Sustainable Development Verified Impact Standard

MADAGASCAR FAHATOKIANA IMPROVED COOKSTOVE PROGRAM

Document Prepared by Guangzhou Iceberg Environmental Consulting Services Co., Ltd.

Project Title	Madagascar Fahatokiana Improved Cookstove Program
Version	01
Date of Issue	15-October-2024
Project Location	Madagascar
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Project Lifetime	06-08-2022 to 05-08-2032; 10-year lifetime
Monitoring Period of this Report	06-08-2022 to 05-08-2024
History of SD VISta Status	Not Registered yet; First verification.
Other Certification Programs	Verified Carbon Standard, project ID: 3239
Expected Future Assessment Schedule	Future verification is expected in 2026

CONTENTS

1 SUMMARY OF SDG CONTRIBUTIONS

Table 1: Summary of SDG Contributions

Row number	Quantitative Project Contributions during Monitoring Period	Contributions during Project Lifetime	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Section Reference	Claim, Asset or Label
1)	24,696 households have received ICSs, and 24,232 are still operating.	Improved cookstove is a basic service necessary to lead a healthy and productive life, including saving time and money for wood fuel at the household level. The project proponent will distribute 100,000 improved cookstoves (hereinafter referred to as "ICSs"), and the ICSs are produced in local factory. Therefore, the implementation of the project will result in more job opportunity and more income.	1.1	1.1.1 Proportion of population below the international poverty line, by sex, age, employment status, and geographical location (urban/rural).	Implement activities to decrease	3.2, #4	Claim
2)	24,696 households have received ICSs, and 24,232 are still operating, which help them improve their nutrition status.	The project will improve food security and nutrition status, particularly for children and women by reducing inadequate cooking, the burden of firewood collection, the time to prepare food, the cost to buy firewood.	2.1	2.1.1 Prevalence of undernourishment.	Implement activities to decrease	3.2, #1	Claim

3)	By using ICS, all users admitted that the project cookstove had improved indoor air quality and reduced air quality related diseases, like cough or trachitis according to the monitoring survey. Thus, 24,232 households experiencing health benefits due to reduced exposure to indoor air pollution.	By using ICS, it will reduce people's exposure to high PM2.5 and high CO due to higher efficiency of combustion leading to faster cooking and more complete combustion. It will also reduce the burn risk, significant to children and toddlers due to enclosure of the fire in the combustion chamber.	3.2 3.9	3.2.1 Under-five mortality rate. 3.9.1 Mortality rate attributed to household and ambient air pollution.	Implemented activities to decrease	3.2, #2	Claim
4)	About 2 staff have received training about the survey method and monitoring plan etc.	The project will reduce the time spent on firewood collection for children, especially for girls, which will increase their time for education. The implementation of project needs plenty of local people to participate in production, distribution or use steps, who will get relevant skills and sustainable development and global citizenship education through training by project proponent and its local partners.	4.3 4.7	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex 4.7.1 Number of persons who receive education for sustainable development and global citizenship	Implement activities to increase	3.2, #3	Claim
5)	The time spent on cooking and collecting firewood every day for women and girls who use ICSs has decreased about 29%[1].	The project will reduce women and children's drudgery through time savings in reducing time spent on cutting,	5.4	5.4.1 Proportion of time spent on unpaid domestic and care work,	Implemented activities to decrease	3.2, #3	Claim

[1] Compared between baseline survey and monitoring survey, the result is calculated in Grid AU165 and AY165 of the submitted document "Data recording of Monitoring Survey".

		collecting, and carrying firewood from trees far away from households as well as cooking over toxic smoky open fires.		by sex, age, and location.			
6)	The project has saved 79,298.78 tonnes of non-renewable biomass[2] during this monitoring period.	The project will protect an important water related ecosystem-forest	6.6	6.6.1 Change in the extent of water-related ecosystems over time	Increase	4.2, #2	Claim
7)	24,696 households have received ICSs, and 24,232 are still operating, which are primary reliance on clean fuels and technology.	The ICS distributed to Household is a clean cooking technology. The project will increase the proportion of population with primary reliance on clean fuels and technology in project area.	7.1	7.1.2 Proportion of population with primary reliance on clean fuels and technology in the project area.	Implement activities to increase	3.2, #1	Claim
8)	2 more local people have been hired after the implementation of the project. There are 12 full-time employee and 5 part-time employees now, and 8 of them are women, 3 are with disabilities. The average hour salary of full-time employee has increased from 0.22USD to 0.25USD.[3].	The manufacturer which produces ICS is a local enterprise. It will hire more workers to produce ICSs for the project. During the project crediting period, the project proponent will be in charge of maintenance and monitoring plan, which also needs to hire local people, including persons with disabilities and minority.	8.3 8.5	8.3.1 Proportion of informal employment in total employment, by sector and sex. 8.5.1 Average hourly earnings of employees, by sex, age, occupation and persons with disabilities	Implement activities to increase	3.2, #4	Claim

