaster Preparedness and Refugees, Republic of Uganda.](#)

<sup>13</sup> <https://www.globalforestwatch.org/dashboards/country/UGA/8/?category=forest-change&location=WyJjb3VudHJ5liwiVUdBliwiOCJd>

<sup>14</sup> [Gulu District local government charter](#)

most households in these settlements continue to use inadequate energy sources with firewood for cooking remaining the norm for many households. The lack of an alternative source of fuel for cooking has resulted in the persistent use of biomass fuel (charcoal and wood fuel), with average wood fuel consumption standing at over 2 kg/person/day. This is in line with Uganda's Environment Report 2016 according to which 95% of Uganda's energy is from biomass, 90% of Ugandans use fuelwood as the main source of energy with rural households relying on the fuel-inefficient three stone stoves that lose 93% of the energy generated during cooking and lead to increased deforestation.<sup>15</sup> Additionally, according to the Farm Income Enhancement and Forest Conservation Project Baseline Survey Report (2007) and NEMA (2011), on average, a household uses 150 kg of fuelwood per month: 58.9% of the firewood used for cooking is obtained from natural forests, and trees growing naturally on the farm, and 34.6% is collected from the plantation/planted forests (NEMA 2011). However, fuelwood supplies have been rapidly decreasing due to population growth and agricultural expansion which has in turn led to increased deforestation. The National Biomass Study of 2005 indicates that 73% of all the districts in Uganda are experiencing a deficit of accessible woody biomass for fuelwood.

In the Acholi sub-region, deforestation is primarily caused by the widespread use of wood as the primary fuel for cooking. In Acholi, 95% of the population relies on firewood and charcoal collected from bushes, leading to the loss of over 37,744 hectares of trees between 2001 and 2020. There is a small penetration of electric cooking (0.83.1%), but people are used to allocating part of their incomes to cooking fuels (charcoal and 50% of woodfuel).

Alternative energy solutions such as electric cooking are not new in Uganda, however, transitioning from biomass-based cooking to solar electric cooking poses demand side, supply side, and enabling environment barriers that hinder the development of a sustainable market for clean cooking in Uganda.

On the demand-side, low levels of affordability and limited awareness (communities often lack awareness of the availability and usage of climate resilient technologies such as solar technologies) impede the willingness or ability of consumers to purchase alternative cooking energy solutions. This calls for the urgent need to develop or improve flexible payment methods such as pay-as-you go (PAYG) models and tailored asset financing to support consumers to purchase alternative energy solutions, including increased awareness creation campaigns meant to influence behaviour change towards adoption of these technologies. On the supply-side barriers, lack of market information, lack of distribution and supply chain hinder the production and supply of alternative cooking energy products and affect the ability of suppliers and producers to operate.<sup>16</sup> Lack of affordable working capital for small and growing manufacturers and distributors in the alternative energy products sector such as solar electric cooking business remains a major challenge. This leads to inconsistent supply chain lead times, especially for PAYG models. Traditionally, long lead times are resolved using credit facilities. However, the high collateral requirements and costs of capital (interest rates exceeding 25% per annum) are passed on to consumers, affecting adoption rates. Additionally, the high upfront cost of e-cooking technologies makes them unaffordable for many households. While financial products like renewable energy loans can help lower these costs through instalment payments, the high credit risk discourages financial institutions and distributors from developing and scaling such products.

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<sup>15</sup> U-WN-YU-BD FAO Rapid Woodfuel Assessment 2017 Baseline for Bidi Bidi. Source: [Here](#)

<sup>16</sup> Open Capital 2023 assessment

As stated in Mercy Corps GESI assessment in April 2024 (attached), there is a significant gender divide in the Gulu area. The gender dimension of energy poverty, with women being direct users of cooking products and responsible for cooking and fetching biomass to burn, poses a further strain on the lives of women and girls and raises protection concerns (sexual harassment and other forms of violence) as they move miles away to collect firewood or burnt charcoal to help prepare their daily meals. Women and girls in rural, off-grid areas are disproportionately affected by a lack of access to alternative cooking facilities. Without access to affordable and sustainable clean cooking solutions, Sustainable Development Goal 7 (Ensure access to affordable, reliable, sustainable, and modern energy for all) will not be met. A very large number of households are now resorting to unhealthy coping mechanisms resulting from shortage of wood fuel that include but are not limited to skipping meals, eating not well-cooked food regularly, preparing foods that are easy to cook, such as vegetables and porridge instead of a desired meal for the day and above all cooking with materials such as crop residues that produces a lot of smoke which risk the health of those charged with cooking responsibilities mostly women and girls.

### **3. 2 Desired change:**

To address the current limited awareness of and capacity to deliver ecosystem management practices, including reforestation, limited knowledge and access to climate-resilient technologies, also for alternative cooking energy, to accompany the promotion of solar-powered ECOCA cookstoves with reforestation and agroforestry activities, the Adaptive affordable and alternative energy Cooking technologies Enables Sustainable Solutions (ACCESS) project has been designed in close collaboration with the local authorities and communities. ECOCA is a climate-resilient technology that supports communities to face the challenges of a changing climate by being transportable, providing stand-alone lighting-powering-cooking features, supporting increased economic opportunities and providing better health outcomes.

The solar electric cooking technology proposed has been successfully piloted between 2019 and 2022 in the Bidi Bidi refugee settlement with support from ELRHA. Implemented by Mercy Corps in partnership with Pesitho, the pilot project aimed to promote alternative cooking technologies through adoption of off-grid solar e-cookers, strengthen Pesitho's supply chain and distribution networks, improve product pricing, increase uptake through pay-as-you-cook (PAYC) modalities, and develop a sustainable business model for refugee households. This effort resulted in the sale of 1,200 units in and around the Bidi Bidi settlement.

Moreover, the proposed project will focus on restoring degraded landscapes in the Acholi sub-region to help the region regain its tree cover. By combining these two approaches, the project aims to enhance climate resilience, improve living conditions, and facilitate adaptation to climate change for the local communities.

### **Project / Programme Objectives:**

The proposed project seeks to enhance climate resilience and improve living conditions in the Acholi sub-region, through a holistic landscape approach that combines interventions that increase vegetation cover and promote use of climate resilient technologies to reduce negative impacts of climate change.

ACCESS' **Theory of Change** (ToC) states that:

If all community segments in the Acholi sub-region become active promoters of ecosystem management practices, including reforestation, and recognize it as a livelihood opportunity ; If they can access alternative, affordable, sustainable and climate-resilient technologies, also for cooking; and If the project can gather and apply learnings and best practices throughout implementation to influence wider communities; Then all community segments in the Acholi sub-region will benefit from increased climate resilience and improved living conditions.

The ToC is broken down as it follows:

**Goal:** To increase the resilience of households and local forest ecosystems through access to affordable and sustainable alternative cooking energy for off-grid cooking for vulnerable communities in the Acholi sub-region, Uganda.

### Specific Objectives

**SO1:** Reduce deforestation linked to biomass fuel collection and usage for cooking in the program area through establishing a market for Climate-resilient, gender-inclusive, and financially-sustainable technologies.

**SO2:** Restore degraded landscapes in the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo) and neighbouring districts through an ecosystem services approach

**SO3:** Ensure efficient and effective Project Management and continuous learning and adaptation.

The project's proposed duration is 36 months, running from 1 September 2024 until 31st of August 2027.

### Project / Programme Components and Financing:

Project/Program me Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
<b>Component 1 -</b> Reduce deforestation linked to biomass fuel collection and usage for cooking in the program area through establish a market for Climate-resilient, gender-inclusive, and financially-sustainable technologies	<b>Outcome 1.</b> Increased adoption and utilization of ECOCAs by vulnerable community members	<b>Output 1.1</b> Improved knowledge attitude and practices regarding the benefits and usage of ECOCAs for cooking, lighting, and charging and the dangers of biomass fuel for cooking  <b>Output 1.2</b> Increased access to ECOCAs for	Uganda	3,265,581

		8,000 vulnerable HHs and 5 schools		
<b>Component 2</b> - Restore degraded landscapes in the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo) and neighbouring districts through an ecosystem services approach	<b>Outcome 2.</b> Increased climate resilience and sustainable ecosystem services management in the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo)	<b>Output 2.1</b> Improved knowledge attitude and practices regarding the benefits of reforestation and agroforestry  <b>Output 2.2</b> 7,750 acres of land restored and through promotion of agroforestry and reforestation	Uganda	1,219,143
<b>Component 3</b> - Ensure efficient and effective Project Management and continuous learning and adaptation	<b>Outcome 3</b> Ensure robust learning, knowledge management, and dissemination framework	<b>Output 3.1</b> Relevant knowledge products prepared and disseminated to key Stakeholders	Uganda	93,370
6. Project/Programme Execution cost				238,296
7. Total Project/Programme Cost				4,816,390
8. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)				183,610
<b>Amount of Financing Requested</b>				<b>5,000,000</b>

### Projected Calendar:

Milestones	Expected Dates
<b>Project Start Date</b>	<b>1 September 2024</b>
Semi-Annual Report 1 (Narrative and Financial) - 1 <sup>st</sup> September 2024 – 28th February 2025	30th April 2025
Annual Report 2024-2025 (Narrative and Financial) - 1 <sup>st</sup> September 2024 – 31 August 2025	31st October 2025

Semi-Annual Report 2 (Narrative and Financial) - 1 <sup>st</sup> September 2025 – 28th February 2026	30th April 2026
Annual Report 2025-2026 (Narrative and Financial) - 1st September 2025 – 31st August 2026	31st October 2026
Semi-Annual Report 3 (Narrative and Financial) - 1st September 2026 – 28th February 2027	30th April 2027
<b>Project End Date</b>	<b>31st August 2027</b>
Final Project Completion Report (Narrative and Financial) - 1st September 2024 – 31st August 2027	30th November 2027

## PART II: PROJECT / PROGRAMME JUSTIFICATION

### A. PROJECT/ PROGRAMME COMPONENTS

ACCESS is a Large Innovation Project (as per screening process classification) that aims to enhance climate resilience and improve living conditions in the Acholi sub-region through promoting climate-resilient technologies and ecosystems services, with Market System Development (MSD) strategies.

The project is structured around three components: reduced deforestation linked to biomass fuel collection and increased adoption and utilisation of alternative cooking energy solutions such as ECOCA (Outcome 1 - Mercy Corps and Pesitho led), degraded landscapes restoration (Outcome 2 - Mercy Corps and local NGO led) and lastly improved adaptive management and learning sharings (Outcome 3 - Mercy Corps led).

In Outcome 1, Mercy Corps will collaborate with Pesitho, a long-standing partner since 2019, to refine and commercialise technology tailored to meet the specific needs of Uganda's population. Under this outcome, the project will apply the proven business model of ECOCA East Africa Ltd (EEA) (a subsidiary of Pesitho) beyond refugee settlements to target 8,000 households and five schools in the Acholi sub-region. This will enable affordable and sustainable access to alternative off-grid cooking energy through ECOCA, benefiting an estimated 53,000 individuals. In schools where ACCESS will be implemented, the program will collaborate with the school board to promote environmental awareness concepts that support the correct use of forest resources. Additionally, the program will support the reforestation of areas around the institutions with the direct involvement of pupils.

In Outcome 2, the project aims to restore 7,750 acres of degraded landscapes in the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo) through an ecosystem services approach. This will be achieved by employing a Market System Development approach to engage commercial tree nursery operators and expand their markets (market supply-side). Simultaneously, efforts will focus on SBCC (Social and Behavior Change Communication) to ensure the uptake of seedlings by Smallholder Farmers (SHFs) after they understand the economic benefits of agroforestry

(market demand-side). Additionally, Natural Resources Officers (NROs) from the Government of Uganda (GoU) at the district level will receive support through ad-hoc capacity building and will be involved throughout the implementation of Component 2 to ensure its sustainability. During the project's inception phase (Q1Y1), a Local Non-Governmental Organization (LNGO) will be engaged to lead awareness and behavioural change campaigns aimed at attracting clients to purchase seedlings.

In Outcome 3, ACCESS aims to ensure dissemination of learning and knowledge management among peer organisations, funding agencies, civil society and private sector actors by sharing lessons learned reports and facilitating national and regional events.

**Component 1: Reduce deforestation linked to biomass fuel collection and usage for cooking in the program area through establishing a market for climate-resilient, gender-inclusive, and financially - sustainable technologies / Mercy Corps and Pesitho led**

This component will focus on increasing the adoption of alternative energy solutions specifically targeting to promote ECOCA in the targeted location. The ECOCA is a ground-breaking technology innovation to reduce the need for biomass, allowing for the total absence of smoke and particulate matter. It is the world's first off-grid Solar Electric Cook Stove, specifically designed for Sub-Saharan Africa. The proposed technology consists of a cooking base with a built-in battery pack, an LED display for user interface (showing date, time, cooking temperature, time and selected cooking option), two USB ports for charging and lighting, a solar panel, two highly insulated cooking pots (six litres each), and three-in-one wired LED lights. Via a package of a 300275 Watt monocrystalline solar panel, 3624V lithium battery, a chargeable lamp, a torch, and an additional out-of-the-package 3in1 bulbs and 1in1 bulb depending on the number of rooms in a household, after dark, the ECOCA can cover the electricity needs of a typical rural off-grid household, including lighting and the charging of phones and other small appliances.

ECOCA is the first of its kind contributing to solving the challenge of environmental degradation caused by deforestation. It uses 100% renewable energy, and it is designed to allow cooking for three meals per day for a family of seven (measured on statistics from June - the month with the lowest solar irradiance in Uganda).





### WHAT IS THE ECOCA HOME 3? ✓

With the ECOCA Set, you can prepare three distinct meals daily and maintain their warmth. Additionally, the ECOCA Base provides the convenience of charging various electrical devices through its two USB ports.

### WHAT IS INCLUDED? ✓

- Pv Panel
- ECOCA Base with Battery
- 2 Saucepans
- 3 Bulbs Lamp
- 2 USB Power Outputs

### BENEFITS ✓

- Provides both energy for cooking, lighting and phone charging
- Keeps cooked food hot for several hours in it
- Saves the user from spending on charcoal, gas, electricity, briquettes, and firewood
- No smoke, clean cooking environment
- Cooks faster and saves time
- No more cutting trees, it's 100% clean renewable energy

### SPECIFICATIONS ✓

PV power: 300 - 2 PV power:600w  
 Battery type: LiFePo4  
 Battery rating: 35.2v 18Ah - 2 Battery rating: 36Ah  
 Saucepan rating: 600w  
 Saucepan specification:6L, stainless steel SUS304  
 USB portal: 5v  
 LED lamp: 5wx3

### PACKAGES ✓

<b>1B1PV</b>	<b>2B1PV</b>
1 Battery and 1 PV	2 Batteries and 1 PV

<b>2B2PV</b>	<b>1B2PV</b>
2 Batteries and 2 PVs	1 Battery and 2 PVs

**PESITHO**

[www.pesitho.com](http://www.pesitho.com)

### ADDITIONAL FEATURES ✓

- PAYGo enabling with both token and GSM solutions
- Remote monitoring option
- dMRV prepared for digital Carbon Credits verification



Mercy Corps and Pesitho have piloted ECOCA in the Bidi Bidi settlement in Yumbe district, showing how this technology is greatly accepted and matches traditional cooking behaviour - limiting disruption to established cooking patterns - while being suitable for end-users' staple food, including beans. Aside from the innovative technology, the primary benefit of the ECOCA is its extremely low operating costs which means the product gains competitiveness over time, making it distinct from other improved cookstoves. Virtually non-existent operating costs make this a competitive product that can provide savings for households.



The photos show a PayGo-enabled ECOCA, a user in Bidi Bidi settlement showing off her stew, the ECOCA solar cookstove with lights, and the same user mingling Posho/Ugali/maize flour bread in her ECOCA while charging her mobile phone on the ECOCA. **Photo credit:** Ruth Akiiki Komuntale, EEA



The photos above show the ECOCA School kitchen mini-grid, the School Chef mingling Posho/Ugali with ease in the ECOCA solar-electric school kitchen and pupils enjoying their lunch from the smoke free kitchen, all at Kinakyeitaka Primary School in Kikuube district, Kyangwali Refugee Settlement. Photo credit: Ruth Akiiki Komuntale, EEA

### **Outcome 1: Increased adoption and utilisation of ECOCAs by vulnerable community members**

During the proposed project, Mercy Corps will work with the Ministry of Energy and Mineral Development, Ministry of Water and Environment, the Uganda National Alliance on Clean Cooking (UNACC), community representatives and existing Village Savings and Loans Associations (VSLAs) or any organised groups with the community as entry points for community sensitization and awareness creation around the dangers of biomass fuel for cooking to the current and future generations vis a viz the benefits and importance of climate-smart and alternative energy-saving technologies focusing on

behaviour change communication, including IEC materials, radio broadcasting, demonstrations and community drama to increase the demand, uptake and use of the ECOCA.

**Output 1.1 Improved knowledge attitude and practices regarding the benefits and usage of ECOCA for cooking, lighting, and charging and the dangers of biomass fuel for cooking**

This output focuses on enhancing the understanding, attitude, and practices of the target population regarding the benefits and usage of ECOCA for cooking, lighting, and charging, as well as raising awareness about the dangers of biomass fuel for cooking. Mercy Corps and Pesitho will deliver awareness-raising and social behaviour change to the targeted beneficiaries around the benefits of using ECOCA whilst strengthening last mile distribution, retail, and after-sales service networks for the private sector. A last-mile distribution network will be established combined with educational programs, mobile demonstrations, peer-to-peer learning strategies, and social behaviour change campaigns.

***Activity 1.1.1 Conduct a Gender Equity and Social Inclusion (GESI) survey in schools and within households on biomass wood fuel consumption.***

During the inception phase, Mercy Corps will conduct a household-level and school GESI survey to understand average wood fuel collection, what type of wood is collected (tree species), and usage rates. This assessment will serve two purposes: 1) it will help estimate how much HHs and school kitchen wood consumption contributes to the ongoing deforestation rate; and 2) to track changes in HHs and schools' behaviour when it comes to woody biomass fuel usage due to ECOCA adoption. Furthermore, the project will track changes in the tree coverage in the project area during the baseline and endline assessments. Acknowledging that deforestation is driven by many factors beyond dependence on biomass for cooking household-level fuel consumption, the project seeks to verify if the increased adoption of ECOCA - and subsequent reduction of the need to collect solid fuels - can positively contribute to a reduction in the deforestation rate in the project area. This will also provide some evidence on the rate of deforestation in the target areas which is specific to HH and school fuel use, specifically for cooking, thus supporting Uganda's deforestation targets and activities in their drafting of their NDC.

Additionally, Mercy Corps will carry out a Gender, Equity and Social Inclusion analysis (GESI) and formative study during the first year of the project, to map gender issues and norms and barriers that are related to alternative cooking energy technologies. The GESI analysis will also investigate the energy policy and legal framework, the gendered division of labour, access to and control of resources and decision-making power. The results of the GESI analysis will inform the core gender activities as well as overall gender mainstreaming.