[2] The result is recorded in Grid B25 of the submitted document "1_MR-ER calculate sheet".

[3] Please refer to submitted document "Statement about outcomes of SDGs"

9)	Prior to the Project, the maximum production capacity of the factory is 1,000 devices per month. After the implementation of the Project, the maximum production capacity expanded to 1,200 to 1,500 devices per month[4].	The local factories which produce ICS for the project are small-scale industries, which will expand production capacity to satisfy the needs. Thus, the upstream and downstream supply chain will benefit from the project.	9.3	9.3.1 Proportion of small-scale industries in total industry value added	Implement activities to increase	3.2, #5	Claim
10)	The project has prevented the release of 162,395 tonnes of CO_2 emissions into the atmosphere during this monitoring period.	The average annual GHG emission reduction from the project is expected to be 343,519 tCO_2e due to less firewood combustion for cooking in the households.	13.0	Tonnes of greenhouse gas emissions avoided or removed	Decrease	VCS project description	SD VISta-labeled VCU
11)	The project has saved 79,272 tonnes non-renewable biomass during this monitoring period.	The project will help local people consume less firewood as the ICS has higher thermal efficiency and it will result in a reduction of deforestation.	15.1 15.2	15.1.1 Forest area as a proportion of total land area 15.2.1 Progress towards sustainable forest management	Implemented activities to increase	4.2, #2	Claim

[4] Please refer to submitted document "Statement about outcomes of SDGs".

2 PROJECT DESIGN

2.1 Project Objectives, Context and Long-term Viability

2.1.1 Summary of Project Sustainable Development Objective(s)

Before the implementation of the project, most of the local people in the project location use non-renewable biomass for cooking with open fire or three-stone fire. The project has distributed 24,696 ICSs to households from 06/08/2022 to 05/08/2024, and 24,232 are still operating. The project has enabled and enhanced households to achieve several sustainable development objectives:

Improved cookstove is a basic service necessary to lead a healthy and productive life, including saving time and money for wood fuel at the household level. The project proponent will distribute 100,000 ICSs in total, and the ICSs are produced in local factories. So the implementation of the project has resulted in more job opportunity and income. (SDI 1.1.1)

The project has improved food security and nutrition status, particularly for children and women by reducing inadequate cooking, the burden of firewood collection, the time to prepare food, the cost for buying firewood. (SDI 2.1.1)

Most of non-renewable biomass local people used for cooking is firewood, which generates high PM2.5 and high CO biomass smoke when inefficiently burnt. By using ICS, it has reduced people's exposure to high PM2.5 and high CO due to higher efficiency of combustion leading to faster cooking and more complete combustion. (SDI 3.9.1). And it has also reduced the burn risk, significant to children and toddlers due to enclosure of the fire in the combustion chamber. (SDI 3.2.1).

The project has reduced the time spent on firewood collection for children, especially for girls. It has increased their time for education. The implementation of project needs plenty of local people to participate in production, distribution or use steps. They have got relevant skills and sustainable development and global citizenship education through training by project proponent. (SDI 4.3.1, 4.7.1).

The project has reduced women and children's drudgery through the time savings in cutting, collecting, and carrying firewood from trees far away from households as well as cooking over toxic smoky open fires. These tasks, if being undertaken without relief, are a major cause of gender inequality. (SDI 5.4.1).

The project has protected an important water related ecosystem-forest through reducing deforestation by firewood collecting. (SDI 6.6.1). The project has increased the proportion of population with primary reliance on clean fuels and technology in project area. (SDI 7.1.2).

The factory which produces ICS is a local enterprise. It has hired more workers to produce ICSs for the project. During the project crediting period, the project proponent and its local partners are in charge of maintenance and monitoring plan, which also needs to hire local

people, including persons with disabilities and minority. (SDI 8.3.1, 8.5.1). The local factories are small-scale industries. They have expanded production capacity to satisfy the needs of the project. Thus, the upstream and downstream supply chain has benefited from the project. (SDI 9.3.1).

The average annual GHG emission reduction from the project is expected to be 481,597 tCO_2e due to less firewood combustion for cooking in the households. The project has prevented the release of 162,395 tonnes of CO_2 emissions into the atmosphere during this monitoring period. (SDG 13).

The project has helped local people consume less firewood as the ICS has higher thermal efficiency and it resulted in a reduction deforestation compared to the baseline scenario. (SDI 15.1.1, 15.2.1).

2.1.2 Description of the Project Activity

The project involves distribution of fuel-efficient portable ICSs in Madagascar. The ICSs disseminated through this project has replaced the old low efficient baseline cookstoves. The ICSs are produced by local factories.

Through this project, Guangzhou Iceberg Environmental Consulting Services Co., Ltd. (hereinafter referred to as “Iceberg”) will distribute approximately 100,000 ICSs free of charge to households in project area. 24,696 households have received ICSs from 06/08/2022 to 05/08/2024 and 24,232 are still operating. The Iceberg also dedicates to enhance the community’s awareness of health, well-being, climate change and sustainable development. Local employees have been trained on production skills, sampling and conducting survey of the ICS users.

Before the implementation of the project, local people mostly used traditional solid-fuel cooking solutions such as open fire or three-stone fires. They spent plenty of time to collect firewood every day due to low combustion efficient. The ICSs burns wood more efficiently thereby improves thermal transfer to pots, hence saving firewood. The project has reduced the GHG emission by less firewood combustion, which has also reduced the rapidly progressing deforestation in project area.

The scenario existing prior to the implementation is widely used traditional solid-fuel cooking solutions such as open fire or three-stone fires. Due to low income, people would continue to use them to meet thermal energy needs without project activity.

2.1.3 Implementation Schedule

Date	Milestone(s) in the Project’s Development and Implementation
02/06/2022	Stakeholder meeting in in the village of Avaratanana
06/08/2022	Start distributing ICS
16/06/2023 to 24/07/2023	Fuel consumption survey

18/08/2023 to 24/01/2024	Project survey
05/08/2024	24,696 ICSs have been distributed.

2.1.4 Project Proponent

Organization Name	Guangzhou Iceberg Environmental Consulting Services Co., Ltd.
Role in the Project	Project proponent
Contact Person	Ji BAO
Title	General Manager
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2.1.5 Other Entities Involved in the Project

No other entities involved. The Project proponent is the only entity which is in charge of the project.

2.1.6 Project Location

The project location is the geographic boundary of the Republic of Madagascar.

Table 1: Geographical coordinates of the Republic of Madagascar

Orientation	Latitude	Longitude
Eastmost	15°20′16″ S	50°32′28″ E
Westmost	22°10′30″ S	43°13′24″ E
Southmost	25°35′19″ S	45°10′19″ E
Northmost	12°09′49″ S	49°16′32″ E