***Activity 1.1.2 Potential e-cooking technologies customers are mapped and profiled including SHFs, farmer groups, cooperatives, women and youth***

To determine the market size, Mercy Corps will identify and profile potential customers in the targeted locations to better understand their needs, preferences, and energy requirements. To establish trends, preferences, and consumer behaviour in this project, 2 assessments will be conducted to determine the market trends, consumer behaviour, and mapping of existing savings groups, cooperatives, and farmers groups. Based on the assessments, the extent to which the communities are able to embrace

alternative energy cooking solutions as well as their willingness to pay for the ECOCA will be ascertained.

***Activity 1.1.3 Establish demonstration sites for alternative energy technologies sensitization at community level***

The proposed project will establish mobile demonstration sites/sale points to showcase the benefits and functioning of the ECOCA. This hands-on approach will increase awareness and understanding, encouraging adoption and promoting a positive attitude towards alternative energy solutions. The project will conduct a social and resource mapping and also consult with women and vulnerable groups to identify/ map points that are more and easily accessible for marginalised groups to establish the demonstration sites. In addition, a gender-based violence (GBV) safety audit will be conducted to identify risks and gaps in these locations and put in place mitigation measures to reduce these risks to women and girls.

***Activity 1.1.4 Community sensitization through awareness creation and market activation campaigns and demonstrations of climate smart and energy saving technologies through community-level information groups, radio spot messages and jingles and or IEC materials as incentives***

This activity aims to raise awareness, generate interest, and promote the adoption of ECOCA technology by demonstrating its benefits and functionality. The activity will utilise community-level information groups, radio spot messages, jingles, and IEC materials as channels to encourage participation and engagement. Community meetings will be organised to provide information about climate resilient technologies, allowing for interaction and questions from community members. The project will also use local radio stations to air messages and jingles promoting alternative energy cooking technologies, reaching a wider audience materials will be developed and distributed that provide information about the benefits and usage of these technologies.

***Activity 1.1.5 Establish behaviour Change, Marketing Events / Market Activation Events via retailers/ retailers Cooperative members***

Mercy Corps in collaboration with Pesitho, will organise community market fairs or exhibitions where ECOCA will be showcased. The community members will use this platform to experience and learn about the technology firsthand, hence raising awareness, educating, and promoting the benefits of alternative cooking energy solutions. The project will organise events, such as workshops, seminars, or community meetings, to educate retailers and cooperative members about the benefits and features of these technologies and how to effectively promote them to the community. By engaging retailers and cooperative members, the activity seeks to leverage existing networks to reach a wider audience and stimulate demand for these technologies. These exhibitions will be highly advertised to ensure that they get a reasonable audience among the target groups.

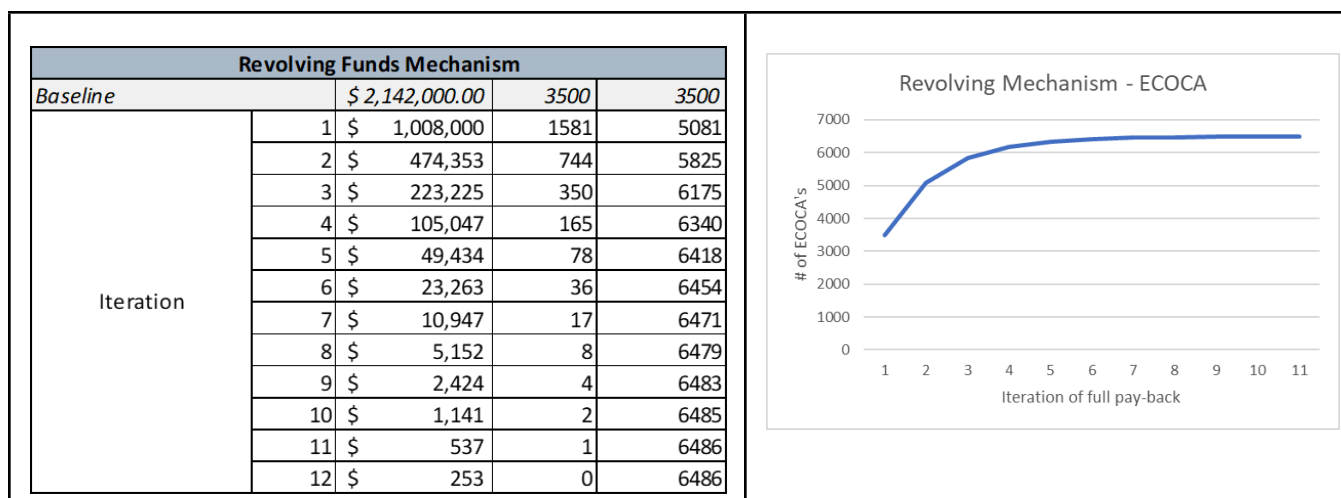
***Activity 1.1.6 Establish robust Community Accountability and Response Mechanism (CARM) system***

To ensure that complaints and grievances are addressed in a timely and effective manner, a robust CARM system will be established by Mercy Corps. These complaints can be related to energy products/ services and responsible business practices that will be promoted by the project. CARM provides a channel for all community members to provide feedback, suggestions, complaints, and concerns, in a manner that is safe, confidential, transparent, and accessible, enabling the implementing agencies to make adaptations to program activities and address any safeguarding concerns in the course of project implementation.

### **Output 1.2 Increased access to ECOCA for 8,000 vulnerable HHs and 5 schools**

The project proposes to enable a total of 8,000 vulnerable HHs and 5 schools across Gulu to access ECOCA Home3 cook stoves and ECOCA School kitchen, respectively, on a (PayAsYouCook) PayGo basis across Gulu District and the neighbouring districts during the project implementation period. The catalytic grant from Adaptation Fund will unlock the market for the initial production of 3,500 ECOCA. Additional sales from the revenue and additional funds from other climate finance streams will further allow sales of 4,500 ECOCA within the implementation period. During the project's inception period, the initial selection of 3,500 households and 5 schools will be carried out through a consultative process involving district authorities and community leaders. This process will enable identifying the most vulnerable community members to prioritize. Selection criteria will be developed based on the findings of GESI assessments, focusing on the needs and priorities of different genders within the community.

This initiative aims to reduce reliance on biomass for cooking, ultimately reducing deforestation and increasing the adaptive ability of the communities to climate change impacts. Additionally, it seeks to reduce the affordability gap and at the same time reduce indoor air pollution. The institutional ECOCA stoves supplied to schools will be a testing ground to target participants in the future and with additional funding, institutions such as hospitals, restaurants, prisons and barracks as a step to understanding the market dynamics of urban demand for the institutional stoves. It will also include commissioning and training school staff and cooking personnel. From pilots conducted in Bidi Bidi Refugee Settlement by Mercy Corps and Pesitho, we have observed that the off-grid population is desirous of switching from cooking with biomass to the ECOCA solar-electric cook stove and lighting system, which with Pesitho's PayAsYouCook model, the affordability gap is bridged as the HHs are empowered to pay for the ECOCA in manageable monthly instalments that can run between 1 to 5 years for the most vulnerable households compared to if they were to pay for the system for upfront. The initial deposit and monthly instalments paid by participants will create a revolving fund from which the project implementers will continue to avail more ECOCA to the project area and surrounding districts even after the project period. Therefore, the project will solve the affordability gap not only for the participants, but also for the ECOCA producers as Pesitho are not in position to produce the technology and ECOCA East Africa (EEA) do not have the means to distribute it and finance the entire value chain.



As the project will allow the supply of at least 3,500 ECOCA units to Gulu, and enable payment on credit via PAYGo, the incoming payments from all the clients will be allocated in a revolving mechanism to bring more ECOCA's to Acholi Sub region. The intention is 100% revolving of funds such that 1 ECOCA sold and fully repaid equals 1 new ECOCA on credit to another family. However the main objective is to reach those families most vulnerable to climate change, as such a lower recovery rate will be achieved to cater for a potential subsidy scheme. For this project a ratio of 0.85 is assumed achievable. In this way, the funding from the Adaptation fund creates a funnel to make a much broader impact within and beyond the project timeline. The continuity is further supported by the enabling environment created, as all necessary structures are built and available, due to the funding given in this project. As a result, additional 2986 ECOCA's can be financed by this project, bringing the total number of households reached up to 6,486.

We believe that the funding from the Adaptation Fund will generate affordability and access to the ECOCA for more than 150,000 households over the next 10 years (medium case) due to the revolving mechanism and support structures established. Based on a worst, normal and best case scenario, the predictions for market up-take as a result of this project over the next 10 years are as the table below.



Year	Projection of Market Growth (HH's) 20% average growth per annum	Projection of Market Growth (HH's) 60% average growth per annum	Projection of Market Growth (HH's) 100% average growth per annum	Means of funding
2025	1,500	1,500	1,000	Adaptation Fund
2026	2,000	2,000	2,000	Adaptation Fund
2027	4,200	5,600	6,000	Revovleving/Carbon/Export finance
2028	5,040	8,960	12,000	Revovleving/Carbon/Export finance
2029	6,048	14,336	24,000	Revovleving/Carbon/Export finance
2030	7,258	22,938	48,000	Revovleving/Carbon/Export finance
2031	8,709	36,700	96,000	Revovleving/Carbon/Export finance
2032	10,451	58,720	192,000	Revovleving/Carbon/Export finance
2033	12,541	93,952	384,000	Revovleving/Carbon/Export finance
2034	15,049	150,324	768,000	Revovleving/Carbon/Export finance

Although the ECOCA has good value for money, most vulnerable HHs cannot cover the up-front cost of the stove. Even though many users normally break-even within 1-3 years using the ECOCA, it cannot be expected that many will be capable of paying the full commercial price, even at a subsidised price. To target the most in need, the users require financial support; in addition to innovative payment models, and patient capital to sustainably deploy the ECOCA and reach a sizable number of vulnerable households.

The current market price for the full package (cooking base, battery, controls, solar panel, two 6 litre pots, and lights) is \$520. Pesitho and EEA have launched the possibility of offering a range of capacity upgrades, making the ECOCA even more adaptable to each family structure and needs for cooking. The product will be offered in four variations where the capacity of the battery and/or the solar panel can be increased. The price of these products varies, ranging from \$520 to \$850.

Pesitho conducted a pilot in Bidi Bidi Refugee Settlement in Yumbe district in the Northern region of Uganda in 2021 with 200 ECOCA units for 200 vulnerable refugee and host community families. Tests were made to understand the combined energy saving for a family, by converting from biomass for cooking and replacing expenses for energy needs for phone charging, batteries, and lamps. The combined savings on firewood for cooking and electricity for charging and lighting by switching to the ECOCA was USD 33 per month per HH on average among the 200 households. The average saving on biomass for cooking was USD 19, and an additional USD 14-15 was from energy savings.

#### **Activity 1.2.1 Establish ECOCA East Africa (EEA) SMC Ltd local production /assembly centre in Gulu**

To further the potential for scalability of the business model, we propose continued development of the EEA supply chain to embed the ECOCA into the local market, helping to reduce costs. To achieve this, the project will include the establishment of a production/assembly centre in Gulu. Mercy Corps will set up an assembly centre in the target area in coordination with Pesitho. The assembly centre will serve as a production hub for ECOCA solar cookstoves for the project area, managed by EEA. The assembly

centre will also act as a central service point for the ECOCA's after the project serving the entire Acholi sub-region. Based on experiences from Bidi Bidi, the local establishment of an assembly centre gives very high trust in the organisation and product. The visibility of locally known staff advocating, selling and servicing ECOCA's has shown to generate high trust and satisfaction for purchasing an ECOCA.



To establish the assembly centre, a container solution will be adopted. A minimum of two 40ft containers will be purchased, modified and partitioned to create the assembly section, storage section, battery charging section and a sales office. A container solution is cheaper and faster compared to setting up or hiring larger office space given the short period for project implementation. Project stakeholders will agree where the assembly centre is to be established but in close proximity with the community since it will be community driven.

The staffing strategy for the local production facility in Gulu will prioritise the recruitment of young individuals with a strong interest in technology. Preference will be given to achieving a balanced gender mix, and efforts will be made to ensure that one to two roles are filled by individuals with disabilities. Identification and interviews with potential candidates will be done in close collaboration between project partners, and by leveraging the reach of Mercy Corps presence and local knowledge in the area.

Prior to establishment of the local production centre, a field trip will be arranged to identify and visit potential sites. Pesitho is primarily looking for a rental agreement to minimise the risks of binding capital to one particular location before a certain period of experience is gained in the area. Mercy Corps and Pesitho will collaborate to identify possible established locations with sufficient housing and warehousing for the local assembly. Included in the local assembly installation cost is a fully driven off-grid electrical system to power the facility, which also lowers the requirement for grid electricity and high electricity tariffs.

***Activity 1.2.2 Provide technical assistance (TA) to ECOCA Ltd to develop a business model and go-to-market strategy identifying viable customer and market segments***

Technical assistance will be provided to support ECOCA East Africa, to identify and understand the different market segments that exist within the targeted region. By segmenting the market, ECOCA East Africa will be able to customise their marketing strategies and messages to effectively reach each segment, maximising their impact and market penetration. The technical assistance will support the ECOCA East Africa to create a comprehensive and sustainable business model that outlines key components of their operations, revenue streams, cost structures, distribution channels, and partnerships to forecast and ensure the financial viability and long-term success of the alternative energy cooking initiatives. The TA will also include creating a go-to-market strategy for ECOCA East Africa to define the approach and tactics for entering the market and reaching potential customers while deciding on the appropriate marketing channels, messaging, sales techniques, and distribution methods.

***Activity 1.2.3 Identification, Recruitment and Training of Last Mile Distribution Agents that will take part in the Local Retailer Network for ECOCA, including women and youth***

In parallel, and following the initial market assessment, the program will focus on group formalisation and market activation by strengthening retail and distribution networks including repair and maintenance services. Capitalising on numerous Village Savings and Loan Associations (VSLAs) and farmers groups, with a specific emphasis on engaging youth and women, the program will establish and expand a local Retailer Network for ECOCA. 48 retailers (24 women and 24 men) will undergo training provided by EEA to serve as sales agents and technicians for the product. The process of refining and codifying the supply chain is expected to yield a 15% drop in the market price within two years. Furthermore, Mercy Corps will build the capacity of VSLAs and farmers groups, and existing retail networks to strengthen their business skills - as this has emerged as an area of weakness to support scale and uptake of the ECOCA.

The strategy for enabling sales through the retailer network will be two-fold. First and foremost prioritisation will be given to activate local women as retailers. The first awareness raising will be



through cooking workshops arranged by the women. A number of locals will be invited to these cooking workshops, to be introduced to the ECOCA and make food on the ECOCA. These workshops will be taught by the retailers. The second sales strategy will be regular door-to-door and mouth-to-mouth sales. Sales of ECOCA's will be motivated through commission.

***Activity 1.2.4 Identification, recruitment and training of technicians for repairs and after sale services, including women and youth***

Mercy Corps will help EEA identify sixteen skilled service technicians who can effectively install, maintain and repair the ECOCA. The selected technicians will undergo comprehensive training on the installation, maintenance and repair of the ECOCA technology. This includes equipping them with the necessary knowledge and skills to handle different components of the ECOCA and troubleshoot any issues that may arise. Pesitho and EEA will train local youth in the assembly, handling, usage, repair, and maintenance of the ECOCA's. From experience in Bidi Bidi settlement, Pesitho/EEA have noticed that women flourish more with the Cooking Advisory role and as such have preserved this strictly to women as they not only enjoy cooking demonstrations but are also more accepted by society when they advise on cooking and handling of cooking technologies. The skills acquired by the locals will reduce the costs of hiring experts and the risk of abandoning the technology by creating a sense of ownership and inclusiveness among the technicians. The technicians trained during the project will earn a commission based on units assembled and will continue to offer repair and maintenance services to project participants, ensuring a long lasting and sustainable maintenance of jobs.

***Activity 1.2.5 Establish a robust supply chain management system for alternative energy cooking products, ensuring reliable and timely distribution to the selected retailers and community-based agents***

Mercy Corps will support the EEA to create a well-structured and efficient supply chain management system for alternative clean energy products to ensure retailers and community-based agents have a steady and reliable supply of alternative cooking energy products to meet customer demand. The establishment of a robust supply chain management system will play a crucial role in the successful implementation and scalability of the ECOCA technology. It will help streamline operations, reduce stockouts, minimise delivery delays, and ensure that the selected retailers and community-base agents have the necessary inventory to meet customer needs.

The assembly centre to be established under *activity 1.2.1* will serve as a key function in the supply chain to the last mile distribution across Acholi sub-region and it will give a landing point for stock of new ECOCA units and spare parts, as well as serving as a collection point for potential e-waste like used ECOCA batteries.

***Activity 1.2.6 Ensure proper-disposal of e-waste in ACCESS assembly service***

The local assembly centre to be established under *activity 1.2.1* will also serve as a collection point for potential e-waste like used ECOCA batteries. These centres will provide convenient places for people to safely dispose of their electronic waste, reducing the environmental impact.

To encourage social behaviour change and raise public awareness about the importance of proper e-waste disposal, Mercy Corps and Pesitho will sensitise the cookstove users to return worn-out parts to the assembly centre for repair and reuse or safe disposal for those parts that cannot be brought back to their useful life. Mercy Corps will conduct quarterly (four campaigns annually) targeted campaigns, to sensitise the public on the environmental and health hazards associated with incorrect disposal methods. By promoting responsible e-waste disposal practices, the project encourages individuals and communities to take action in the management of the environment. This is also in line with the Uganda E-waste policy that acknowledges the need for promoting efficient handling and sustainable management of e- waste, hence safeguarding the country’s human life and environment

Mercy Corps will also collaborate with two local businesses, such as electronics retailers, to promote proper e-waste management, to become e-waste collection points, and to provide them with incentives for participating in the program.

***Activity 1.2.7 Identify, develop and implement financing schemes (, PAYGO, subsidies, VSLAs) to enhance the affordability of the ECOCA***

Mercy Corps will identify and partner with one FSP to develop innovative payment options like PAYGO, PAYC (Pay as You Cook) plans, and other flexible payment plans for ECOCA. With the support of the Ugandan Government, Pesitho will be able to offer the end user a “Lease-To-Own” model dubbed “Pay As You Cook (PAYC)” for all four variants with a cost between USD 8-15 per month. As such, the selected vulnerable HHs will be offered the products with a down payment of \$80, and a monthly lease of USD 8-15 depending on the variation chosen.<sup>17</sup> This means the energy savings per month increase the monthly lease of the ECOCA and improves the household economy already from the first day of use. It also means a breakeven of the investment can be achieved fast, even with considering cost-of-finance. Depending on the baseline spending of the HH, the following table shows savings and breakeven over 10 years of use of the ECOCA:

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<sup>17</sup> From willingness-to-pay studies conducted on the ECOCA, the study in Rakai shows an average energy saving (cooking + access to energy for charging and lights) of \$33 per month per HH. With the Lease-To-Own model, the HHs will experience an improved economy already after a few months of using the ECOCA.