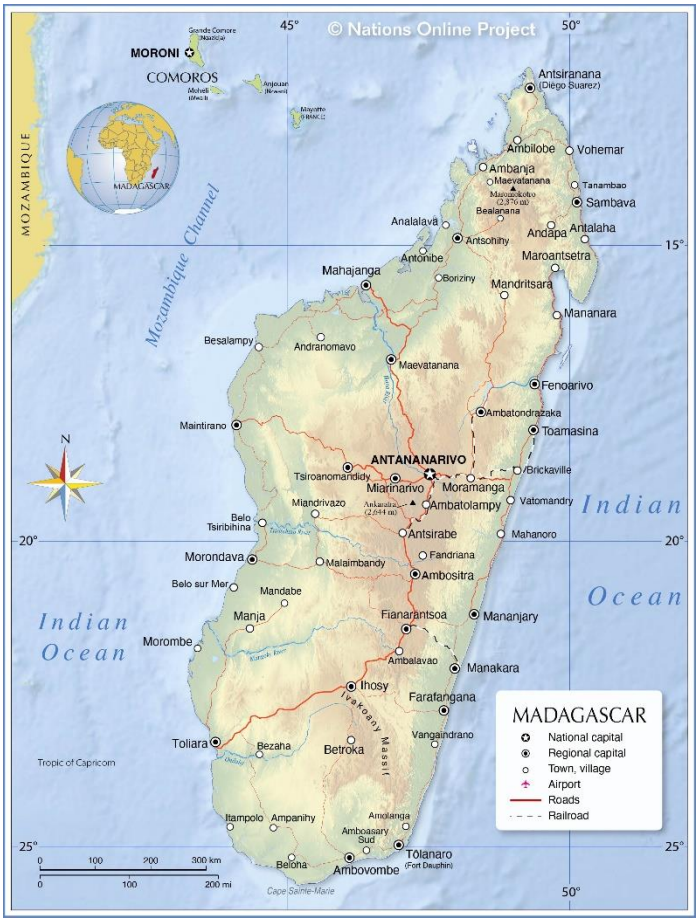

Figure 1: Map of the Republic of Madagascar

2.1.7 Project Description Deviations

There is no project description deviation applied during this monitoring period.

2.1.8 Threats to the Project

Natural-induced threats

Threat: More and more difficult to collect firewood for stove due to deforestation and degradation

Mitigation activity: Due to low income of end-users, they tend to use free firewood for stove instead of other fuel. The project ICSs distributed to them have reduced the consumption of the firewood.

Threat: The COVID-19 pandemic might affect the process of the project

Mitigation activity: Iceberg has found reliable local partners to overcome the difficulty from international travel limit between China and other countries. They are experienced in operating ICS donation project, including conducting stakeholder' consultation and field visits. Iceberg and local partners are communicating smoothly by telephone and internet. And now the COVID is over, the representatives of Iceberg have met with local partners in Madagascar.

Human-induced threats

Threat: The households may not want to accept the ICS

Mitigation activity: First of all, the end-user households have been chosen carefully to avoid this problem. Only the poor households who do not have similar cookstoves have been chosen to receive our donation. And through the explanation to them, they can easily understand the benefits of the ICS, such as the reduction of air pollution and cost on wood fuel. Iceberg and its local partners have continuously communicated with end users to solve problems.

2.1.9 Benefit Permanence

The project will distribute approximately 100,000 to households, which are produced in local factories. 24,696 households have received ICSs from 06/08/2022 to 05/08/2024 and 24,232 are still operating. Hence the implementation of the project needed plenty of local people to participate in production, distribution or use steps, which resulted in more job opportunity and income. It has trained skilled workers for Madagascar industry, which benefited both themselves and the country even after the project activities have ceased. The project will have long-term positive influences on the health of end-users, especially the women and girls who mainly undertake the cooking in the households through the improvement of air condition. The time saved for education from cooking and firewood collection has permanent positive influences on the children, especially the girls who are mainly in charge of these two tasks. The forest saved by the project through the reduction of non-renewable biomass consumption has protected the environment and biodiversity for a long time.

2.2 Stakeholder Engagement

2.2.1 Stakeholder Consultation and Adaptive Management

Stakeholder consultation meeting was held at 2 pm on 2nd June 2022 in the village of Avaratanana, in the commune of Ambohimanarina, Antananarivo Madagascar. Local people, communities and or representatives who are directly or indirectly affected by the project, such as end-users, stove manufacturer are identified as stakeholders. Iceberg also identifies and encourages anyone who are interested in the project. Iceberg invites local authorities participate in the decision of the project. And the local people employed under this project who are directly impacted by the project. For introduce the project and collect opinions from all the types of stakeholders identified above, various inviting methods were applied for the stakeholder consultation meeting. For the convenience of stakeholders, the invitations were in both English and Swahili. The invitation was sent to villagers through broadcast in villages to make sure everyone can understand. Some local people were invited by phone call. For local officers and entrepreneurs, invitation letters were sent to them as formal invitation. National government officials, local and international NGOs were invited by email. Over 50 representatives from the local government of the commune of Antananarivo IV, national organizations, local NGOs, and villagers from different areas signed the participation in the meeting on which they recorded their names, jobs and contact details with their signatures.

Discussion on the Ongoing Feedback and Grievance Mechanism also has been held on meeting. The participants discussed how to keep contact between the users of improved cookstoves and the Iceberg. They opted for safer means. The first way is to use the phone and they could report problems regarding the project by phone. The second way is to put a book in villages where the project is implemented and users could report comments in that book. Representatives of the Iceberg will consult the books each month to see the reported problems and find solutions with users. The third way is to report by email. They can also use our website (http://www.icebergchina.com/ensnew/contents/304/96.html) to submit any comment. And all information about the project can be found in this website. The information will be updated as the project implemented. Stakeholders from all over the country can provide feedback to us in the above ways. Also, when the ICSs are distributed to the communities all over the country, local stakeholders are explained about the project and encouraged to participate in providing grievance.

The village leaders are in charge of reporting the problems stated in the opinion books to the local representative of Iceberg, and the latter also have checked the opinion books occasionally to see the problems reported and find solutions with users.

During the implementation of the project, project proponent cooperates with local partners to monitor any risk related to women and girls, minority groups, and marginalized groups in the local community due to project activities and avoid that.

During this monitoring period, the project operated well, and the stakeholders were pleased with it. No negative comment received.

2.2.2 Anti-Discrimination

The workers have been hired locally. Women, persons with disabilities, and minority has equal chance to get the jobs. The workers have been trained for sexual harassment prevention and reporting.

2.2.3 Worker Training

The staff of the project has been trained to implement the monitoring plan and recognize, respect, and promote the protection of the rights of local community. During the crediting period, continuous training programs aimed at enhancing local skills in areas such as sustainable project management, carbon accounting, and environmental monitoring were provided. The project proponent ensures that the methods used are appropriate and that the information supports criteria and procedures helps in building technical capacity among local stakeholders. The project proponent regularly assessed the effectiveness of training programs and making necessary adjustments to enhance their impact on local capacity building. Accurate quantification and reporting require local capacity to gather, analyze, and report data consistently and transparently. The training also includes preserve and protect cultural heritage during the implementation of the project. The workers have been trained for sexual harassment prevention and reporting, which is specialized for vulnerable female.

2.2.4 Equal Work Opportunities

When conducting recruitment, the project proponent and local partner prioritize hiring local community members. Due to the needs of project operating and monitoring, there are plenty new opportunities open to local community, including project stakeholders. Equal opportunities are provided in the context of gender for employment and participation in consultation and project activities. This ensures that both men and women have the same opportunities to contribute to and benefit from the project. The project also mandates equal pay for equal work, ensuring that compensation is fair and non-discriminatory.

2.2.5 Workers' Rights

Iceberg and its local partners have a labour contract with each worker. Before the workers sign it, the contracts have been explained explicitly to make sure that they could understand their rights and obligations. The contract terms conform with, and uphold the principles and rights of, work addressed in the Core Labour Conventions of the International Labour Organization (ILO). And it also complies with national and local labour laws[5]. The workers have been trained about the related regulations and laws.

2.2.6 Occupational Safety Assessment

The project activity involves producing and distributing ICSs. And monitoring plan also needs workers to implement. The occupational safety hazards identified including accident, transport-related accidents, stealing of parts. Iceberg has taken the above risks into consideration. To reduce the risks, Iceberg cooperates with local experienced teams and hire local workers. They

[5] https://www.ilo.org/dyn/natlex/natlex4.countrySubjects?p_lang=en&p_country=MDG

are very familiar with the communities, language and local culture. This understanding of traditional values, respect, and working environment in the communities helps Iceberg a lot. And they have also provided work safety training to staff, which is crucial for ensuring that all staff members understand the risks.

2.2.7 Feedback and Grievance Redress Procedure

Iceberg and its local partners have already established grievance mechanism in the project area, which has been explained to the stakeholders during stakeholder meeting and the project implementation progress. The stakeholders or anyone who had not previously been identified but affected by the project can express any complaint.

The details on procedure for feedback and grievance have been made public on website of Iceberg as the following, which is accessible to all stakeholders of the project: http://www.icebergchina.com/ensnew/contents/304/96.html

People also can complaint to local village leaders or LIANTSOA directly by calling, cell phone message, email and opinion books. They can contact Iceberg by calling and email too. LIANTSOA will report the feedbacks to Iceberg periodically. During this monitoring period, the stakeholders all express their support, no objections or suggestions received.