ECOCA Price Sensitivity analysis														ver. 1 20230302	
ECOCA Costs and Savings		Baseline			With ECOCA										Breakeven
		Fuel Expenditures (month)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Years		
Replacement factor	80%	\$	2	\$ -504	\$ -308	\$ -112	\$ 4	\$ 80	\$ 276	\$ 472	\$ 588	\$ 784	\$ 980	4.5	
Cost of ECOCA	\$ 700	\$	4	\$ -485	\$ -270	\$ -55	\$ 80	\$ 175	\$ 390	\$ 605	\$ 740	\$ 955	\$ 1,170	4.1	
Energy savings (month)	\$ 15.0	\$	6	\$ -466	\$ -232	\$ 2	\$ 156	\$ 270	\$ 504	\$ 738	\$ 892	\$ 1,126	\$ 1,360	3.8	
Subsidy	\$ -	\$	8	\$ -446	\$ -192	\$ 62	\$ 236	\$ 370	\$ 624	\$ 878	\$ 1,052	\$ 1,306	\$ 1,560	3.5	
Rent-To-Own financing		\$	10	\$ -427	\$ -154	\$ 119	\$ 312	\$ 465	\$ 738	\$ 1,011	\$ 1,204	\$ 1,477	\$ 1,750	3.3	
Interest rate p.a.	10.0%	\$	12	\$ -408	\$ -116	\$ 176	\$ 388	\$ 560	\$ 852	\$ 1,144	\$ 1,356	\$ 1,648	\$ 1,940	3.0	
Period (years)	5	\$	14	\$ -389	\$ -78	\$ 233	\$ 464	\$ 655	\$ 966	\$ 1,277	\$ 1,508	\$ 1,819	\$ 2,130	2.9	
Down-payment	\$ 80.00	\$	16	\$ -370	\$ -40	\$ 290	\$ 540	\$ 750	\$ 1,080	\$ 1,410	\$ 1,660	\$ 1,990	\$ 2,320	2.7	
Cost of finance p.a.	\$ 39.55	\$	18	\$ -350	\$ -	\$ 350	\$ 620	\$ 850	\$ 1,200	\$ 1,550	\$ 1,820	\$ 2,170	\$ 2,520	2.5	
Total Payment	\$ 897.77	\$	20	\$ -331	\$ 38	\$ 407	\$ 696	\$ 945	\$ 1,314	\$ 1,683	\$ 1,972	\$ 2,341	\$ 2,710	2.4	
Monthly Payment	\$ 14.96	\$	22	\$ -312	\$ 76	\$ 464	\$ 772	\$ 1,040	\$ 1,428	\$ 1,816	\$ 2,124	\$ 2,512	\$ 2,900	2.3	
		\$	24	\$ -293	\$ 114	\$ 521	\$ 848	\$ 1,135	\$ 1,542	\$ 1,949	\$ 2,276	\$ 2,683	\$ 3,090	2.2	
		\$	26	\$ -274	\$ 152	\$ 578	\$ 924	\$ 1,230	\$ 1,656	\$ 2,082	\$ 2,428	\$ 2,854	\$ 3,280	2.1	
		\$	28	\$ -254	\$ 192	\$ 638	\$ 1,004	\$ 1,330	\$ 1,776	\$ 2,222	\$ 2,588	\$ 3,034	\$ 3,480	2.0	
		\$	30	\$ -235	\$ 230	\$ 695	\$ 1,080	\$ 1,425	\$ 1,890	\$ 2,355	\$ 2,740	\$ 3,205	\$ 3,670	1.9	
		\$	32	\$ -216	\$ 268	\$ 752	\$ 1,156	\$ 1,520	\$ 2,004	\$ 2,488	\$ 2,892	\$ 3,376	\$ 3,860	1.8	
		\$	34	\$ -197	\$ 306	\$ 809	\$ 1,232	\$ 1,615	\$ 2,118	\$ 2,621	\$ 3,044	\$ 3,547	\$ 4,050	1.8	
		\$	36	\$ -178	\$ 344	\$ 866	\$ 1,308	\$ 1,710	\$ 2,232	\$ 2,754	\$ 3,196	\$ 3,718	\$ 4,240	1.7	
		\$	38	\$ -158	\$ 384	\$ 926	\$ 1,388	\$ 1,810	\$ 2,352	\$ 2,894	\$ 3,356	\$ 3,898	\$ 4,440	1.6	
		\$	40	\$ -139	\$ 422	\$ 983	\$ 1,464	\$ 1,905	\$ 2,466	\$ 3,027	\$ 3,508	\$ 4,069	\$ 4,630	1.6	
		\$	42	\$ -120	\$ 460	\$ 1,040	\$ 1,540	\$ 2,000	\$ 2,580	\$ 3,160	\$ 3,660	\$ 4,240	\$ 4,820	1.5	
		\$	44	\$ -101	\$ 498	\$ 1,097	\$ 1,616	\$ 2,095	\$ 2,694	\$ 3,293	\$ 3,812	\$ 4,411	\$ 5,010	1.5	
		\$	46	\$ -82	\$ 536	\$ 1,154	\$ 1,692	\$ 2,190	\$ 2,808	\$ 3,426	\$ 3,964	\$ 4,582	\$ 5,200	1.4	
		\$	48	\$ -62	\$ 576	\$ 1,214	\$ 1,772	\$ 2,290	\$ 2,928	\$ 3,566	\$ 4,124	\$ 4,762	\$ 5,400	1.4	
		\$	50	\$ -43	\$ 614	\$ 1,271	\$ 1,848	\$ 2,385	\$ 3,042	\$ 3,699	\$ 4,276	\$ 4,933	\$ 5,590	1.4	
Sparepart costs (incl.)						\$ 80	\$ 120			\$ 80					

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Financing mechanisms to be considered:

- 1. Pay-as-you-cook (PAYC) model;** The pay-as-you-cook (PAYC) model, will be tailored to suit households' ability to pay. This PAYC model will increase the affordability of the ECOCA ensuring equitable access to the product for vulnerable community members who cannot afford to pay upfront, whilst also enabling Pesitho/ECOCA to gather further market data on PAYGo solutions. In 2022, through a partnership with Cisco and the Elrha Journey 2 Scale (J2S) grant, Pesitho and Mercy Corps introduced an innovative business model, testing the PAYC in Yumbe, West-Nile region. This included technical development of the ECOCA PAYGo technology, and sales using the full PAYGo model in Bidi Bidi. As such the ECOCA is today equipped with the PAYGo technology enabling this lease-to-own model where customers can pay and activate the ECOCA via their mobile money.

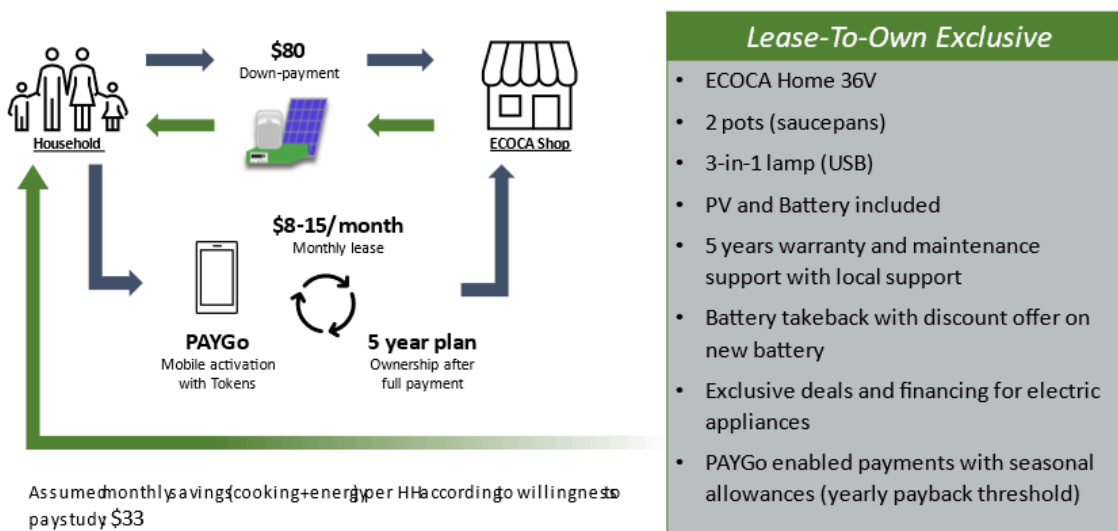


Below the ECOCA PAYGo payment plans for customers that wish to finance their ECOCA set:

ECOCA PAYGo Plans	Market price	Down Payment	Interest rate	Monthly Payment					
				Financing Period (months)					
Variation	USD	USD	USD	0.5	1	2	3	4	5
ECOCA Home3 1b1p	\$ 530	\$ 80	10%	\$ 76.56	\$ 39.24	\$ 20.59	\$ 14.40	\$ 11.32	\$ 9.48
ECOCA Home3 1b2p	\$ 680	\$ 80	10%	\$ 102.09	\$ 52.31	\$ 27.46	\$ 19.20	\$ 15.09	\$ 12.64
ECOCA Home3 2b1p	\$ 780	\$ 80	10%	\$ 119.10	\$ 61.03	\$ 32.03	\$ 22.40	\$ 17.61	\$ 14.75
ECOCA Home3 2b2p	\$ 850	\$ 80	10%	\$ 131.01	\$ 67.14	\$ 35.24	\$ 24.64	\$ 19.37	\$ 16.23

The household will own the system after 0-5 years as the full price has been paid off with the down payment and the monthly/seasonal payments. During the leasing period, the end-user will gain additional benefits such as 5 years of warranty and maintenance support with local support, battery takeback with discount offers on a new battery, exclusive deals and financing for other electric appliances, and PAYGo-enabled payments with seasonal allowances (yearly payback threshold). The lifespan of solar products is usually determined by battery and solar panel lifespan. The industry standard and production warranty for most solar panels is 25-30 years,<sup>18</sup> lithium iron phosphate batteries can last 5-6 years or 2,000 - 5,000 charge/discharge cycles<sup>19</sup> and at 5-6 years, the battery capacity reduces to about 80%, therefore cooks much slower. It is expected that in 5-6 years, the ECOCA customer will return the battery to EEA for a take back and then purchase a new battery at a discount. This extends the household's cooking capability for an additional 5-6 years. The process is repeated until the solar panel reaches the end of its life cycle, at which point EEA/Pesitho will dispose of it and the household can purchase a new one from the same company. The rest of the ECOCA components are made from the highest quality material like stainless steel and polished iron but should they deteriorate from natural wear and tear or negligence, Pesitho/EEA offers them as spare parts for sale.

#### PESITHO Lease-To-Own PAYGo enabled Business Model– Uganda



<sup>18</sup> [End-of-Life Management for Solar Photovoltaics](#)

<sup>19</sup> [Introduction to LiFePO4 Marine Batteries](#)

As such, this model allows for a 100% revolving mechanism, where the money spent per ECOCA can be used to purchase a new ECOCA after the lease period using the payments coming from the end user. Mercy Corps' prior work in Uganda has shown us that PAYGo technologies enable households and small businesses across refugee and host communities to access and eventually own high-quality, reliable, and sustainable energy products by making small regular payments via their mobile money. This model also enables local private sector actors (energy providers) to enter new markets as they can design shorter-term repayment plans to address the risk of flight. The payment scheme will vary based on the average household income with low-income HHs receiving highly subsidised ECOCA stoves and middle-income ones with neither or minimal subsidies. All funds that are coming back from user repayments will be used for reinvestment into the expansion of the model to cover other households and other locations. This revolving mechanism will be designed to continue even after the project has ended.

**Climate Financing:** ECOCA business model will leverage other climate financing streams to increase end user affordability and extend the warranty mechanism offered to clients. During the proposed project, Pesitho has already identified potential climate financing opportunities to engage in the establishment of a subsidy programme. Depending on the success of the subsidy programme an extended warranty will be given to the users from one year up to five years. It should be noted that the 3,500 households under the ACCESS project will get the 5 years warranty as a benefit of the program. By generating some revenue from the different carbon financing mechanisms, the users will be able to receive continuous warranty services (repair and maintenance costs of the ECOCA) while contributing to climate change resilience. If the users extend the lifetime of the ECOCA for another five years, Pesitho can also extend the warranty for the same period, making users have access to warranty services for a total of 10 years. During this period, the ECOCA only requires a change of battery, which the user will be able to afford from the extensive savings generated, and the high potential for additional income generated by the user. In the unlikely event that the climate financing mechanisms will not succeed, Pesitho will still ensure the 5 years repair and maintenance, as the local production is an invested permanent solution, where Pesitho will continue operation for a sustainable business beyond the project end.

## Comparison of the ECOCA to existing PayGo options for alternative cooking energy technologies/start-ups in East-Africa:


It is important to highlight that ECOCA is a ground-breaking technology, the first off-grid solar-electric cookstove and solar home system. There still isn't a fairly comparable technology as the available alternative cooking energy technologies are either improved biomass cookstoves or recently, the electric pressure cooker which is a plug and play gadget and not a stand-alone system. Nonetheless, we will attempt to compare the ECOCA to the electric pressure cooker. This comparison is based on the presumption that the HH is off-grid and is either accessing the ECOCA solar-electric cooking and lighting system or the grid and a 6 litre electric pressure cooker.

ECOCA	PRESSURE COOKER
Stand alone, versatile solar electric system (power generation & storage with cooking, lighting and charging gadgets)	Plug and play electric gadget (cooking pot (Dependent on power source)
Down payment \$80 to access ECOCA system per HH (cost of financing)	Down payment of \$52 by HH, \$65 subsidy by government a credit of \$70 to access electricity per HH where no pole is required (wireless split metre) <sup>20</sup> + \$11 inspection fee  Where one electric pole is required, connection costs range between \$620 - \$712 before survey costs.  Connection fees are much higher where more than one pole is required and this is the case for 70% of the Ugandan population living off-grid
Monthly instalment on whole system (dependent on ECOCA variation chosen) over 0- 5 years	15% of HH's energy bill payable over 8 years) <sup>21</sup> + \$1 for a pressure cooker per month (6 litre pressure cooker of \$65 cost payable over 5.4 years)
No monthly energy bills after the payment period (0-5 years)	Continuous monthly energy bills

Pesitho is currently developing a digital sales tool/APP for trained sales force as a part of the strategy to attract consumers. The app (shown in the picture below), will be deployed on Android phones and tablets giving the sales people a calculation and comparison tool, to convince the consumers about the added value and benefit of purchasing the ECOCA over using current cooking practice.

<sup>20</sup><https://www.era.go.ug/index.php/media-centre/what-s-new/452-the-hybrid-electricity-customer-connection-credit-framework-what-you-need-to-know->

<sup>21</sup> Ibid 36

	Do you purchase charcoal? <input type="radio"/> Yes <input type="radio"/> No	How much do you spend on charcoal every year? <input type="radio"/> 0-10 <input type="radio"/> 10-50 <input type="radio"/> 50-70 <input type="radio"/> 70-100	When do you usually have lunch? <input type="radio"/> 11 am <input type="radio"/> 12 pm <input type="radio"/> 1 pm <input type="radio"/> 2 pm	What do you usually eat for lunch? <input type="radio"/> Rice <input type="radio"/> Potatoes <input type="radio"/> Ugali <input type="radio"/> Meat <input type="radio"/> Beans	Learn about...  XXX people have purchased an ECOCA! Learn about the ECOCA and how it has impacted the lives of our consumers by visiting our webpage! <a href="http://www.pesitho.com">www.pesitho.com</a>
	Artboard - 6	Artboard - 3	Artboard - 4	Artboard - 9	
When do you usually have breakfast? <input type="radio"/> 6 am <input type="radio"/> 7 am <input type="radio"/> 8 am <input type="radio"/> 9 am	What do you usually eat for breakfast? <input type="radio"/> Rice <input type="radio"/> Potatoes <input type="radio"/> Ugali <input type="radio"/> Meat <input type="radio"/> Beans	How can the ECOCA benefit you?  This is how much an ECOCA can save you...  250	What do you usually eat for dinner? <input type="radio"/> Rice <input type="radio"/> Potatoes <input type="radio"/> Ugali <input type="radio"/> Meat <input type="radio"/> Beans	When do you usually have dinner? <input type="radio"/> 5 pm <input type="radio"/> 6 pm <input type="radio"/> 7 pm <input type="radio"/> 8 pm	

The input in this app will be similar to the table above showing the savings over time by switching from current cooking technology to the ECOCA. In this case the salespeople can input variables like; number of persons in the household, current cooking technologies, current expenditures of fuel, current expenditures for electricity etc, including cost of finance. The output, and hereby the selling arguments, will be the savings per day, per week, per month and per year by switching to the ECOCA system, including all the benefits the system provides tailored to the particular household. This tool will be deployed as a component in this ACCESS project.

#### **Activity 1.2.8 Set up a revolving mechanism dedicated for capital flows to enable ECOCA model expansion**

This activity focuses on establishing a revolving mechanism dedicated to attracting capital flows to facilitate the expansion of the ECOCA model. The mechanism will provide financial support to manufacturers and distributors, ensuring a continuous and steady supply of ECOCA's to meet market demand and scale up the adoption of clean cooking technologies. The project will develop a framework for the revolving mechanism, outlining its objectives, governance structure, and operational guidelines. The sale of the first 3,500 ECOCA's will act as the initial capital to kickstart the revolving mechanism, which will be used to provide working capital loans and production costs to manufacturers and distributors. The project will explore partnerships with financial institutions, impact investors, and development agencies to establish partnerships and secure additional funding for the revolving mechanism. It is expected that the revolving mechanism will be scaled up by reinvesting repaid loans and attracting additional capital to support the continuous growth of the ECOCA model.

#### **Activity 1.2.9 Assessment, training and development of code of conduct for responsible business conduct (RBC) for PSAs**

Mercy Corps will conduct an assessment on responsible business conduct to understand and benchmark the existing practices and suggest improvements. All project partners will undergo an initial risk assessment using the RBC risk screening tool (Step I), which will be followed by an in-depth Due Diligence process. MC standard due diligence process aims to assess: i) Governance and Organisational Capacity; ii) Financial Systems; iii) General Internal Controls; iv) Documentation; v) Banking and Cash Management; v) Personnel and Payroll; vi) Procurement; vii) Asset Management; and viii) Warehouse/Store Management. These two initial steps will help formulate an initial RBC Action plan (Step III) identifying the major risks to be addressed.