2.2.8 Stakeholder Access to Project Documentation

The project details were explained to stakeholders in the stakeholder consultation meeting before it was implemented. The full project documentation including the results of monitoring for the monitoring period recorded in the draft monitoring report, has been publicized on the project proponent's website during the whole crediting period of the project: http://www.icebergchina.com/ensnew/contents/304/96.html

2.2.9 Information to Stakeholders on Assessment Process

The project proponent and local partner communicate in advance to set up a time with VVB for the on-site audit. Once finalized, stakeholders will be notified in advance of the purpose, time, and location of the audit. And VVB's information, including the name of the VVB firm, the assessor team's contact information, will be provided to stakeholders to facilitate direct contact between them.

2.3 Project Management

2.3.1 Avoidance of Corruption

The project proponent has rules and regulations about the avoidance of corruption, code of conduct, and business ethics. All the staff should abide by them. These rules and regulations have also been provided to its local partners, who should promise to comply with them and avoid any form of corruption, including bribery, embezzlement, fraud, favouritism, cronyism, nepotism, extortion and collusion, for cooperation. Any person or organization which violates

the anti-corruption rules and regulations cannot continue to work for or cooperate with project proponent. The project proponent ensures that the implementation of project in accordance with all legal requirements and is held to the highest standard of operation.

2.3.2 Recognition of Property Rights

Iceberg distributes ICSs to individual households free of charge. The property right of ICS belongs to end-users while that of carbon credits generated from the project belongs to Iceberg. The end-users have signed donation and carbon transfer agreements with Iceberg when they receive ICSs to confirm the property rights of ICSs and carbon credits.

2.3.3 Free, Prior and Informed Consent

The project is voluntarily implemented by Iceberg and its local partners, and end-users are free to choose whether they take part in the project or not. Free, prior, and informed consent takes place before distribution through signing of the donation and carbon transfer agreements when the end-users receive the ICSs, which clarify the property rights of the ICSs and the carbon credits generated from the project.

2.3.4 Restitution and/or Compensation for Affected Resources

The project activity involves distribution of ICSs to individual households only and it has not affected any resources.

2.3.5 Property Rights Removal/Relocation of Property Rights Holders

The project activity involves distribution of ICSs to individual households only and it has not led to any removal of property rights or relocation of property rights holders.

2.3.6 Identification of Illegal Activities

Theft and corruption are commonly identified as illegal activities in Madagascar. As there is no transfer of funds at the stakeholder level, the project proponent expects to eliminate the cause of corruption. The project proponent has rules and regulations about the avoidance of corruption, code of conduct, and business ethics. All the staff should abide by them. These rules and regulations have also been provided to its local partners, who should promise to comply with them and avoid any form of corruption, including bribery, embezzlement, fraud, favouritism, cronyism, nepotism, extortion and collusion, for cooperation. Each water supply system has been equipped with workers who can avoid illegal activities like theft. During this monitoring period, no illegal activities occurred.

2.3.7 Ongoing Conflicts or Disputes

The project activity involves distribution of ICSs to individual households only. There is no ongoing or unresolved conflicts or disputes over rights to lands, territories and resources and any disputes.

2.3.8 National and Local Laws and Regulations

Relevant local, regional and national laws, statutes and regulatory frameworks in Madagascar:

- Environmental Code[6]

This code promotes sustainable management of natural resources, which includes initiatives for improved cookstoves to reduce deforestation and improve air quality. The project ICS is a clean cooking service which has a higher thermal efficiency, result in reducing the consumption of woody biomass and deforestation. Thus, the implementation of the project is in line with this code.

2.4 Grouped Projects

The project is not a grouped project.

[6] https://faolex.fao.org/docs/pdf/mad11726.pdf

3 BENEFITS FOR PEOPLE AND PROSPERITY

3.1 Impacts on Stakeholders

Impact #1	Access to ICS
Type of Impact	Positive, actual, direct
Affected Stakeholder Group(s)	ICS end-users
Resulting Change in Well-being	24,696 households have received ICSs, and 24,232 are still operating.