The project led by Mercy Corps will develop or adapt a comprehensive framework that combines a grievance mechanism with a code of conduct, promoting ethical behaviour, accountability, and responsiveness to concerns and grievances. The framework will outline the principles and standards businesses should follow to promote RBC for all the project partners, especially the ESCOs and FSPs. This framework will shape the way of business operations to minimise the adverse impacts of their operations and supply chains, while providing an avenue for the resolution of all complaints and will be closely tied to the project CARM system.

Mercy Corps will train project partners on RBC practices and develop/adopt a code of conduct that outlines the principles and standards that businesses should follow to promote RBC. Following the assessment the project will aim to carry out two (2) training sessions, on the expected responsible business practice for all partners participating in the project activities, this will build trust in the businesses participating in this project at the community level. Throughout the project, the commercial partners will be supported in establishing appropriate mechanisms to report and monitor their RBC compliance.

## **Component 2: Restore degraded landscapes in Gulu and neighbouring districts through an ecosystem services approach / Mercy Corps and LNGO led**

### **Outcome 2: Increased climate resilience and sustainable ecosystem services management in Gulu and neighbouring districts**

The principal objective of this intervention is to increase tree cover across the project landscape, restore degraded land, and protect and promote biodiversity through locally driven approach sustainable land management. Mercy Corps, in collaboration with a local partner to be identified during the project's inception phase, will employ a Market System Development (MSD) and Social Behaviour Change Communication (SBCC) approach to promote demand and develop a mature market for seedlings. ACCESS will support community-managed reforestation by working with commercial nursery bed operators to set up satellite sites and roll out a go-to-market strategy for specific customer and market segments. Simultaneously, a robust focus on Social and Behavior Change Communication (SBCC) will ensure the viability of the seedlings business and their uptake by farmers groups and individuals interested in cultivating fruit trees and other recommended tree species through agroforestry approaches. To incentivize demand as well as to ensure uptake at scale, financing schemes (including a one-off subsidy system), will be designed to incentivize farmers and agro-forestry value chain actors to reforest degraded land. The project will both deploy direct subsidies as well as promoting behaviour change through agroforestry training and sensitization.



This market and community-led agroforestry and reforestation approach will support a market for eco-systems services, ultimately supporting broader reforestation and agroforestry goals within the project area.

### **Output 2.1 Improved knowledge attitude and practices regarding the benefits of reforestation and agroforestry**

This output focuses on increasing demand for tree growing, starting with mapping and training identified farmers to enhance local communities' attitudes regarding the social, economic, and climate benefits of reforestation and agroforestry, framing them as viable business opportunities. To guarantee sustainable tree growing that relies on farmers' willingness to pay the real cost of producing seedlings, the short-, medium-, and long-term benefits of specific tree crops (such as fruits and nuts mixed with leguminous species) will be presented during training sessions and SBCC campaigns. At the same time, to address initial affordability challenges, ACCESS will work on enhancing incentives by establishing targeted subsidies for households and actors in agroforestry and forestry value chains.

#### ***Activity 2.1.1 Map potential farmers to promote agroforestry and reforestation on their farms for nutritional, economic and environmental benefits***

Mercy Corps and its local partner will map and target smallholder farmers (SHFs), farmer groups, cooperatives, women and youth including in VSLAs, to lay the groundwork for their involvement in reforestation and development of agro-forestry related businesses.

#### ***Activity 2.1.2 Conduct training sessions to enhance farmers groups' capacity for agroforestry and reforestation on their farms***

Training sessions will be conducted to enhance farmers' understanding of agroforestry as a viable business, providing them with skills on planting, maintaining, and harvesting tree crops; on cost analysis, budgeting, managing expenses, and calculating profit margins, and on market access and marketing strategies. The latter will include awareness-raising strategies to influence the attitudes and behaviours of their peers and to attract clients. In these trainings, viable value chains including fruit trees (such as mango, orange, avocado, macadamia, cashew nuts, and guava) and other indigenous tree species assessed during the project inception phase will be targeted. A 'training for trees' approach will be employed, whereby participating farmers will be asked to commit to restoring three acres of degraded land, in return for the training. Combined with the social behaviour change activities under 2.1.5, it is expected that 6,000 acres will be restored under this activity.

#### ***Activity 2.1.3 Establish targeted subsidies to incentivize targeted hhs for agroforestry and reforestation***

To incentivize vulnerable households and small holder farmers from lower socio-economic backgrounds to restore degraded land, a one-time 100% subsidy scheme will be delivered to support restoration of a limited area of community owned land for the most vulnerable communities. This will allow vulnerable community members to purchase trees at zero cost from the project-established satellite hubs. The subsidy mechanism will operate as follows:

- In collaboration with district authorities and communities, the project will develop specific criteria to identify vulnerable households and smallholder farmers. Criteria will include income levels, land ownership status, and socio-economic background.
- Based on restoration needs and available resources, the subsidy will cover 100% of the costs related to agroforestry and reforestation activities, which may include financial support, materials, or services.
- The subsidy scheme will be implemented with clear timelines and responsibilities. A robust monitoring and evaluation framework will track progress and impact, including regular reporting, site visits, and beneficiary feedback mechanisms.
- District authorities, community leaders, and agricultural experts will play key roles in the subsidy mechanism. Their involvement will ensure the development, implementation, and monitoring processes are inclusive and effective.

This co-investment model encourages ownership and commitment from the farmers, ensuring they are personally and financially invested in the success of their agroforestry and reforestation activities. It is estimated that 50 acres will be restored through this activity.

***Activity 2.1.4 Establish targeted subsidies to incentivize targeted agroforestry and forestry value chains actors to engage in reforestation***

Key value chain actors in the agroforestry sector, such as apiary, commercial cereal, fruit farmers and timber producers, will be facilitated to restore degraded land and extend their operations in all the project-targeted implementation areas, through a one-time 50% subsidy scheme. It is estimated that value chain actors will be incentivised to restore 1,700 acres through this activity. This subsidy mechanism will operate following the same model explained above under Activity 2.1.3

***Activity 2.1.5 Run awareness and behavioural change campaigns***

ACCESS will increase communities' understanding of the benefits of reforestation and agroforestry practices through awareness campaigns, which will utilise various media platforms. Farmers running individual nurseries will act as champions to generate interest in growing seedlings for income-generating purposes, and will be supported by ACCESS' local partners that will be in charge of leading these campaigns. This grassroots approach to spreading awareness and promoting behaviour change is effective as it relies on peer influence and social dynamics to drive adoption. Prior to launching the campaigns, Mercy Corps and its local partner will consult with a diverse range of stakeholders, including women, youth, and persons with disabilities (PWDs), to determine the most suitable communication mediums for each specific group, to incorporate their suggestions into the activity implementation. Combined with the agro-forestry training activities under 2.1.2, it is expected that 6,000 acres will be restored under this activity.

***Output 2.2 7,750 acres of land restored and through promotion of agroforestry and reforestation***

This Output focuses on increasing the supply of tree seedlings, through working with value-chain actors in the tree seedling sector to establish satellite nursery sites and wood lots, which will act as retail outlets in ACCESS targeted implementation areas, ensuring adequate supply. In addition, the project will work with government natural resource officers (NROs) to build capacity for sustainable

natural resource management in the area. Below are listed the activities that will be implemented to achieve this Output.

***Activity 2.2.1 Map and profile commercial tree nursery bed operators with substantial scale***

As done in Activity 2.1.1, commercial tree seedling producers interested in expanding their markets will be mapped to ensure that the unlocked demand is met with a supply of the communities' preferred trees.

***Activity 2.2.2 Provide technical assistance (TA) to identified commercial woodlot and tree nursery operators to develop a business model and go-to-market strategy identifying viable customer and market segments***

Technical assistance will be provided by Mercy Corps to support two commercial forestry value chain actors to identify and understand the different market segments that exist within the Acholi sub-region. By segmenting the market, these operators will be able to customise their marketing strategies and messages to effectively reach each segment, maximising their impact and market penetration. The technical assistance will support the operators to adapt their business models to be comprehensive and sustainable, outlining key components of their operations, revenue streams, cost structures, distribution channels, and partnerships to forecast and ensure the financial viability and long-term success of their seedlings initiatives. The TA will also include creating a go-to-market strategy for the operators to define the approach and tactics for entering the market and reaching potential customers while deciding on the appropriate marketing channels, messaging, sales techniques, and distribution methods. With this activity, ACCESS aims to ensure the availability of tree species preferred by farmers through the establishment of satellite hubs for nurseries and woodlots functioning as retail outlets in the various project areas.

***Activity 2.2.3 Map community sites, in collaboration with local authorities, to establish satellite nursery beds, woodlots and retail outlets***

Working with district Natural Resources Officers (NROs), satellite tree seedling nurseries will be established to expand the operations of commercial seedling producers by establishing production and retail outlets in project-targeted areas, thus expanding their reach. In addition to nurseries, woodlots will be established to support commercial woodlots owners to supply sustainable timber and fuel wood to additional areas. This will ensure that high-quality tree seedlings, timber, fuel wood and extension services are readily accessible to local farmers in all the project-targeted districts and will facilitate expanded operations of larger scale forestry value chain operators.

***Activity 2.2.4 Develop and implement financing schemes ( credits, VSLAs) to enhance the affordability of inputs for agroforestry businesses at scale***

This activity focuses on the development and implementation of financing schemes aimed at enhancing the affordability of seedlings for SHFs, institutions and commercial farmers interested in agroforestry and reforestation initiatives. Several financing mechanisms are considered and might be implemented to facilitate access to seedlings and their management (fertilisers, pesticides, herbicides), depending on specific targeting criterias.

- Climate financing: during the project inception phase, the project will start exploring the potential for generating subsidies through climate financing programs to generate revenue that can lower the cost of tree planting activities
- Village Savings and Loan Associations (VSLAs): ACCESS will work with existing VLSAs to promote access to finance to SHFs for seedling purchases and management costs.
- Consumer financing options and seasonal plans: ACCESS will establish partnerships with one FSP to provide tailored financing products to commercial farmers to support the purchase or scale-up of tree nurseries or seedlings growing. The partnership will focus on developing or refining existing financial products that meet the unique needs and circumstances of local farmers.

***Activity 2.2.5 Build capacity at the district level on sustainable resource management (NRM) for natural resources officers (NROs)***

An initial needs assessment for Natural Resources Officers (NROs) at the district level will be led to identify the specific support NROs require to function effectively in their roles. This may include assessing the availability of current resources, the gaps in their capabilities, and the challenges they face in implementing sustainable practices in their districts. Based on the findings of the needs assessment, the activity will outline a strategic plan to address the identified needs, that could involve enhancing their capacity for advocating for budgeting at the district level, or sourcing specific tools and means that can enhance their capacity to contribute to environmental conservation and sustainable development at the district level.

**Component 3: Ensure efficient and effective Project Management and continuous learning and adaptation / Mercy Corps led**

**Outcome 3. Ensure robust learning, knowledge management, and dissemination framework Improved**

ACCESS focuses on ensuring efficient and effective project management as the backbone of successful implementation and on continuous learning, both to respond effectively to potential changing conditions and thereby ensure project success, as well as for knowledge transfer across stakeholders. Under this component Mercy Corps, the local partner and Pesitho will set up a project management and knowledge management structure to ensure lessons learned on Components 1 and 2 throughout the entire project duration.

**Output 3.1 Relevant knowledge products developed and disseminated to key stakeholders**

Under this output the project management unit, in collaboration with Mercy Corps' Technical Support Unit-Energy Access, will consolidate and disseminate the information generated from the project.

***Activity 3.1.1 Set up a consortium project management and knowledge management structure***

Mercy Corps, Pesitho and the local partner will set up a project management unit (PMU) with management representatives of each of the partners dedicated to ensuring project quality, external stakeholders engagement and alignment with agencies and donor requirements.

The ACCESS team will hold internal program review meetings every quarter within the PMU to track progress and document learnings. By convening regular scheduled review sessions, the management

representatives of each of the partners (Mercy Corps, Pesitho and the LNGO) will assess achievements, challenges, and areas for improvement. The documented learnings will serve as valuable resources for informing decision-making and ACCESS adaptation and learning strategy.

ACCESS will develop and implement a learning agenda that identifies key research and learning questions to be addressed through robust M&E and an emphasis on learning from active experimentation. Throughout the implementation, the project team will identify and document key lessons and best practice.

***Activity 3.1.2 Conduct an assessment of the existing policy landscape in refugee hosting areas related to access to energy products and services.***

To address the unique policy challenges facing the vulnerable communities, especially the most vulnerable as women, youth and people with disabilities (PWDs), in accessing energy products and services, ACCESS will carry out a detailed assessment of the existing policies and policy frameworks on energy access, products, and services to identify gaps and solutions to address these gaps.

***Activity 3.1.3 Disseminate evidence-based recommendations for policy reform and implementation to key stakeholders in the reforestation and agroforestry field***

ACCESS will share knowledge products, such as reports, guidelines, best practices, and policy briefs, to key decision-makers, government officials, organisations, farmers, and other stakeholders involved in reforestation and agroforestry initiatives. These knowledge products will help provide research-based suggestions for improving policies and practices related to reforestation and agroforestry with important stakeholders. By disseminating evidence-based recommendations, ACCESS will seek to influence policy reform and implementation processes, foster informed decision-making, and promote sustainable practices in the reforestation and agroforestry sectors.

***Activity 3.1.4 Coordinate national-level energy & environment working group, and organize national policy dialogues***

Under this activity Mercy Corps will actively participate and support the coordination of 18 national-level energy and environment working group coordination meetings amongst the various stakeholders in the energy sector. ACCESS will also organize national-level policy dialogues and engagements with multiple stakeholders on issues affecting access to energy among the communities. ACCESS will regularly attend the national Working Group on Energy and Environment (WorkGrEEEn) meetings to share information, discuss lessons learned and finding as well as opportunities for synergies within Acholi sub-region. In addition, ACCESS will support the Ministry of Energy and Mineral development to convene the annual Renewable Energy conference, energy week and the renewable energy platform will use these as platforms policy influence and building networks energy policy and practice of Ministry of Energy Mineral Development.

***Activity 3.1.5 Produce learning products to advocate toward key stakeholders based on project lessons learned***

ACCESS will identify and document key lessons, success, and failure factors and produce briefs for policy and decision-makers, project developers, funding agencies, and the private sector. Under the

lead of Mercy Corps, the project will identify and document key lessons, successes, and failures and produce 6 briefs for policy and decision-makers, project developers, funding agencies, and the private sector. The project will aim to develop an open-source blueprint for the sector capturing our learnings in supporting the commercial partners to test, pilot, and iterate on promising go-to-market strategies to reach Acholi sub region with alternative solar technologies and to deploy proven approaches at scale.

ACCESS will develop an open-source blueprint for the sector, which will include guidelines, best practices, methodologies, or other resources intended to support the uptake of the ECOCA technology as a revolutionary way of cooking, in alignment with ACCESS learning agenda.

The project will share its lessons learned through at least three national learning events, two regional learning events, and deliver two learning reports per implementing year.

Project learnings, updates and success stories will also be systematically shared through the Livelihoods & Resilience Sector Working group and in the Environment & Energy Technical Working Group, where Mercy Corps actively participates both at national and regional level.

**B. Describe how the project /programme would promote new and innovative solutions to climate change adaptation, such as new approaches, technologies, and mechanisms.**

ECOCA- an off-grid solar-powered electric cookstove developed by Pesitho is an innovative technology that operates on 100% energy tapped from the sun to meet the cooking and lighting needs of households in rural off-grid communities but also in urban communities where cooking with electricity is still expensive and unreliable due to load shedding. Unlike other solar cooking technologies that uses a solar reflective dish or box to heat the cooking pot, the ECOCA technology converts solar to electricity, which is then used for heating food, just like a real electric cooktop house on the grid (using the highly insulated pots that also act as a food flasks) and the USB ports for lighting and charging. The pots also ensure that only the contents are cooked and not the surroundings. The ECOCA is also able to store solar electricity in its in-built battery to allow for cooking after dark or in bad weather. This innovation is the first of its kind, specifically designed in Uganda and for local Ugandan households. It has also been enhanced to meet the cooking and lighting needs of institutions like schools, hospitals, and hotels that prepare meals for larger populations daily. The technology also marries renewable energy with efficiency as it not only cooks faster than the traditional biomass options but also keeps food hot for many hours, thereby reducing the need to consume more energy to warm leftover food as well as time spent warming food. The ECOCA is 90% efficient, compared to traditional stoves which are between 10%-30% efficient.

ACCESS's reforestation and agroforestry project embodies a multi-dimensional approach to climate change adaptation, drawing on diverse perspectives, innovative technologies, and collaborative partnerships to achieve its objectives and create positive impact in the target area. The project's specific objective of restoring degraded landscapes through an ecosystem services approach reflects a forward-thinking strategy that considers the interconnectedness of environmental, social, and economic factors. By focusing on increasing tree cover, enhancing land resilience, and promoting biodiversity, ACCESS aims to not only mitigate climate change but also improve livelihoods. Through partnerships with local stakeholders and the adoption of the MSD approach, ACCESS shapes agroforestry and reforestation as IGAs, through a locally-led and highly sustainable approach that, including PSAs

(commercial tree nursery operators) and FSPs in its implementation, fosters a sustainable economic model that supports both environmental conservation and livelihood improvement. This approach not only empowers local communities but also leverages market mechanisms to drive positive change. Additionally, the project's focus is on developing financing schemes, such as carbon credits, which is an innovative option to enhance the affordability and accessibility of seedlings through generating revenues in carbon markets.

**C. Describe how the project/programme aims to roll out successful innovative adaptation practices, tools, and technologies and/or describe how the project aims to scale up viable innovative adaptation practices, tools, and technologies.**

The ECOCA technological innovation has successfully passed the piloting phase (executed in off-grid refugee settlements since 2019) and is ready to be scaled up in other parts of the country struggling with access to modern clean energy for cooking and lighting. It's envisaged that scaling up the ECOCA innovation at both household and institutional levels will heavily reduce the rampant deforestation and environmental degradation in the project area in search of fuelwood to meet the daily energy cooking needs. Furthermore, during the Piloting phase, the project team learned that the assembly and service technicians gained more knowledge and confidence from continued and bulk interaction with the technology which has been the main point of technology transfer. The same assembly technicians today support and train field service technicians who are deployed to: collect bi-monthly data on ECOCA usage, turn in participant feedback and provide repair and maintenance services at communally known meeting points like the Innovation Centres in Refugee Settlements.

Pesitho intends to find local production options in Uganda for certain components of the ECOCA. The company has already identified a potential producer for steel cabinets, and a potential partner for printed circuit boards (PCBs). This will give Pesitho reduced time to market, and reduced costs on shipping, overall contributing to a lower cost of the ECOCA over time. ECOCA East Africa intends to expand both household and institutional ECOCA supply, repair and maintenance into South Sudan, Tanzania, Kenya, Burundi, Ghana, Nigeria, Ethiopia, Eritrea, Somalia and South Africa. This will not only support adaptation efforts in these countries but will also increase the ECOCA's market base, demand and therefore reduce the price.

**D. Describe how the project provides economic, social, and environmental benefits, with reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project will avoid or mitigate negative impacts, in line with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.**

**Economic benefits:**

From the layout of the project, introducing agroforestry practices to the small holder farmers (including women and youth) in Acholi sub-region specifically Gulu and the neighbouring districts will enhance agricultural productivity and strengthen alternative livelihoods. According to the Uganda national household survey 2019-2020, Acholi sub-region is categorised as one of the subregions faced with seasonal food insecurity calling for more agricultural production in the region. The report also highlighted Acholi sub-region to have the highest proportion of food poor households. The integration of crops, trees and other vegetation contributes to a variety of benefits including improved soil fertility

boosting nutrient availability and promoting healthy crops which results in increased productivity. Agroforestry practices will also allow farmers to diversify their income portfolio by planting a variety of trees such as fruit trees, crops and vegetation within a single landscape which can generate additional income for the community. Women groups and youth groups will be targeted in the business skills development programs for tree nursery establishment recognizing the important role women play in the agricultural sector. With a focus on augmenting tree cover, bolstering land resilience, and fostering biodiversity, the reforestation and agroforestry component of ACCESS endeavours to address not only climate change mitigation but also livelihood enhancement. Employing Mercy Corps' MSD approach, ACCESS reframes agroforestry and reforestation as IGAs, utilising a locally-driven and highly sustainable model. By integrating PSAs (commercial tree nursery operators) and FSPs into its implementation, the project cultivates a sustainable economic framework that concurrently supports environmental preservation and livelihood advancement. This strategy not only empowers local communities but also harnesses market dynamics to catalyse positive transformation.

Additionally, the ECOCA solar cook stoves will provide economic benefits by directly contributing to the incomes of the community members. In addition to cooking, the ECOCA has been shown to also improve household income and well-being as customers have set up small phone charging businesses and the lighting bulbs and torches have improved their safety and supported school-going children doing their homework and revisions. The ECOCA has the capacity to charge over 10 phones daily at a rate of \$0.14 per charge, amounting to \$40 monthly. 97.6% of the respondents interviewed during endline evaluation confirmed that the cookstove is timesaving (reduced average time spent on cooking from 3.1 hours to 1 hour) and 71.5% found it more convenient than other traditional biomass-based sources of cooking fuel meaning the time saved can be deployed by people charged with cooking responsibilities to carry out other income generating activities. The production centre in the Bidi Bidi settlement is positioned within the community and it has provided employment opportunities for willing and trainable youth from both the refugees and host communities. This similar setting will benefit the Gulu community that will host the centre as they will have the opportunity to supplement their income by working as technicians, trackers, and cooking advisors across the project area as there is already evidence that trained technicians to go the extra mile with the same set of knowledge to support the community by repairing other electronics including radios and basic phones. The project will employ about 15-20 staff in Gulu.

### **Social benefits:**

The project offers direct social benefits through combining agroforestry practices and access to alternative cooking energy technologies including;

- **Improved food security:** Agroforestry practices will play a major role in improving food security in the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo) through improving resilience of food production systems against impacts of climate change ensuring that the communities have access to enough food throughout the year.
- **Social cohesion and Increased awareness and knowledge:** Through the capacity building activities, the project will empower vulnerable community members, including women and marginalised groups such as people with disabilities and youth, on climate resilience technologies and practices towards enhancing the resilience of their livelihoods. Youth and



women will be fully engaged in the process with a participation target of 30% and 50%. Agroforestry activities will also stimulate socio-cultural activity among the targeted beneficiaries. Farmers for instance will have opportunities to meet with each other and discuss the cultivation method, choice of tree species or crop varieties, fertiliser management and so on. By doing this, the community becomes more engaged and knowledgeable through peer-to-peer discussion and community participation.

- **Reduced protection risks:** Globally, women conduct 91% of the work to obtain fuel and cook, while women and children account for over 60% of all premature deaths from household air pollution. The risks extend to spinal, nerve, and muscle damage while cooking, as well as the risk of rape, abuse, injury, animal attacks, and communal conflict while collecting wood. In Uganda, women and girls can spend up to 19 hours a week on fuel collection and four hours a day cooking over traditional stoves — effectively keeping them from higher-value, income-generating activities and perpetuating gender inequality and economic poverty. By switching to ECOCA, women and girls will gain 19 hours/week that can be used for productive and social activities such as school work and agroforestry activities that helps them to add additional income through sale of tree and crop products, while also improving community peace and cohesion.
- **Improved indoor air quality:** The household survey report shows that 43% of households in Acholi sub-region cook from inside their houses with no specific room set as the kitchen exposing household members to the risk of respiratory infections and other diseases. By fostering the switch from three-stone open fires to ECOCA, a smoke-free option drastically reduces smoke exposure to PM2.5 and other toxic elements. There have been cases of some males or those that are less charged with cooking responsibilities supporting cooking using ECOCA stoves since it is clean and easy to deploy for cooking and generally user friendly. Overall, issues and proposed actions have been captured and incorporated in the design of the project to ensure equitable participation in the project activities and access to project benefits by all groups including men, women, and elders.

#### **Environmental benefits:**

This projects aims at conserving, restoring degraded areas and promoting climate resilient technologies which can deliver numerous environmental benefits including:

- **Improved Ecosystem service:** Agroforestry poses several ecological-based practices that can potentially improve the ecosystem service for the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo) and increase community resilience in the changing climate. These practices include crop diversification (crop-tree integration), crop rotation, soil conservation (cover crop integration), improved fallows and boundary planting. The cultivation of different tree species in agroforestry systems also improves biodiversity providing a habitat for wildlife. In addition, trees can also prevent soil erosion and landslides (in the higher slopes) due to the strong rooting system around the soil matrix. The presence of trees in agroforestry systems can also change microclimatic conditions through shading which might reduce the sun radiation buffering the temperature around the farm.

- **Reduction in deforestation:** The project is intended to benefit the environment by guarding against biomass fuels used for cooking and reducing Uganda's carbon footprint (Ministry of Water and Environment projects an increase from 90.1MtCO<sub>2</sub>e in 2015 to 148.8MtCO<sub>2</sub>e by 2030), deforestation, and creating an opportunity for forest regeneration across the project area. By switching from traditional three-stone open fires to ECOCA removes the pressure on local forests which in turn are supported by intentional, and more permanent regrowth of woodland. In terms of charcoal, estimates range from 5 to 10 tons of wood to produce just one ton of charcoal depending on the type of kiln used. As part of Uganda's Nationally Determined Contribution, a key sector is Agriculture, Forestry, and Other Land Use (AFOLU) - which is one of the main contributions to Uganda's emissions, including deforestation for energy use. The Government of Uganda is committed to halting deforestation and reversing forest loss by 2030. It is estimated that through the proposed project, 9800t CO<sub>2</sub>eq emissions will be avoided, and annually 7350t CO<sub>2</sub>eq beyond the project (not counting the additional market potential and health benefits generated). By increasing the number of trees, ACCESS reforestation component will enhance carbon sequestration, effectively removing carbon dioxide from the atmosphere and mitigating its contribution to air pollution and climate change.
- **Electronic waste disposal:** Aware that electronic waste is highly dangerous for our environment, Mercy Corps and Pesitho will sensitise the cookstove users to return worn-out parts to the assembly centre for repair and reuse or safe disposal for those parts that cannot be brought back to their useful life. On the other hand, Mercy Corps is currently piloting used lithium battery repair and packing with an American-based firm ACELERON, a collaboration that can be leveraged to help clean the project area of e-waste in addition to repair opportunities for worn-out batteries. Furthermore, Mercy Corps entered a partnership with IOM (International Organization for Migration) to implement the Innovation Norway-funded E-waste Project: Greening Humanitarian Responses through Recovery, Repair and Recycling of Solar Products in Displacement Settings. The projects aim to identify solutions that reduce and manage E-waste from solar lanterns and solar home systems and their accessories that have been distributed in displacement settings through community sensitization activities around e-waste, the establishment of a repair and maintenance service centre and a system for safe disposal of e-waste and a close collaboration with ACELERON.

**E. Describe or provide an analysis of the cost-effectiveness of the proposed project / programme.**

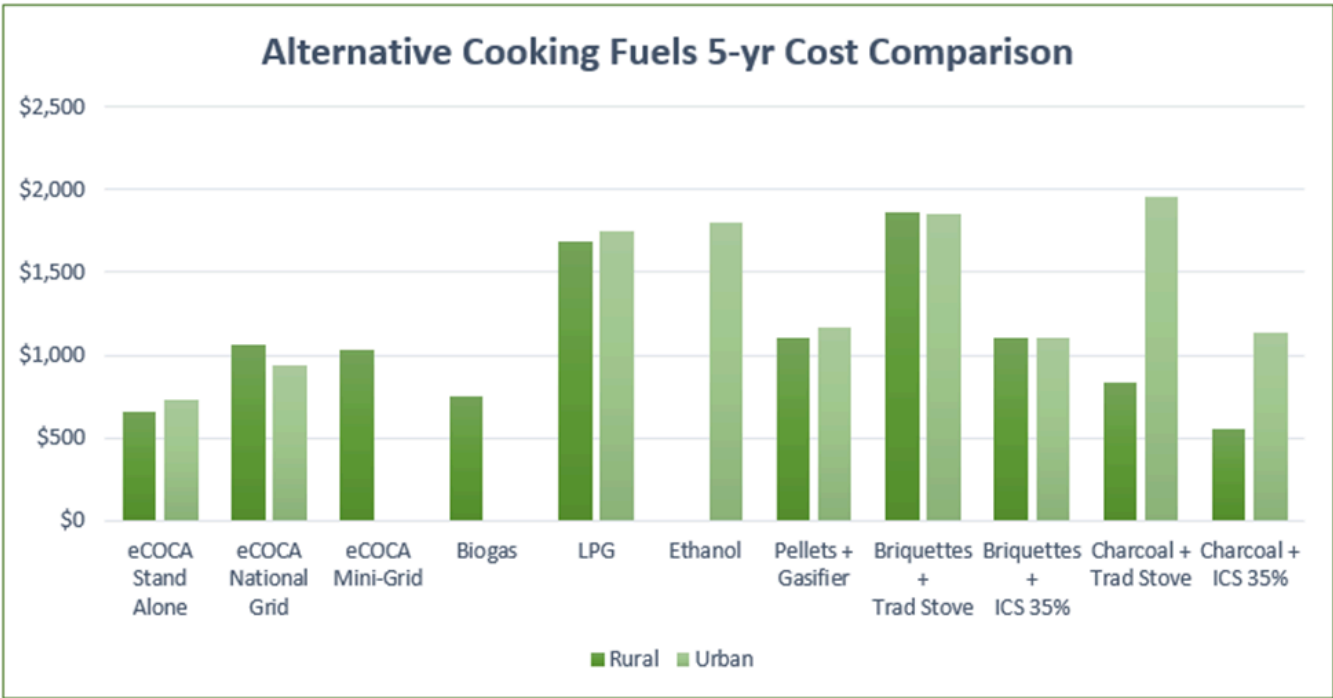
The benefits of solar electric cooking primarily stem from the long-term savings in fuel costs compared to traditional cooking fuels like firewood, charcoal, or LPG, which have shown above-inflation price trends in Uganda.

The initial investment (CAPEX) for solar e-cooking solutions is often higher than that of carbon-intensive alternatives. A battery-supported solar electric unit typically costs more than 500 USD, significantly more than traditional biomass ICS technologies (average 18 USD) or LPG starter kits (approximately 70 USD in Uganda). However, solar e-cooking has zero operational costs (OPEX),

making it very cost competitive when compared to the ongoing fuel costs for firewood or charcoal, which average around 290 USD per year per household (when purchased, not collected).<sup>22</sup>

While it may be possible to use electric cooking for all food, it is assumed that people will continue to use other fuels in accordance with their preferences. Charcoal is the preferred and most easily available fuel in Uganda for many cooking applications. We therefore apply a ratio of 80% of energy needs met by alternative fuels and 20% through the use of charcoal for this comparative analysis. Briquettes are assumed to replace 100% of charcoal use as they are used as a direct replacement of charcoal in charcoal stoves.

**Comparison of costs across multiple cooking options without subsidies and using existing cooking practices. (\*eCOCA, Biogas, LPG, Ethanol and Pellets include for 20% charcoal use)**



Comparison of the ECOCA to other alternative energy Cooking Technologies in Uganda

<sup>22</sup> GACC, 2017. Comparative Analysis of Fuels for Cooking. Lifecycle Environmental Impacts and Economic and Social Considerations

## WHAT ARE THE OTHER PRODUCTS ON THE MARKET?

### URBAN COOKING ALTERNATIVES - 5-YR COST COMPARISON

FUEL OPTION	TOTAL 5-YR COSTS	% COST COMPARISON WITH CHARCOAL
<b>ECOCA Solar Electric Cookstove</b>	<b>\$726</b>	<b>64%</b>
Ethanol Gas Stove	\$1800	158%
LPG Gas Stove	\$1749	154%
Pellets + Fan Gasifier	\$1169	103%
Briquettes + Traditional Stove	\$1849	163%
Briquettes + ICS 35%	\$1103	97%
Charcoal + Traditional Stove	\$1955	172%
Charcoal + ICS 35%	\$1136	100%

*\*ECOCA, ethanol and LPG include 20% charcoal costs using ICS*

The fuel options listed above are the cooking alternatives that are used in the urban areas of Uganda.

"Charcoal+ICS 35%", "ICS" being an improved cookstove, and "charcoal" being its fuel, is used as index as it is the most common cooking alternative used in the urban areas in Uganda.

Both briquettes (compressed charcoal) and charcoal used with ICS have less expenditures than utilizing them as fuel to a traditional stove.

Using pellets (biofuel made from compressed organic matter) as fuel to the fan gasifier is less expensive than the usage of the traditional stove.

The most expensive fuel options are "Ethanol Gas Stove" and "LPG Gas Stove". As they both utilize gas in order to function, their prices are much higher than any other alternative.

**Because the ECOCA Solar Cookstove is electric and runs with solar energy, its costs are exceptionally lower than all the other cooking alternatives. Its cost comparison is 36% lower than the index (charcoal+ICS) and the total cost within 5 years is only \$726.**

### RURAL COOKING ALTERNATIVES - 5-YR COST COMPARISON

FUEL OPTION	TOTAL 5-YR COSTS	% COST COMPARISON WITH CHARCOAL
<b>ECOCA Solar Electric Cookstove</b>	<b>\$663</b>	<b>79%</b>
Ethanol Gas Stove	\$751	90%
LPG Gas Stove	\$1687	202%
Pellets + Fan Gasifier	\$1107	132%
Briquettes + Traditional Stove	\$1864	223%
Briquettes + ICS 35%	\$1103	132%
Charcoal + Traditional Stove	\$837	100%
Charcoal + ICS 35%	\$554	66%

*\*ECOCA, ethanol and LPG include 20% charcoal costs using ICS*

The fuel options listed above are the cooking alternatives that are used in the rural areas of Uganda.

"Charcoal+Traditional Stove" is used as index as it is the most common cooking alternative used in the rural areas in Uganda.

Charcoal used with ICS and the traditional stove is less expensive than the usage of briquettes (compressed charcoal) as a fuel to traditional stove and ICS.

In rural areas of Uganda, the LPG gas stove and the pellets (biofuel made from compressed organic matter) as fuel to the fan gasifier are still an expensive fuel option as it is not common and affordable to many.

**In rural areas of Uganda, the cost of the ECOCA throughout a period of 5 years, is \$663. The ECOCA, differently from all the other fuels in the market, doesn't only deliver a healthy, save and clean way of cooking, but also electricity. The ECOCA can be used to charge different appliances, and saves time when cooking**

When the initial cost is paid upfront, switching from biomass cooking to an off-grid solar e-cooking system would pay off within two years. Even in displacement settings, an affordability analysis shows the financial viability of e-cooking solutions based on current techno-economic performance.

In addition to clear direct financial fuel cost savings, there are a range of non-financial externalities that can be monetized to support the economic case for e-cooking. These include time savings of approx. 800 hours per year from avoided fuel acquisition and preparation (time spent collecting firewood, lighting and waiting for fires to burn) and major health benefits from improved indoor air quality which can account for 1000s of USD per year.

**F. Describe how the project / programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist. If applicable, please refer to relevant regional plans and strategies where they exist.**

The project is expected to contribute to the various relevant national policies; including the [Uganda Vision 2040](#) whose goal is to transform Uganda from a predominantly low-income country to a competitive upper middle-income status country by 2040. It provides the overall leadership and policy direction for job creation and priority setting. The Uganda Vision 2040 sets out the country's commitment to efforts to attain a green and clean environment. The project contributes to the [Kyoto Protocol](#) an international treaty that extended the 1992 United Nations Framework Convention on Climate Change (UNFCCC) that commits state parties like Uganda to reduce greenhouse gas emissions, based on the scientific consensus that 1) global warming is occurring and 2) that human-made CO2 emissions is driving it. The project strives to contribute to Uganda's Vision 2040 and the Kyoto Protocol, by creating clean and green jobs for the youths of Uganda and at the same time reducing carbon emissions through the operationalization of the vertical shaft brick kiln technology. The project contributes to [Social Development Goals \(SDGs\)](#) specifically SDGs 1, 13, 15, and 17<sup>23</sup> which aim at eliminating poverty, climate action life, and land, and promoting partnerships for developing the knowledge base and effective capacity development, Environment, and social policies which the projects allude to. The project is in line with the [Climate Change Policy \(NCCP\) 2015](#).

Uganda's National Adaptation Plan for Agricultural sector (NAP-Ag) highlights the negative impacts of climate change on agricultural production and calls for adaptation measures that can boost both cash and food crops, especially building capacity of smallholder farmers to increase yields, and better understanding the impact of temperature rise and rainfall variability on key crops. The plan has specific targets on promoting conservation agriculture practices such as agroforestry and sustainable land management and promoting sustainable forestry, land use and water management that enhances the resilience of agriculture and agrarian communities to a changing climate through clean energy technologies to improve livelihoods and the environment. This proposed project contributes towards achieving these plans.

Furthermore, Uganda is developing a National Agricultural Policy (NAP), with a major focus on food security, increased household incomes, improved value chains, increased domestic and international

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<sup>23</sup> <https://pesitho.com/sustainability-2/>

trade, and improved sustainable natural resource management. Some of the proposed NAP-specific goals revolve around "Promoting and encouraging efficient biomass energy production and utilisation technologies to reduce biomass consumption" and "Diversify energy sources by promoting the use of alternative renewable energy sources (such as solar, biomass, mini-hydro, geothermal, and wind) that are less sensitive to climate change. Promote energy-efficient firewood cook stoves and solar and liquefied petroleum gas (LPG) Cookers." Therefore, this project aims to contribute to potential NAP sectors in Forestry and Energy by ensuring that (1) deforestation is reduced; and (2) consistent access to efficient cooking is achieved through solar technologies and reduces reliance on an already depleting natural resource due to both climatic and human pressure.