Impact #2	Improved Health Status
Type of Impact	Positive, actual, direct
Affected Stakeholder Group(s)	ICS end-users
Resulting Change in Well-being	According to the monitoring survey, 100% surveyed households admitted that the indoor air quality has been improved since they received the ICS. The ICS has reduced people's exposure to high PM2.5 and high CO due to higher efficiency of combustion. It has reduced the burn risk, significant to children and toddlers due to enclosure of the fire in the combustion chamber.

Impact #3	Less time spent on unpaid domestic and care work
Type of Impact	Positive, actual, direct
Affected Stakeholder Group(s)	ICS end-users

Resulting Change in Well-being	It has reduced about 29% of the time spent on firewood collection and cooking for people, especially for women and children.

Impact #4	More income
Type of Impact	Positive, actual, direct
Affected Stakeholder Group(s)	Stove manufacturer and employees
Resulting Change in Well-being	2 more local people have been hired after the implementation of the project. There are 12 full-time employee and 5 part-time employees now, and 8 of them are women, 3 are with disabilities. The average hour salary of full-time employee has increased from 0.22USD to 0.25USD.

Impact #5	Expand production capacity
Type of Impact	Positive, actual, direct
Affected Stakeholder Group(s)	Stove manufacturer
Resulting Change in Well-being	Prior to the Project, the maximum production capacity of the factory is 1,000 devices per month. After the implementation of the Project, the maximum production capacity expanded to 1,200 to 1,500 devices per month.

3.2 Stakeholder Impact Monitoring

The project activity is distributing ICSs to households, which has a net positive impact on overall well-being of the people in the project site. A monitoring plan is needed to identify the monitored stakeholder groups, the types of measurements, the sampling methods and the frequency of monitoring and reporting.

Sampling method

The sustainable development indicators mentioned above have been monitored, which included impacts on mostly stakeholders of the project. The “health status” and “time spent on unpaid

domestic and care work" were monitored by multi-stage sampling method as per "Standard sampling and surveys for CDM project activities and POAs (Ver9.0)" and "Guideline for sampling and surveys for CDM project and POA (Ver 4.0)":

Parameter	Description	Purpose	Affected Stakeholder Group(s)	Frequency
$N_{y,i,j}$	Number of project devices of type i and batch j operating during year y	Determination of Impact #1	ICS end-users	At least biennial
Health status	Monitored in project survey through questionnaire	Determination of Impact #2	ICS end-users	At least biennial
Time spent on unpaid domestic and care work	Monitored in project survey through questionnaire	Determination of Impact #3	ICS end-users	At least biennial
Income	Monitoring through communication with partner, which have provided statements	Determination of Impact #4	Stove manufacturer and employees	At least biennial
Production capacity	Monitoring through communication with partner, which have provided statements	Determination of Impact #5	Stove manufacturer	At least biennial

Sampling plan

The target population for the multi-stage sampling is all the population who receives the project ICS. The sampling method combines the cluster and simple random sampling approaches in a two-stage sampling scheme which enables us to randomly select some villages from all the villages and then randomly sample some households from all the households within those sampled villages.

Iceberg and its local partners have collected data through interviews and surveys about stakeholders' financial, health and employment records. Local partners are experienced in operating donation projects, and Iceberg also trained them to make sure they follow closely to the monitoring plan. They have collected primary information through regular visits and interviews with the end-users and other stakeholders. The data from these interactions have been uploaded online and submit to Iceberg. To make sure the data is credible, the data has been cross checked by Iceberg.

Considering the heavy workload of collecting data, Iceberg and local partners have used an online system and storage cloud to collect data. Surveys are designed to monitor stakeholders' improvements and benefits by implementation of the project.

Identification and sensitization visit

Before the implementation of the project, local partners of Iceberg have conducted a one-time identification and sensitization visit to local villages. Local partners identified and visited villages which are suitable for the project activity. They have discussed with the leaders of villages and villagers. They also have communicated with other stakeholder such as local officers and NGOs, and searched for their support and cooperation. In discussion with stakeholders, they explained the project and its benefits on health, nutrition and climate change. Any questions raised are recorded and responded. After the project plan is accepted, a stakeholder consultation meeting has been held to introduce the project to all interested households.