The project contributes to Uganda's Updated Nationally Determined Contribution (NDC). The country recognizes that climate change is one of the greatest challenges facing humanity. The overarching policy objective is to ensure that all stakeholders address climate change impacts and their causes through appropriate measures while promoting sustainable development. The updated NDC emphasises the need to increase access to clean cooking as one of the key adaptation priorities towards building a climate resilient energy country. The NDC has set clear targets of increasing access to clean cooking technologies from 15% baseline to 65% by 2030. This project contributes to the achievement of the adaptation targets through promoting use of ECOCA cook stoves which will help communities to reduce reliance on biomass for cooking and build their adaptive capacity towards the impacts of climate change.

[The National Environment Management Policy 1995](#) sets out the overall policy goals, objectives, and principles for environmental management in Uganda. Its overall goal is sustainable social and economic development, which maintains and enhances environmental quality and resource productivity to meet the needs of present generations without compromising the ability of future generations to meet their own needs. It recognizes that Uganda faces several environmental issues including soil degradation, deforestation, loss of biodiversity, increasing pollution, and environmentally related diseases. These problems are compounded by poverty, low amounts of environmental awareness, and low levels of technology. The policy recognizes climate as a vital natural resource that needs to be monitored to better direct land use, encourage sustainable economic development, manage air pollution and GHG emissions in future programs; and accelerate project financing for NDC implementation. All project components 1, 2, and 3 are in line with the objectives of this overarching policy. The key issues addressed by [The National Forest Policy 2001](#) include maintenance and enhancement of the Permanent Forest Estate, improve the management of forest resources on private and customary land, addressing the underlying causes of deforestation, including lack of policy support, market failure, weak regulation, and rural poverty, capitalise on the economic, social and environmental opportunities in forestry without undermining the resource base, ensure the survival of forest biodiversity and to balance this with the pressing development needs of the country, how to rehabilitate and conserve key watershed forests, how to promote and maintain the greening of the urban environment, as well as ensuring improved tenure to land and trees that act as an incentive for individuals, and women in particular, and communities to invest in forestry among others. Forestry plays a very important role in enhancing the resilience of ecosystems and some of the activities under component 2 are confirmed to be in line with this policy.



The project is gender-sensitive, as it emphasises and recognizes "gender" as a development concept useful in identifying and understanding the social roles and relations of women and men of all ages, and how this impacts development. This applies to all three project components and efforts shall be made to ensure that all categories of people benefit from the project without discrimination. In this regard, the [Uganda National Gender Policy 2007](#) is an integral part of the national development policies and is a framework for redressing gender imbalances as well as a guide to all development practitioners.

[The National Environment \(Noise Standards and Control\) Regulations, 2003](#). Section 7 of these regulations requires that no person shall emit noise above permissible noise levels unless permitted by a licence issued under these Regulations. Section 8 imparts responsibility onto project developers to use the best practicable means to ensure that noise does not exceed permissible noise levels. This applies to sub-projects under components 1 and 3 that are confirmed to contribute to this specific regulation. Finally, enhancing the use of ECOCA and raising awareness on the effects of charcoal exploitation and trees cutting, ACCESS aligns with the GoU's ban on the sale and use of charcoal and firewood in urban areas, implemented to mitigate deforestation and indoor air pollution, supporting its compliance.

**G. Describe how the project / programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.**

All products imported into the country must meet either local or international standards to protect the health and safety of the public and the environment against dangerous and sub-standard products. Currently, Uganda has not yet developed standards for e-cooking appliances, but such products must adhere to internationally recognized standards of their category. The ECOCA and all its components meet the ISO standards and conform to the entire Pre-Export Verification of Conformity (PVoC) process mandated by UNBS before importing into the country as well as the [Imports Inspection and Clearance Scheme](#)

**H. Describe if there is duplication of project / programme with other funding sources, if any.**

The project largely seeks to build on and complement existing and past programmes of work being undertaken by government agencies, public entities, NGO and other relevant stakeholders by bringing a stronger focus on building climate resilience. Ongoing environmental interventions that have a complimentary effect on the project will be highlighted during the project design. Continuous review of the ongoing projects will be done to eliminate the possibility of duplication and capitalise on lesson learning and possible upscaling of successful interventions. Below are some of the past and ongoing programmes aligned to this proposed project;

1. The Project for Restoration of Livelihoods in the Northern Region (PRELNOR) implemented by IFAD 2014-2023. The project aimed to increase sustainable production, productivity and climate resilience of smallholder farmers and increased and profitable access to domestic and export markets. The project key outcomes included better natural resources and sustainable land management and promoted adoption of Renewable Energy Technologies (RET). The project successfully distributed 4000 cookstoves to vulnerable households and 35 solar PV systems

were installed in public institutions. RETs interventions are said to have reduced firewood consumption evidenced by reduction in beneficiary institutions' expenses on firewood (up to 67%). Other benefits highlighted included; less smoke produced; better kitchens with a clean cooking environment; less heat to users; reduced cooking time; reduced respiratory diseases; and food kept warm by the cook stoves. Schools that benefitted from solar systems reported improved grades and class attendance by pupils; and increased reading time by the learners. Further, the project recommendations included the need to integrate additional renewable energy technologies that could help reduce energy consumption and dependence on charcoal and firewood. This proposed project will build upon the successes of this project.

2. Powering the Uptake of Climate Change Mitigating Pumps (Pump-Up), the ongoing DANIDA-funded project implemented by Mercy Corps seeks to enable 2,300 farmers in Northern Uganda (Yumbe and Gulu districts), including women, youth, and refugee farming communities to build resilient livelihoods and to adapt to the negative impacts of climate change by developing the market for solar water pumps (SWPs), coupled with training in Climate Smart Agriculture(CSA) and Integrated Water Resource Management. The agroforestry component of the proposed project will complement the climate smart agriculture practices and leverage on the water resource management approaches to increase the success of the project.
3. Promoting Rural Development in Northern Uganda (PRUDEV II) project implemented by GIZ in partnership with the District local government which seeks to increase income and employment through sustainable use of natural resources and aimed at strengthening the resilience of agricultural and food systems while promoting agriculture-based growth and increasing value addition.
4. Promotion of Renewable Energy and Energy Efficiency (PREEEP) supports the Ministry of Energy and Mineral Development (MEMD) in implementing strategies that increase access to renewable energy and energy efficient technologies. Improving the framework conditions for increased access to clean energy in rural and peri-urban areas.

#### **Lessons learned from previous projects:**

The Journey to Scale project was a 20-month project funded by ELRHA (Enhanced Learning and Research for Humanitarian Assistance) aimed at promoting ECOCA. Mercy Corps worked with Pesitho to 1) strengthen their supply chain and distribution networks, improve product pricing, and increase uptake of products via pay-as-you-cook (PAYC) modalities, and 2) develop a sustainable business model that will provide affordable access to the ECOCA for refugees. Pesitho and Mercy Corps set up the ECOCA assembly line facility in Yumbe, creating 15 full-time jobs; 94% of clients report high satisfaction with a reduced cooking time. Pesitho has currently distributed 1,200 units in and around the Bidi Bidi settlement, however affordability of the products by the refugees and the host communities remains a major challenge.

Below are key lessons learned from the pilot project that were used to inform the design of the ACCESS project:



**Increasing Access through Establishment of a local production centre and Awareness messages;** The pilot project successfully established two distribution hubs in the Bidi Bidi settlement thus cutting down the distance between the clients and the assembly centre where actual production takes place. This ensured a steady supply of the ECOCA resulting in increased uptake of cookstove-related goods and services. The knowledge and awareness of community members around the benefits of alternative clean cooking have also improved; with most community members becoming e-cooking champions and change agents.

**Affordability:** A design study conducted at the onset of the project showed that 97% of the respondents expressed willingness to acquire the solar-powered cookstove. Mercy Corps and Pesitho met this demand through the successful sale of 221 ECOCA units - out of which 23 were PAYGo systems. The team has undergone an informative learning journey on clean cooking-related carbon financing, which is a key component of the financial model of Pesitho. Through carbon financing, Pesitho can scale up its outreach by increasing access to pre-financing for sales and distribution of ECOCA. While Pesitho had already absorbed the costs for project development and verification methodology under UNFCCC that will in turn result in lower costs for the end-users, Pesitho and EEA are also part of the discussion on the much-needed revision of carbon credit calculation for electric cookers and a fair balance between all cookstove technologies, to reflect realistic carbon emission reduction. Carbon credit remains an area of interest for Pesitho and EEA as this scheme is strategic for the users both at the household and institutional level through lowering the cost of acquiring the cookstoves and attracting debt investors to the sector increasing Pesitho and EEA's production capacity. Creating premium carbon credits remains a lever for Pesitho to lower the price of the ECOCA, to make it even more affordable for bottom-of-the-pyramid households. A premium credit is one with both environmental and social attributes. Credits from the ECOCA will contribute to several Sustainable Development Goals (SDGs), such as 1- no poverty, 2- zero hunger, 3 - good health and well-being, 4 - education, 7 - affordable and clean energy, and many more. Pesitho and EEA are also concluding a Memorandum of Understanding with Equity Bank Uganda Limited through its 'Equi Green Loan' so the bank can provide end-user financing thereby reducing the potential burden of the initial deposit on the ECOCA for lower-income households.

**Sustainability:** The project showed the importance of localising production and building local capacity for production, distribution, repair, and maintenance systems to ensure lean operation, local ownership, and sustainability. As such, Mercy Corps in collaboration with Pesitho established a network of 15 young retailers (three women) - all below 35 years of age - across the project area and trained them as technicians, marketers, and data collectors. The project also assembled the retailers into cooperatives that deal in climate-smart products to ensure that relevant products continue to be sold and marketed during and after the project. Furthermore, Pesitho established ECOCA EEA Limited, a local Ugandan Company (a subsidiary of Pesitho) to oversee local Ugandan production of ECOCA's, the retailer network, and provide technical advisory for on-site customers and stakeholders including debts management of the PayGo system. EEA will continue to maintain and monitor the solar cookstoves after the project ends.

**I. Describe the learning and knowledge management component to capture and disseminate lessons learned.**

The learning and knowledge management of this project falls under Component 3 (Ensure robust learning, knowledge management, and dissemination framework) and will be managed closely by ACCESS Program Managers from Mercy Corps, Pesitho, and EEA, dedicated MEL Officer, and Program Communication Assistant with the support of the Country MEL Manager. The learning and knowledge management side of this component focuses on:

**Continuous Monitoring:** Monitoring activities will feed into an iterative process to continually improve the project activities through real-time analysis of data and the production of relevant reports. ACCESS will begin with analysing existing Market Assessment, Willingness to Pay assessment, and Market Segmentation analysis reports that Mercy Corps has been leading in the Acholi sub region. The findings of which will add to the vulnerability criteria used for the selection of project participants and will be followed by a Baseline and Mapping Assessment. Throughout the project, routine data collection will take place monthly to track progress towards our indicators through surveys, FDGs, KII, and spot checks among others. ACCESS will also conduct Midline and Endline Assessments to check progress towards outcomes and the extent of the intervention in reaching the overall goal. The data and information from the midline and endline are important for learning and that will feed into improving programming.

Furthermore, a Community Accountability Reporting Mechanism (CARM) has been developed in Uganda as part of Mercy Corps' global initiative to prevent exploitation and abuse. CARM provides a channel for all community members to provide feedback, suggestions, complaints, and concerns, in a manner that is safe, confidential, transparent, and accessible, enabling Mercy Corps to make adaptations to program activities and/or address any safeguarding concerns. The proposed project will collect feedback through a toll-free number, WhatsApp, and email and by setting in place a context-appropriate structure (e.g., community ambassadors, etc.). The feedback will then be safely stored in a centralised database for further analysis and closure of the feedback loop. For any feedback - positive or negative - related to the implemented activities the program team and CARM focal point will meet monthly to address the issue and make necessary programmatic adaptations to make sure that the project remains responsive to the community needs. These observations will constitute an essential part of the lessons learned during program implementation.

**Learning and Adapting:** This will involve a process of systematically documenting all aspects of the project implementation through a well-articulated Knowledge Management Strategy and Learning Plan that will be revisited quarterly to ensure that the strategy remains relevant to the project objectives and evolving context. Learning questions and learning agenda will be established to guide the documentation of evidence and products /materials to be utilised for learning. The project will operationalize monthly meetings and quarterly review sessions with its PMU that will capture lessons learned to be shared with key partners and stakeholders (to be identified in the project inception phase, when finalising the learning agenda) through three national learning events, two regional learning events and seven learning reports (2 per implementation year). This will foster broader knowledge sharing and adaptive management. The program will ensure documentation of best practices, lessons (learning products), and development of policy briefs and publications in partnership with research institutions or industry groups. Mercy Corps will use its existing network of contacts to disseminate knowledge. Mercy Corps sits on the steering committee of the [Global Plan of Action for Sustainable Energy in Situations of Displacement](#); is part of the Action Group of the [Smart Communities Coalition](#),

and co-chairs the [Safe Access to Fuel and Energy](#) working group. Results and lessons learned from this partnership will be shared across these platforms and including the Clean Cooking Alliance, Uganda Clean Cooking Alliance, and Ministry of Energy and Environment as we work to create stronger communities of practice across the clean cooking sector. Mercy Corps' Energy and Climate Technical Support Unit will provide support for program implementation excellence in addition to the development and dissemination of learning materials. The dissemination will take the form of online and/or in-person workshops. At project closure, ACCESS will develop a comprehensive Endline and Learning report.

**J. Describe the consultative process, including the list of stakeholders consulted, undertaken during project / programme preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy of the Adaptation Fund.**

To develop this project, multiple consultations were made with the Ministry of Energy and Mineral Development (MEMD) responsible for the implementation and coordination of all energy related activities in Uganda and the Ministry of Water and Environment (MoWE) as the key national authority overseeing the implementation of climate change initiatives and the NDC. The recommendations and suggestions from the two ministries was used to design this project in line with the government priorities on building a climate resilient energy sector and improving ecosystem resilience towards addressing climate change

Consultations were done at the district level through a one day refinement workshop. The main purpose of the workshop was to obtain the inputs and contributions of the district level stakeholders in terms of overall design and relevance of interventions in line with the district plans. In addition, the consultation was aimed at ensuring and facilitating alignment, alliance and compliance with national and local policies, rules, regulations as well as ongoing programmes and projects in line with the AF's. In principle, the selection of stakeholders was guided by the activity of mapping stakeholders in the climate change, and agricultural sector. Mercy Corps in collaboration with the government led the identification of key stakeholders involved in these sectors including technical government representatives and communities representatives; The consultation proceeded as follows:

30 participants (19 men and 11 women) attended the consultation workshop including technical staff from environment, forestry and agricultural departments from Gulu and the neighbouring districts (of Omoro and Nwoya), farmer cooperatives and CSOs involved in environmental conservation. A detailed presentation of the project idea was done, including demonstrations on the ECOCA technology. The participants deliberated and discussed the intervention framework. The participants appreciated the proposed project and confirmed that the project aligns with the district's plans.

Participants were then split into groups to discuss different aspects of the project. This was followed by plenary discussions where all the participants were given the opportunity to provide feedback. Participants in the discussion provided several key recommendations for the project. These included the importance of involving the government in the selection of institutions to be included in the project, particularly schools and tertiary institutions. It was also suggested that beneficiaries should encompass both rural and urban populations, with a focus on rural communities due to their involvement in charcoal

production, a significant factor in deforestation. Notably, urban populations were identified as key consumers of charcoal, suggesting a high willingness to pay for alternative technologies. Sensitization efforts were deemed necessary not only for promoting the new technology but also for encouraging tree planting activities to replace lost trees. To facilitate adoption, financing plans should allow for seasonal payments and consider incorporating insurance into the model. Women were highlighted as important targets for the project, given their direct involvement as users. The selection of geographies for intervention, particularly degraded land, should involve a catchment system and consultation with the government. It was recommended to ensure that local farmers benefit from carbon credits as an incentive for tree planting. Moreover, government involvement in the identification of tree species was deemed essential. Collaboration with Financial Service Providers (FSPs), Savings and Credit Cooperative Organizations (SACCOs), and Village Savings and Loan Associations (VSLAs) for access to finance was also encouraged. Lastly, behaviour change activities were underscored as critical, considering the prevalent dependency on traditional practices.

Three women's groups in Gulu district were consulted to understand their cooking needs and challenges. 24 women of varying ages participated in the consultation. They were asked about their cooking methods, the type of fuel they use, the accessibility of the fuel type, its cost, and their willingness to transition to alternative cooking sources. The feedback revealed a strong willingness among the women to shift to solar electric cookers. They expressed that they spend over 5 hours a day collecting firewood and indicated that with a flexible payment method, they could commit to paying for the ECOCA technology. Currently, the women confirmed that they spend an average of 80,000 UGX (USD 21), which they find costly. They also reported being responsible for paying for energy at household level.

Further detailed consultations will be done at the inception targeting direct and indirect beneficiaries on the ground within the selected geographical areas to provide views on impacts of climate change on their livelihoods and proposed solutions for adaptation.

**K. Describe how the project/programme draws on multiple perspectives on innovation from e.g., communities that are vulnerable to climate change, research organisations, or other partners in the innovation space, in the context in which the project/programme would take place**

The project actively incorporates diverse viewpoints on ECOCA innovation, drawing from various stakeholders including communities vulnerable to climate change, research organisations, and other partners within the innovation sphere. For instance, engagement with communities during the consultations enabled the project to identify local needs, challenges, and opportunities, ensuring that solutions are tailored to address specific circumstances and realities on the ground.

Desk research done by other organisations contributed valuable insights, data, and expertise, enriching the project with evidence-based approaches and best practices on electric cooking. By incorporating multiple perspectives on innovation, the project benefits from a holistic and inclusive approach, driving meaningful and sustainable change within its target context.

**L. Provide justification for funding requested, focusing on the full cost of adaptation reasoning**

The proposed project activities comply with the full cost of adaptation reasoning because the costs proposed are interpreted as “the costs associated with implementing concrete adaptation activities that address the adverse effects of climate change,” as specified in the OPG main text. This states that in the OPG Annex 5 “the proposal should demonstrate that the project/program activities are relevant in addressing its adaptation objectives and that, taken solely, without additional funding from other donors, they will help achieve these objectives.

**Component 1: Reduce deforestation linked to biomass fuel collection and usage for cooking in the program area through establishing a market for climate-resilient, gender-inclusive, and financially-sustainable technologies | \$ 3,265,581** The budget includes:

- Behaviour changes communication activities (radio talk shows, jingles, etc.) costs including but not limited to IEC material (flyers, banners, t-shirts, etc.), procurement of mobility equipment (tri-cycle, motorcycle, and bicycles, etc.) to support movement and delivery of solar units and services within the project area, onboarding cost and stipend for last mile distribution agents.
- Costs related to creating access to alternative energy for cooking with the ECOCA for an estimated 53,000 individuals (8,000 HHs and 5 schools). people. The ECOCA comes in four versions with different price tags in the range of \$520 to \$850 including PAYGo option. The average price will be known after the clients have made their purchase. In the event clients choose ECOCA variations that are less than \$700 (estimated average), the project will be able to reach more than 5000 people in the first year of the project, and more than 10,000 people in the second year. After 10 years, at least 500,000 people are predicted to be in a household with an ECOCA, as a direct effect of this funding, and the project established.
- Costs related to the Installation of Pesitho ECOCA for five schools' institutional kitchens. The school kitchens are estimated to accommodate 500 students per school. When we select the schools and design the final solutions, the price will vary per school, but we will at minimum be able to provide school kitchens for at least 2500 students. The institutional ECOCA version is now on the open market and can be tailored to serve other institutions like hospitals, restaurants, barracks, etc.. Pesitho can design institutional kitchens serving 100-6000 people on a daily feeding program and can also customise the energy needs of an institution by cooking 1-3 meals a day. Besides cooking, these institutional ECOCA's can also be designed to provide lighting to the institution's building(s) or premises.
- Costs related to building local production facilities and networks for retail, including service and maintenance. Women and youth are trained and employed giving opportunities for strengthened household economics. Employment creates better opportunities for resilience and resistance to climate change. The costs also covers training
- The overall budget for this outcome includes training local youth to become technicians and salespeople for the repair and maintenance of cooking stoves and maintaining and training personnel for the local production facility.

- It also includes costs related to onboarding a local financial institution to develop pro-poor financial products including offering tailored financial literacy training (to savings groups - Village Savings and Loans Associations (VSLAs), SACCOs, and or farmers organizations), learning visits to select and organize groups and project participants and associated training cost including that of an external facilitator/s. The overall budget for this outcome includes costs related to the formation and formalisation of business groups such as the assembly centre, and cooperatives, and their strengthening activities including but not limited to training and meeting costs, procurement of consultants to produce and make available learning video and audio to promote learning and adaptation including awareness creation in line with the new clean cooking innovation. Cost for subsistence allowance for technicians offering support across the project areas covering accommodation, meals, and communication.

**Component 2: Restore degraded landscapes in the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo) through an ecosystem services approach | \$ 1,219,143.**

These are costs related to map potential farmers to promote agroforestry and reforestation on their farms for nutritional, economic and environmental benefits, training sessions to enhance farmers groups' capacity for agroforestry and reforestation on their farms, targeted subsidies to incentivize targeted households, agroforestry and forestry value chains actors to engage in agroforestry and reforestation.

Costs related to running awareness and behavioural change campaigns using multi-media and peer to peer approaches (like radio talk shows, radio spot messages, flyers, public address systems among others) including community champions, to attract clients to buy seedlings. The budget line includes costs related to map and profile commercial tree nursery bed operators with substantial scale, provide technical assistance to identified commercial tree nursery operators to develop a business model and go-to-market strategy identifying viable customer and market segments, mapping community sites (including water catchments areas, institutions), in collaboration with local authorities, to promote tree growing and restoration through demonstration sites.

Finally, the budget line includes costs related to developing and implementing financing schemes (carbon credits, subsidies, VSLAs) to enhance the affordability of the seedlings, building the capacity of the district level authorities on sustainable resource management (NRM) for natural resources officers (NROs).

**Component 3: Ensure efficient and effective Project Management and continuous learning and adaptation | \$ 93,370.**

Costs under this component cover:

- Dissemination of evidence-based recommendations for policy reform and implementation to key stakeholders in the reforestation and agroforestry field. The costs will cover learning events, production of the learning materials advocate toward key stakeholders based on project lessons learned, conducting policy analysis and research. Included are costs related to coordinate national-level energy & environment working group, and organize national policy dialogues.

**M. Describe how the sustainability of the project / programme outcomes has been taken into account when designing the project / programme.**

The project will be implemented through a holistic landscape approach that combines landscape restoration and use of climate resilient technologies to reduce negative impacts of climate change. The concrete adaptation activities and approach chosen under this project will ensure that proposed projects continue and adapt through direct interventions of the stakeholders in time, beyond the lifespan of this programme.

The project aims at localising production of the ECOCA cookstoves through building local capacity for production, distribution, installation, repair, and maintenance systems to ensure lean operation, local ownership, and sustainability. Mercy Corps in collaboration with Pesitho will establish a network of retailers (three women) across the project area and train them as technicians, marketers, cooking advisers, and data collectors.

The project will also assemble the retailers into cooperatives that deal in climate-smart products to ensure that relevant products continue to be sold and marketed during and after the project. Furthermore, EEA, a local Ugandan company (a subsidiary of Pesitho) will oversee local Ugandan production of ECOCAs, the retailer network, and provide technical advice for on-site customers and stakeholders including debt management of the PayGo system. EEA will continue to maintain and monitor the solar cookstoves, institutional kitchens and will implement the battery buy-back policy after the project.

Applying a holistic approach, by linking the restoration activities to livelihood interventions to build community resilience is expected to contribute to the success and sustainability of the project. The landscape restoration activities will be designed using local materials and capacities and will actively involve community groups and district government officials. The reforestation project sites will serve as a model that can easily be replicated, at minimal costs, in other sites in the region and beyond. For the agroforestry activities, selecting participants in the host communities that are part of village savings and loans groups is expected to see the activity being continued as future purchase of inputs and investments can be channelled through the VSLAs.

The project will engage with regional and district authorities and other government entities present in the project area to ensure continued support to the target beneficiaries even after the project phases out. By ensuring LGA engagement and building local government capacities in planning for and applying an integrated landscape approach, the investments made by the project will be maintained and eventually scaled up to other areas. Through the project, LGAs will be supported to strengthen their local planning processes so that successful landscape approaches, combined with adaptive community capacities can be adequately planned for in their District and Regional plans and budgets.

Emphasis on capacity building and dialogues assures that structures being established, as well as interventions being implemented, will continue beyond the scope and the duration of the programme. Programme components and activities will be built upon national and sub-national

strategies and priorities and will be integrated in national and sub-national programmes. The programme will establish and institutionalise linkages between communities, and local government officials, as well as a cross-sectoral and cross-border platforms that will monitor the continuation of the programme's achievements.

The exit strategy will be developed together with all stakeholders considering the environmental, economic, technical, social and institutional sustainability. Lessons learned and experiences from the project will be captured and integrated in knowledge products and national knowledge management processes that will inform future programming and planning by both the government and partners working in the region. It is expected that this will contribute to good practices being institutionalised and scaled up.

**N. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project.**

The project has been screened for environmental and social risks as per the Environmental and Social Policy of the Adaptation Fund. The project does not pose any significant adverse environmental or social impacts. Any potential negative effects are expected to be small, confined to the project area, reversible, and can be avoided, minimised, or addressed through established environmental and social management practices.

Environmental risk (E-WASTE): The problem associated with end-of-life and waste from electric and electronic equipment (EEE) within a given period and acquisition-related issues which the ECOCA cookstoves fit is broadly recognized as a serious environmental and social concern. The increasing penetration and generation rate of electronic products including those that support alternative and clean cooking that comes with periodic replacement cycles of their parts is the major reason for the current exponential growth of the amount of electronic waste (e-waste) in Uganda. Improper disposal of e-waste such as worn-out solar panels, batteries, wire cables, and circuit boards poses environmental, health, safety, and security risks. This will require even more vigilance in Gulu district which borders one of the world's largest freshwater bodies providing a huge habitat for a wide range of aquatic life. The National Environment Management Authority (NEMA) Uganda together with the National Enterprise Corporation (NEC) launched the first National E-waste Management Center for Uganda in 2021 to counter the above challenge which the project will position its project participants to benefit from in a bid to mitigate risks. E-waste management will also provide excellent opportunities for material recovery, refurbishment, and possible reuse. Pesitho/EEA will offer to take back batteries at the end of life from households and also provide new ones at a discount. The Assembly Center will also be used to collect end-life solar panels and other ECOCA components. During the community awareness program on radio, through drama and physical meetings, proposal disposal of electronic waste will be emphasised, and households encouraged to return end-life components or notify retailers/technicians of the same for collection. Pesitho is also exploring the possibility of building backup battery packs from re-charged end-life batteries or partnering with an entity already doing this. Furthermore, Mercy Corps will leverage the partnerships developed under IOM E-WASTE projects (e.g. WEEE Center) to promote linkages with the



project and ensure different options are available for a proper management of e-waste for a safer environment.

Participants Engagement: Based on the initial baseline assessment, segmentation, and willingness to pay the assessment, the program will target all categories of household (HHs) especially those with persons with special needs (physically disabled, chronically ill, living with orphans <18 years, elderly > 65+ years), female headed HHs, HHs with pregnant and/or lactating women, and HHs with children <5 years. The program's target groups include individuals that are part of VSLAs, cooperatives, SMEs, and local authorities (formal and informal). The focus on women and female youth is driven by the fact that they are often responsible for supporting the household, including wood collection, food preparation, and generating income through SMEs. GBV is a significant concern for women and female youth. A major consideration of this program is how to effectively address women's time poverty and work burden and introduce products and knowledge that improve their well-being. Furthermore, people with special needs will be considered in both the targeting and approaches adopted across the program, including increased barriers to accessing support and information. The project will recruit mostly youth and women as retailers, assembly, and/or maintenance technicians and also preserve the role of Cooking Advisors for women.

The action will use proven approaches in identifying the target population and ensuring their input and participation, which includes a step-by-step vulnerability mapping, stakeholder input, and verification process. This process will be supported by Mercy Corps' robust M&E systems. The targeting approach will involve multi-stakeholder participation and engagement throughout the lifecycle. This includes a consultation process with local community members and leaders and government agencies and development partners.

In line with AF guidelines, the table below outlines the approach in addressing those risks identified that require mitigation.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
<i>Compliance with the Law</i>		The project will ensure compliance with all international, regional and national laws and regulations. Participatory consultations with all related ministries and other key stakeholders will be conducted at the inception and throughout the project implementation period to ensure compliance with the national and international laws and standards.
<i>Access and Equity</i>		The project will ensure that women and men participate fully and equitably throughout the

		project cycle in order to ensure gender responsive outcomes and results. A Gender Assessment and Gender Action Plan have been developed to ensure that women and men are meaningfully engaged in project activities, and realise an equitable share of project benefits.
<i>Marginalized and Vulnerable Groups</i>		The project will target the vulnerable communities in the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo). Further consultations will be made during full proposal development to find the best approach and criteria to reach these groups particularly focusing on women and girls, youth, persons with disabilities and indigenous groups to ensure participation and equal access.
<i>Human Rights</i>		The project will respect international human rights. Human rights principles will be integrated in the project implementation to enhance climate change resilience in the targeted region.
<i>Gender Equity and Women's Empowerment</i>		A further detailed gender analysis has been carried out to ensure that all gender aspects are fully incorporated.
<i>Core Labour Rights</i>		Uganda Labour laws will be considered and adhered to during project implementation All appropriate health and safety measures will be taken into consideration in accordance with both national and international standards. Compliance will be monitored through progress reports, supervision missions, the mid-term review, and terminal evaluation.
<i>Indigenous Peoples</i>		The project will target all groups including indigenous and minority groups. A wide and targeted stakeholder consultations will be undertaken at the inception of the project to ensure inclusion of these groups in the target beneficiaries.
<i>Involuntary Resettlement</i>		No involuntary resettlement is foreseen. The project will work with communities in their location and on voluntary basis

<i>Protection of Natural Habitats</i>		The proposed project is designed to undertake Nature-based Adaptation solutions that will bring positive benefits to degraded ecosystems. Further environmental assessments will be conducted during the project implementation to identify any potential risks to the natural habitats. E-waste management strategies will be put in place to eliminate degradation of natural resources through improper disposal of ECOCA technology
<i>Conservation of Biological Diversity</i>		There is no risk to the conservation of biodiversity as no invasive plant species will be planted. Reforestation will use indigenous species and will be designed in consultation with the government and other key stakeholders ensuring compliance with the national laws on biodiversity conservation.
<i>Climate Change</i>		The project is designed to reduce the negative impacts of climate change and enhance the resilience of ecosystems and populations to Climate.
<i>Pollution Prevention and Resource Efficiency</i>		The project activities will contribute to sustainable land management, efficient water use and prevention of water and indoor air pollution
<i>Public Health</i>		The project activities do not lead to any negative impact on public health.
<i>Physical and Cultural Heritage</i>		The project will promote local knowledge on reforestation and agroforestry and train communities to handle the new technologies without affecting cultural heritage. The programme will not implement activities that will target specific physical assets in the project sites
<i>Lands and Soil Conservation</i>		The project aims to improve vegetative cover, plant resilient and diverse indigenous plant species and improve soil management and fertility through agroforestry practices

## **O. Grievance Mechanism**

A mechanism will be established to effectively address grievances or answering questions from project affected people as well as indirect stakeholders. The mechanism will be a core component for managing operational risks, enhancing community engagement, social inclusion, promoting accountability and transparency, to support the project's achievement of its objectives and enhance social and environmental sustainability according to AF guidelines.

Complaints will be addressed by different stakeholders—Mercy Corps, Pesitho and other project partners. Mercy Corps will oversee the implementation of the grievance mechanism through its Community Accountability Reporting Mechanism (CARM), developed in Uganda as part of Mercy Corps' global initiative to prevent exploitation and abuse. CARM provides a channel for all community members to provide feedback, suggestions, complaints, and concerns, in a manner that is safe, confidential, transparent, and accessible, enabling Mercy Corps to make adaptations to program activities and/or address any safeguarding concerns.

All direct beneficiaries of the project and other related stakeholders will be informed about the CARM mechanism for resolution of conflicts and the complaint-handling mechanism of the project. Mercy Corps with project partners will develop public information materials (leaflets and brochures) that explain the project, roles and responsibilities complete with detailed contact information of persons in charge (name, position, address, phone, email), and including access to information regarding the ad hoc complaint handling mechanism for the AF.

## PART III: IMPLEMENTATION ARRANGEMENTS

- A. Describe the arrangements for project/programme management at the regional and national level, including coordination arrangements within countries and among them. Describe how the potential to partner with national institutions, and when possible, national implementing entities (NIEs), has been considered, and included in the management arrangements**

The project implementation is arranged as below:

No	Organisation	Roles and Responsibilities
1	Ministry of Water and Environment	<ul style="list-style-type: none"> <li>• The accredited National Implementing Entity</li> <li>• Oversee overall financial and monitoring aspects of the project.</li> <li>• Reporting of project consolidated results to the Adaptation Fund</li> <li>• Approval of project annual work plan and budget from the Executing Entity</li> <li>• Approval of annual financial and technical reports from the Executing Entity</li> <li>• Provide administrative and management support to the executing entity</li> </ul>
2	Mercy Corps	<ul style="list-style-type: none"> <li>• The Executing Entity</li> <li>• Coordinate project management and implementation.</li> <li>• Lead project' reporting through the consolidation of partner reports and submission of comprehensive final reports to the donor</li> <li>• Ensure that the project creates an impact on the targeted beneficiaries.</li> <li>• Lead on Project Monitoring and Evaluation (M&amp;E) and Community Accountability</li> <li>• Ensure compliance of project interventions with the national frameworks</li> <li>• Prepare and submit semiannual and annual work plans and budgets to MWE.</li> <li>• Provide semiannual and annual progress reports to MWE.</li> <li>• Provide designated key personnel for coordination of project execution such as the Project Manager, Project Officer, and Monitoring, and Evaluation Officer</li> <li>• Ensure liaison on project activities among and between the MWE, target beneficiaries, and key relevant key stakeholders</li> </ul>

3	Pesitho	<ul style="list-style-type: none"> <li>• Ensure the supply of ECOCA units.</li> <li>• Build local production excl. building.</li> <li>• Train technicians with ongoing support/training</li> <li>• Train sales force</li> <li>• Train cooking advisors</li> <li>• Training of Trainers</li> <li>• Build School Kitchens</li> <li>• Train service technicians</li> <li>• Investigate and integrate carbon credit schemes.</li> <li>• Manage PAYGo and token generation incl. user management.</li> <li>• Technology and quality monitoring</li> <li>• Establish and manage revolving mechanism</li> </ul>
4	Local NGO (to be identified), with MC support	<ul style="list-style-type: none"> <li>• Map communities, identify sites for satellite nurseries</li> <li>• Provide trainings on agro-forestry to small holder farmers</li> <li>• Promote social behaviour change and run sensitisation campaigns to incentive reforestation</li> <li>• Identify degraded areas for reforestation together with local authorities</li> <li>• Map community sites for demonstration sites</li> </ul>
5	Retailers and VSLAs	<ul style="list-style-type: none"> <li>• Participate in direct implementation of project interventions.</li> <li>• Participate in planning and implementation of project interventions</li> </ul>
6	Beneficiaries (Youths, Women, People with disabilities)	<ul style="list-style-type: none"> <li>• Participate in direct implementation of project interventions</li> </ul>
7	Financial Service Providers (FSP)	<ul style="list-style-type: none"> <li>• Deliver tailored financing products to farmers to support the purchase or scale-up of tree nurseries or seedlings growing and for ECOCA's purchase.</li> </ul>

## B. Describe the measures for financial and project/programme risk management

*Included in the table below.*

## C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy for the Adaptation Fund.

Principle	Residual risk	Likelihood	Impact	Mitigation measures	Responsible
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<b>Environmental Risk</b>  Protection of natural habitats	The production and disposal of ECOCA technology may result in unintended environmental consequences such as improper waste management or water pollution.	Low	High	Environmental assessments and sustainable practices will be incorporated to mitigate these risks.  Sustainable e-waste recycling centres will be established and awareness campaigns conducted on proper disposal or e-waste.	Mercy Corps/ Pesitho
<b>Social Risk</b>  Gender Equity And Women's Empowerment	Women's status and representation may limit their meaningful participation in project activities	Medium	High	The project will ensure that women and men Participate fully and Equitably throughout the project cycle in order to ensure gender responsive outcomes and results. In addition to the consultations done already, women will be consulted on-site, during deployment of various project components. A Gender Assessment and Gender Action Plan have been developed to ensure that women and men are meaningfully engaged in project activities, and realise an equitable share of project benefits. Gender disaggregated data on gender responsive indicators and integrating of gender mainstreaming is reporting of all components will be adopted.	Mercy Corps/ Pesitho,

<b>Financial Risk</b>	Misuse, corruption, fraud and bribery	Low	High	Mercy Corps and Pesitho have rigorous financial controls in place for their operations and monitoring for its partners, reducing the risk of fraud occurring and also increasing its likelihood of detection if it does. This will be monitored in the project-specific risk register and issues log.	Mercy Corps and Pesitho
<b>Institutional Risk</b>	Safeguarding violation	low	High	The project will ensure signatory and compliance with Mercy Corps Code of Conduct for all staff and key partners, followed up by Safeguarding training and regular coaching/mentoring on safeguarding.	Mercy Corps

#### **D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan**

##### **Monitoring and Evaluation**

Led by Mercy Corps, in coordination with Pesitho and the identified LNGO, the ACCESS program will establish an effective system to monitor and evaluate program implementation; use data to drive decision-making in enhancing quality implementation; generate concrete evidence to account for impact; use the data and evidence generated to improve programming and contribute to learning. Deploying Mercy Corps' MEL policy and minimum standards, monitoring, and evaluation processes will ensure high-quality disaggregated data collection and management (at minimum, by gender, age, and disability), and effective performance measurement through quarterly analysis, dissemination, and utilisation of lessons learned to facilitate integration and program adaptation.