Distribution visit

The project ICSs are produced by a local manufacturer, which are portable and easy to use. When distributing ICSs to end-users, technicians explained how to use and maintain the ICSs. Local partners could respond to any doubts or questions and leave a telephone number so end-users can contact Iceberg or local partners when needed. Before completing the visit, local partners ensure that the end-users are capable to prepare meals on their new ICSs.

Verification visit

During this monitoring period, Iceberg and local partner have conducted a multi-stage random sampling survey on the implementation of the project, including all the effects identified in the project's causal chain related to stakeholder well-being. End-users' using experience and stove condition have been monitored and recorded in the questionnaires.

3.3 Net Positive Stakeholder Well-being Impacts

(a) The ICS end-users

Improved cookstove is a basic service necessary to lead to a healthy and productive life, including saving time and money for wood fuel at the household level. 24,696 households have received ICSs from 06/08/2022 to 05/08/2024 and 24,232 are still operating. The project has reduced the drudgery undertaken by them especially for women and children through time savings in cutting, collecting, and carrying firewood from trees. The project has also improved food security and nutrition status by reducing inadequate cooking. By using ICS, it has reduced people's exposure to high PM2.5 and high CO due to higher efficiency of combustion, which led to faster cooking and more complete combustion. It has also reduced the burn risk, significant to children and toddlers due to enclosure of the fire in the combustion chamber.

(b) Stove manufacturer

The manufacturer which produces ICS is a local enterprise. Before the implementation of the project, the manufacturer had 5 full-time employee and 20 part-time employees, and 8 of them were women, 1 was with disabilities. After the implementation of the project, we have 7 full-time employee and 30 part-time employees, and 18 of them are women, 1 is with disabilities. And its maximum production capacity has increased form 10,200 devices per month to 16,800 devices per month.

(c) Local authorities

The living standard and economic income have been improved by the implementation of the project, which have positive impacts to local governments on governance and tax revenue.

4 BENEFITS FOR THE PLANET

4.1 Impacts on Natural Capital and Ecosystem Services

Impact #1	Tonnes of greenhouse gas emissions avoided or removed
Type of Impact	Positive, actual, direct
Affected Natural Capital and/or Ecosystem Service(s)	GHG concentration of atmosphere, climate change
Resulting Change in Condition	The project has prevented the release of 162,395 tonnes of CO_2 emissions into the atmosphere during this monitoring period.

Impact #2	Avoided deforestation due to consume less firewood of ICS
Type of Impact	Positive, actual, direct
Affected Natural Capital and/or Ecosystem Service(s)	Forest area, biodiversity, and water and soil, etc.
Resulting Change in Condition	The project helps local people consume less firewood as the ICS has higher thermal efficiency. It has saved 79,272 t non-renewable biomass and resulted in a significant reduction of deforestation.

4.2 Natural Capital and Ecosystem Services Impact Monitoring

Sampling method

To monitor the impact on natural capital and ecosystem services, the following parameters need to be monitored, determined by multi-stage sampling method as per “Standard sampling and surveys for CDM project activities and POAs (Ver9.0)” and “Guideline for sampling and surveys for CDM project and POA (Ver 4.0)”:

Parameter	Description	Purpose	Affected Stakeholder Group(s)	Frequency
$N_{y,i,j}$	Number of project devices of type i and batch j operating during year y	Determination of Impact #1 and #2	ICS end-users	Biennial
$B_{y=1,new,i,survey}$	Quantity of woody biomass used by project devices in tonnes per device of type i and batch j	Determination of Impact #1 and #2	ICS end-users	Determined in the first year of project implementation

The above data has been collected through survey and fuel consumption test, which is the responsibility of the local partners. Iceberg has trained its local partners about the monitoring plan and supervise their work. The end-user households surveyed have been chosen through multi-stage random sampling. The data from survey has been recorded, analyzed and reported by Iceberg and its local partners. The monitoring and reporting have been conducted each time when verification of SD-VISta is conducted.

4.3 Net Positive Natural Capital and Ecosystem Services Impacts

By replacing traditional low efficient three-stone fires with high efficiency improved cookstove in households, the project has increased energy efficiency resulting in less fire wood combustion, thus generate net GHG reductions. This monitoring period is the first one, which is from 06/08/2022 to 05/08/2024. The GHG emission reduction of this monitoring period from the project is 162,395 tCO_2e. It has saved 79,272 t non-renewable biomass and resulted in a significant reduction of deforestation.