Supported by the project manager, the MEL activities will be overseen by a dedicated MEL officer which will play a pivotal role as the focal point for Mercy Corps and Pesitho in the harmonisation and standardisation of tools and data management systems across the program to ensure consistent and accurate routine monitoring, data collection, quality assurance and reporting of activities and milestones (see below). Mercy Corps Uganda country MEL manager will provide overarching technical and back stocking support. At the inception stage, the program MEL plan, performance indicators, draft data



collection and analysis plan, learning agenda, roles, and responsibilities will be clearly defined in consultation with the funder.

A broad-scope baseline (including on market-related aspects) with targeted participants and any groups will be undertaken to establish access, affordability, and willingness to pay for alternative cooking energy solutions. A household level survey on wood fuel consumption will be also undertaken to estimate how much HHs level collection and consumption contributes to deforestation in the areas and as well as to track the impact the project has in incentivizing the reduction of wood collection and therefore contributing to diminish the overall deforestation rate. As continuous support and in strengthening implementation, routine data will be collected including post-distribution monitoring assessments as after-sales service of the alternative cooking energy products to better understand the implementation processes, utilisation of the products, gather emerging urgent needs of the participants, and areas of improvement as relates to the energy cooking system. Performance evaluation will gather data from participants and their households, as well as smallholder businesses utilising the ECOCA energy system. The evaluation will broadly look at information related to access and affordability of the energy cooking system; utilisation (attitude and behaviours); gains through using the energy system (time and income); environmental protection realised. A mixed-method approach to the evaluation will be adopted applying quantitative and qualitative methods.

During the implementation of the project, Mercy Corps will continue to collect and respond to community feedback through the implementation of its Community Accountability and Reporting Mechanism (CARM). CARM has been developed in Uganda as part of Mercy Corps' global initiative to prevent exploitation and abuse. CARM provides a channel for all community members to provide feedback, suggestions, complaints, and concerns, in a manner that is safe, confidential, transparent, and accessible, enabling Mercy Corps to take safeguarding decisions and community-informed program adaptations to the proposed activities.

### **Quality Assurance, Data, and Information Management**

Using ONA, which is Mercy Corps' recommended MEL Tech platform, data will be collected by deploying tools on tablets and/or smartphones for digital data collection. The collected data from the field will be uploaded onto the server (cloud) to be retrieved, cleaned, analysed, and interpreted to produce reports. The projects' results framework will be hosted onto the Tola Data system where all the indicators will be uploaded, monitored, and tracked through monthly updates of results linked to evidence filed on Google Drive /SharePoint. All data will be disaggregated by sex, age, and disability whenever possible.

Regular data quality assessments on agreed indicators will be assessed in line with Mercy Corps MEL policy and minimum standards to check for their validity, reliability, timeliness, precision, and integrity. Data will be maintained through strict compliance with Mercy Corps policies and global policies (e.g., GDPR) to safeguard and prevent unauthorised access or distribution of personally identifiable information, demographically identifiable information, and other sensitive data.

### **Project monitoring and evaluation costs| \$ 96,482**

Key Monitoring and Evaluation activities are highlighted in the table below and the attached budget for a total cost of \$ 96,482 for 36 months of implementation to cover: Inception Studies, CARM Budget (toll-free line rollout, training, IEC material), Regular monitoring (spot check, etc.), Midline, Endline & Learning Reports, Program quarterly internal review meetings targeting all relevant stakeholders aimed at tracking progress and documenting learnings, Communication Materials, Graphic Design, Video/audio Production, Including, Final Performance Internal Review (FIPR), Closeout meeting.

Monitoring and Evaluation			
Deliverable	Deliverable breakdown	Method of data collection	Frequency of data collection
Inception Studies Baseline and Assessment studies	<ul style="list-style-type: none"> <li>- 4 Assessment reports produced:</li> <li>- 1 Baseline Assessment</li> <li>- GESI assessment</li> <li>- 1 Willingness to Pay studies.</li> <li>- 1 HHs Survey on wood fuel consumption</li> </ul>	Surveys, FDGs, KII	At the beginning of the project
Quarterly joint monitoring, spot checks + reviews	<ul style="list-style-type: none"> <li>- 8 joint monitoring and spot checks</li> </ul>	Spot checks Report	Quarterly
Lessons learned briefs	<ul style="list-style-type: none"> <li>- 3 lessons learned briefs produced</li> </ul>	Learning briefs	Quarterly
CARM sensitization and feedback collection	<ul style="list-style-type: none"> <li>- At least 8 CARM sensitization and feedback sessions held</li> </ul>	CARM report	Quarterly
Midline Assessment	<ul style="list-style-type: none"> <li>- 1 midline conducted</li> </ul>	Midline report	After 15 months
Endline Assessment	<ul style="list-style-type: none"> <li>- 1 endline conducted</li> </ul>	Endline report	End of project (36 months)
Procurement of core administrative costs			
Payment of Staff Salaries	Dedicated Project staff and Support staff	Staff Contracts	Daily



E. Include a results framework for the project/programme proposal, including milestones, targets and indicators.

Component	Result Level	Indicators	Target	Data collection method	Frequency of data
	<b>Goal: To increase the resilience of households and local forest ecosystems through access to affordable and sustainable alternative cooking energy for off-grid cooking for vulnerable communities in the Acholi sub-region, Uganda.</b>	<p>Indicator 1: Net additional full time/part time/short term/seasonal equivalent jobs created in target enterprises as a result of the program or intervention per year and cumulatively</p> <p>Indicator 2: Tonnes of carbon dioxide equivalent (Mt CO<sub>2</sub>eq/yr) emissions reduced, avoided or sequestered</p> <p>Indicator 3: % of people who report a a perceived reduction of the risk of gender based violence as a result of access to alternative cooking solutions</p> <p>Indicator 4: Average change in number of hours spent on cooking by households</p> <p>Indicator 5: Amount of net additional income change (NAIC)</p> <p>Indicator 6: Proportion of Homes with improved indoor air quality through use of Tier 2 or Higher alternative cleancooking products</p>	<p>60 (20 per private sector actor (PSA))</p> <p>40,000 Tonnes of CO<sub>2</sub> reduced</p> <p>70%</p> <p>2 hours (Reduction by 35%)</p> <p>40% Increment (167,652UGX)</p> <p>80%</p>	Household Surveys, annual surveys, midterm assessment	Baseline, endline and annual

Component/Specific objective 1 - Reduce deforestation linked to biomass fuel collection and usage for cooking in the program area through establish a market for Climate-resilience, gender-inclusive, and financially-sustainable technologies	Outcome 1 Increased adoption and utilization of ECOCA by vulnerable community members	Indicator 1.1: # of participants (disaggregated by age, gender, and status (refugee/host) that have gained access to renewable energy as a result of ACCESS support	53,000 (8,000 Ecoca x avg HH of 6 + 5 schools x population 1,000)	Household Surveys, annual surveys, midterm assessment	Annual
		Indicator 1.2: % of participants (disaggregated by age, gender, and status (refugee/host) with improved knowledge of the benefits and uses of ECOCA	82%		
		Indicator 1.3: % of participants who regularly use ECOCA for cooking	80%		
	Output 1.1: Improved knowledge attitude and practices regarding the benefits and usage of ECOCA for cooking, lighting, and charging and the dangers of biomass fuel for cooking	Indicator 1.2.1: # of people reached with awareness campaigns on the benefits of ECOCA  Indicator 1.2.2: % of participants with improved knowledge of the benefits and uses of alternative cooking energy	182,940  92%	Local radio media analytics, Households survey, Signed attendance sheets, Event MEL monitoring checklist	Monthly, Quarterly and Annually
	Output 1.2: Increased access to ECOCA for 8,000 vulnerable HHs and 5 schools	Indicator 1.2.1: # of ECOCA (disaggregated by age, gender) that have been provided distributed to HHs through the ECOCA initiative	8,000	Household Surveys, feedback sessions, ECOCA	Quarterly

				Distribution Data	
		Indicator 1.2.2: # of schools accessing alternative cooking energy through the ECOCA initiative	5	ECOCA initiative monitoring data, observation checklists, Surveys	Quarterly
Component/Specific Objective 2 - Restore degraded landscapes in the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo) through an ecosystem services approach	Outcome 2. Increased climate resilience and sustainable ecosystem services management in the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo)	Indicator 2.1: % of households accessing and using affordable and sustainable alternative cooking energy within the vulnerable communities of the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo)	90%	Household Surveys, annual surveys, midterm assessment	Annual
		Indicator 2.2: % of households reducing biomass fuel consumption ( e.g., firewood, charcoal) to zero among vulnerable community members?	60%	Household Surveys, annual surveys, midterm assessment	Annual
		Indicator 2.3: % of planted trees that survive after a 1 year (Tree Survival Rate)	83%	Household Surveys, annual surveys, midterm assessment	Annual
	Output 2.1: Improved knowledge attitude and practices regarding the benefits of reforestation and agroforestry	% increase in knowledge among people adopting reforestation and agroforestry practices	78%	Household Surveys, annual surveys, midterm assessment	Annual

		% of participants (disaggregated by age, gender) who have adopted climate-smart agriculture practices and agroforestry techniques on their farms	70%	Household Surveys, annual surveys, midterm assessment	Annual
		# of households practising reforestation and agroforestry	2,000	Review of Household Records and Documents, household surveys	Quarterly
	Output 2.2: 7,750 acres of land restored and through promotion of agroforestry and reforestation	Total area of land in acres restored through agroforestry and reforestation efforts (acres)	7,750	Field measurements and surveys, Remote sensing and GIS data.	Quarterly
		Total number of acres restored through subsidised tree-planting Total number of acres restored through community managed reforestation	1750 6,000	Field measurements and surveys, Remote sensing and GIS data	Quarterly
Component/Specific objective 3 - Ensure efficient and effective Project Management and continuous	Outcome 3 Ensure robust learning, knowledge management, and dissemination framework	Indicator 3.1 # of Policy reforms or initiatives implemented or influenced on offgrid energy solutions	1 policy initiative adopted	Review of the policy review documents	Annual
	Output 3.1 Relevant knowledge products prepared and	Indicator 3.1.1: # of learning events conducted at district, regional and national level Indicator 3.1.3: # of NGOs, INGOs and PSAs	6 learning events (1 national, 1 regional)	Review of the learning products	Bi-annual



learning and adaptation	disseminated to key Stakeholders	actively participating in Energy & Environment Group	20		
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**F. Demonstrate how the project/programme aligns with the Results Framework of the Adaptation Fund**

Project Objective(s)	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (\$)
<b>Goal: To increase the resilience of households and local forest ecosystems through access to affordable and sustainable alternative energy for off-grid cooking for vulnerable communities in the Acholi sub-region, Uganda.</b>	<b>Indicator 1:</b> Net additional full time/part time/short term/seasonal equivalent jobs created in target enterprises as a result of the program or intervention per year and cumulatively <b>Indicator 2:</b> Tonnes of carbon dioxide equivalent (Mt CO <sub>2</sub> eq/yr) emissions reduced, avoided or sequestered <b>Indicator 3:</b> % of people who report a a perceived reduction of the risk of gender based violence as a result of access to alternativecooking solutions <b>Indicator 4:</b> Average change in number of hours spent on cooking by households <b>Indicator 5:</b> Amount of net additional income change (NAIC) <b>Indicator 6:</b> Proportion of Homes with improved indoor air quality through use of Tier 2 or Higher	Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies	8.2 No. of key findings on effective, efficient adaptation practices, products, and technologies generated and/or “learning and sharing” innovation initiatives undertaken	4,578,094
Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (\$)

<b>Outcome 1 Increased adoption and utilization of ECOcAs by vulnerable community members</b>	<b>Indicator 1.1:</b> % of vulnerable community members reporting increased access to energy for cooking <b>Indicator 1.2:</b> % of participants (disaggregated by age, gender, and status (refugee/host) with improved knowledge of the benefits and uses of ECOCA <b>Indicator 1.3:</b> % of participants who regularly use ECOcAs for cooking	Output 8: Viable innovations are rolled out, scaled up, encouraged and/or accelerated.	8.2.1 No. of key findings generated from an innovation practice, tool, and/or technology 8.2.2 No. of learning and sharing initiatives undertaken, including communication initiatives	3,265,581
<b>Outcome 2. Increased climate resilience and sustainable ecosystem services management in the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo)</b>	<b>Indicator 2.1:</b> % of households accessing and using affordable and sustainable alternative energy within the vulnerable communities of the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo) <b>Indicator 2.2:</b> % of households reducing biomass fuel consumption ( e.g., firewood, charcoal) to zero among vulnerable community members? <b>Indicator 2.3:</b> % of planted trees that survive after a 1 year (Tree Survival Rate)			1,219,143
<b>Outcome 3 Ensure robust learning, knowledge management, and dissemination framework</b>	<b>Indicator 3.1</b> # of Policy reforms or initiatives implemented or influenced on alternative cooking energy <b>Indicator 3.2</b> # % Budget burn rate			93,370

### Outcome/s from the Strategic Results Framework (SRF<sup>24</sup>)

Project Objective(s)	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
<b>Goal:</b> To increase the resilience of households and local forest ecosystems through access to affordable and sustainable alternative energy for off-grid cooking for vulnerable communities in the Acholi sub-region, Uganda.	<b>Indicator 1:</b> Net additional full time/part time/short term/seasonal equivalent jobs created in target enterprises as a result of the program or intervention per year and cumulatively <b>Indicator 2:</b> Tonnes of carbon dioxide equivalent (Mt CO <sub>2</sub> eq/yr) emissions reduced, avoided or sequestered <b>Indicator 3:</b> % of people who report a perceived reduction of the risk of gender based violence as a result of access to alternative cooking solutions <b>Indicator 4:</b> Average change in number of hours spent on cooking by households <b>Indicator 5:</b> Amount of net additional income change (NAIC) <b>Indicator 6:</b> Proportion of Homes with improved indoor air quality through use of Tier 2 or Higher clean cooking products	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses 3.2. Percentage of targeted population applying appropriate adaptation responses	4,578,094
		Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	
Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)

<sup>24</sup> For SRF Outcomes 1 to 7, project/ programme proponents should include a separate table to define and measure core indicators to assess progress at the project level. As per the Guidance to IEs for inclusion of objectives and Indicators for Innovation

Outcome 1 Increased adoption and utilization of ECOCA by vulnerable community members	<b>Indicator 1.1:</b> % of vulnerable community members reporting increased access to energy for cooking <b>Indicator 1.2:</b> % of participants (disaggregated by age, gender, and status (refugee/host) with improved knowledge of the benefits and uses of ECOCA <b>Indicator 1.3:</b> % of participants who regularly use ECOCA for cooking	Output 2.1: Strengthened capacity of national and sub-national centres and networks to respond rapidly to extreme weather events	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events (by gender) 3.2.1 No. of technical committees/associations formed to ensure transfer of knowledge 8.2.2 No. of learning and sharing initiatives undertaken, including communication initiatives	3,265,581
Outcome 2. Increased climate resilience and sustainable ecosystem services management in the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo)	<b>Indicator 2.1:</b> % of households accessing and using affordable and sustainable alternative energy within the vulnerable communities of the Acholi sub-region (Agago, Amuru, Gulu, Kitgum, Lamwo, Nwoya, Pader and Omworo) <b>Indicator 2.2:</b> % of households reducing biomass fuel consumption ( e.g., firewood, charcoal) to zero among vulnerable community members? <b>Indicator 2.3:</b> # of acres restored	Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning		1,219,143
Outcome 3 Ensure robust learning, knowledge management, and dissemination framework	<b>Indicator 3.1</b> # of Policy reforms or initiatives implemented or influenced on alternative cooking energy			93,370

**G. Include a detailed budget with budget notes, broken down by country as applicable, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.**

The budget and budget description are attached.

**H. Include a disbursement schedule with time-bound milestones**

Milestones	Disbursement Schedule	Amount in %ages
A Notification of Project Start (1 September 2024)	3,000,000	60%
Annual Report 2024-2025 (31 October 2025)	1,500,000	30%
Annual Report 2025-2026 (31 October 2026)	500,000	10%
Final project report	N/A	N/A
<b>Total</b>		<b>100%</b>

## PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

**A. Record of endorsement on behalf of the government<sup>256</sup>** *Provide the name and position of the government official and indicate date of endorsement for each country participating in the proposed project / programme. Add more lines as necessary. The endorsement letters should be attached as an annex to the project/programme proposal. Please attach the endorsement letters with this template; add as many participating governments if a regional project/programme:*

<i>(Enter Name, Position, Ministry)</i>	<i>Date: (Month, day, year)</i>
<i>(Enter Name, Position, Ministry)</i>	<i>Date: (Month, day, year)</i>
<i>(Enter Name, Position, Ministry)</i>	<i>Date: (Month, day, year)</i>

<sup>256</sup> Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

**B. Implementing Entity certification** *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

<p>I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (.....list here.....) and subject to the approval by the Adaptation Fund Board, <u>commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund</u> and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.</p>	
<p><i>Name &amp; Signature</i> Implementing Entity Coordinator</p>	
Date: (Month, Day, Year)	Tel. and email:
Project Contact Person:	
Tel. And Email:	



## ADAPTATION FUND

### Letter of Endorsement by Government

[Government Letter Head]

[Date of Endorsement Letter]

To: The Adaptation Fund Board  
c/o Adaptation Fund Board Secretariat  
Email: [Secretariat@Adaptation-Fund.org](mailto:Secretariat@Adaptation-Fund.org)  
Fax: 202 522 3240/5

Subject: Endorsement for [Title of Project/Programme]

In my capacity as designated authority for the Adaptation Fund in [country], I confirm that the above (select national or regional) project/programme proposal is in accordance with the government's (select national or regional) priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the (select country or region).

Accordingly, I am pleased to endorse the above project/programme proposal with support from the Adaptation Fund. If approved, the project/programme will be implemented by [implementing entity] and executed by [national or local executing entity].

Sincerely,

[Name of Designated Government Official]  
[Position/Title in Government]