Sustainable Development Verified Impact Standard

BANGLADESH APON CHULA IMPROVED COOKSTOVE PROGRAM I

冰川环境

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

Project Title	Bangladesh Apon Chula Improved Cookstove Program I
Version	01
Date of Issue	24/08/2022
Project Location	Sylhet and Chittagong Divisions, People's Republic of Bangladesh
Project Proponent(s)	Guangzhou Iceberg Environmental Consulting Services Co., Ltd.
Assessor Contact	Address: No.106 Fengze East Road, Nansha District, Guangzhou, China Telephone: +8613560420840 Email: baoji@icebergchina.com ; hanjin@icebergchina.com
Project Lifetime	01/08/2022 –31/07/2032(expected time); 10-year lifetime
History of SD VISta Status	No previous attempts at SD VISta certification made to date

Other Certification Programs	Verified Carbon Standard
Expected Future Assessment Schedule	

CONTENTS

1 SUMMARY OF SDG CONTRIBUTIONS

Table 1: Summary of Project SDG Contributions

Row number	Estimated Project Contribution by the End of Project Lifetime	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Section Reference	Claim, Asset or Label
1)	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)	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, 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	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

	due to enclosure of the fire in the combustion chamber.					
4)	The project will reduce the time spend 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 project will reduce women and children's drudgery through time savings in reducing time spent on cutting, collecting, and carrying firewood from trees far away from households as well as cooking over toxic smoky open fires.	5.4	5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age, and location.	Implemented activities to decrease	3.2, #3	Claim
6)	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)	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)	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	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,	Implement activities to increase	3.2, #4	Claim

	also needs to hire local people, including persons with disabilities and minority.		occupation and persons with disabilities			
9)	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 will promote the investment in a least developed country-Bangladesh for the manufacturing of ICSs. It will provide ICSs to Manipuri tea garden workers, who are an ethnic minority living in the northeast of Bangladesh	10.b	10.b.1 Total resource flows for development, by recipient and donor countries and type of flow	Implement activities to increase	3.2, #5	Claim
11)	The project provides ICSs with high thermal efficiency to reduce the consumption of firewood. It helps achieve efficient use of an important type of nature resources, non-renewable biomass.	12.2	12.2.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP	Implement activities to decrease	4.2, #2	Claim
12)	The average annual GHG emission reduction from the project is expected to be 461,439 tCO2e 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
13)	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

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 will distribute fuel-efficient ICS to replace the baseline cookstoves in households. The project will enable and enhance 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, and the ICSs are produced in local factories. Therefore, the implementation of the project will result in more job opportunity and income. (SDI 1.1.1)

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 for buying firewood. (SDI 2.1.1)

Most of non-renewable biomass local people used for cooking is firewood, which will generate high PM2.5 and high CO biomass smoke when inefficiently burnt. 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. (SDI 3.9.1). And it will also reduce the burn risk, significant to children and toddlers due to enclosure of the fire in the combustion chamber. (SDI 3.2.1).

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

The project will reduce 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 will protect an important water related ecosystem-forest through reducing deforestation by firewood collecting. (SDI 6.6.1). The project will increase 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 will hire more workers to produce ICSs for the project. During the project crediting period, the project proponent and its local partners will be 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 will expand production capacity to satisfy the needs of the project. Thus, the upstream and downstream supply chain will benefit from the project. (SDI 9.3.1).

The project will promote the investment in a least developed country-Bangladesh for the manufacturing of ICSs. It will provide ICSs to Manipuri tea garden workers, who are an ethnic minority living in the northeast of Bangladesh. (SDI 10). The project provides ICSs with high thermal efficiency to reduce the consumption of firewood. It helps achieve efficient use of an important type of natural resources, non-renewable biomass. (SDG 12.2).

The average annual GHG emission reduction from the project is expected to be 461,439 tCO2e due to less firewood combustion for cooking in the households. (SDG 13).

The project will help local people consume less firewood as the ICS has higher thermal efficiency and it will result 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 Sylhet and Chittagong Divisions, People's Republic of Bangladesh. The ICSs disseminated through this project will replace the old low efficient baseline cookstoves. The ICSs will be 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. The Iceberg also dedicates to enhance the community’s awareness of health, well-being, climate change and sustainable development. When they realise the importance of forest to environment, Iceberg will help them organize community forestry models to protect the forest. Local employees will be trained on production skills, sampling and conducting survey of the ICS users.

Before the implementation of the project, local people mostly use traditional solid-fuel cooking solutions such as open fire or three-stone fires. They spend plenty of time to collect firewood every day due to low combustion efficient. The ICSs will burn wood more efficiently thereby improve thermal transfer to pots, hence saving firewood. The project will reduce the GHG emission by less firewood combustion, which will also reduce 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 will 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
28/03/2022	Stakeholder meeting
31/07/2022	Expected date of starting distributing ICSs
01/08/2022	Project start date: The next day of the distribution of the first batch of ICS, which is conservative because it is the date when full day use of the ICSs started
12/2024	Planned time of finishing distribution of 100,000 ICSs

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
Address	No.106 Fengze East Road, Nansha District, Guangzhou, China
Telephone	+8613560420840
Email	baoji@icebergchina.com; hanjin@icebergchina.com

2.1.5 Other Entities Involved in the Project

No other entities involved.

2.1.6 Project Type

The project is categorised under type/category as below:

a) Sectoral scope: 03 - Energy demand

b) Type: II – Energy efficiency improvement projects

The project is not a grouped project.

2.1.7 Project Location

The project location will be the geographic boundary of Sylhet and Chittagong Divisions, People's Republic of Bangladesh.

Table 1: Geographical coordinates of Sylhet and Chittagong Divisions

Orientation	Latitude/Longitude	
	Sylhet Division	Chittagong Division
East	92°29′40″E	92°40′05″E
West	90°55′44″E	90°31′34″E
South	23°58′32″N	20°35′06″N
North	26°37′59″ N	24°16′19″ N

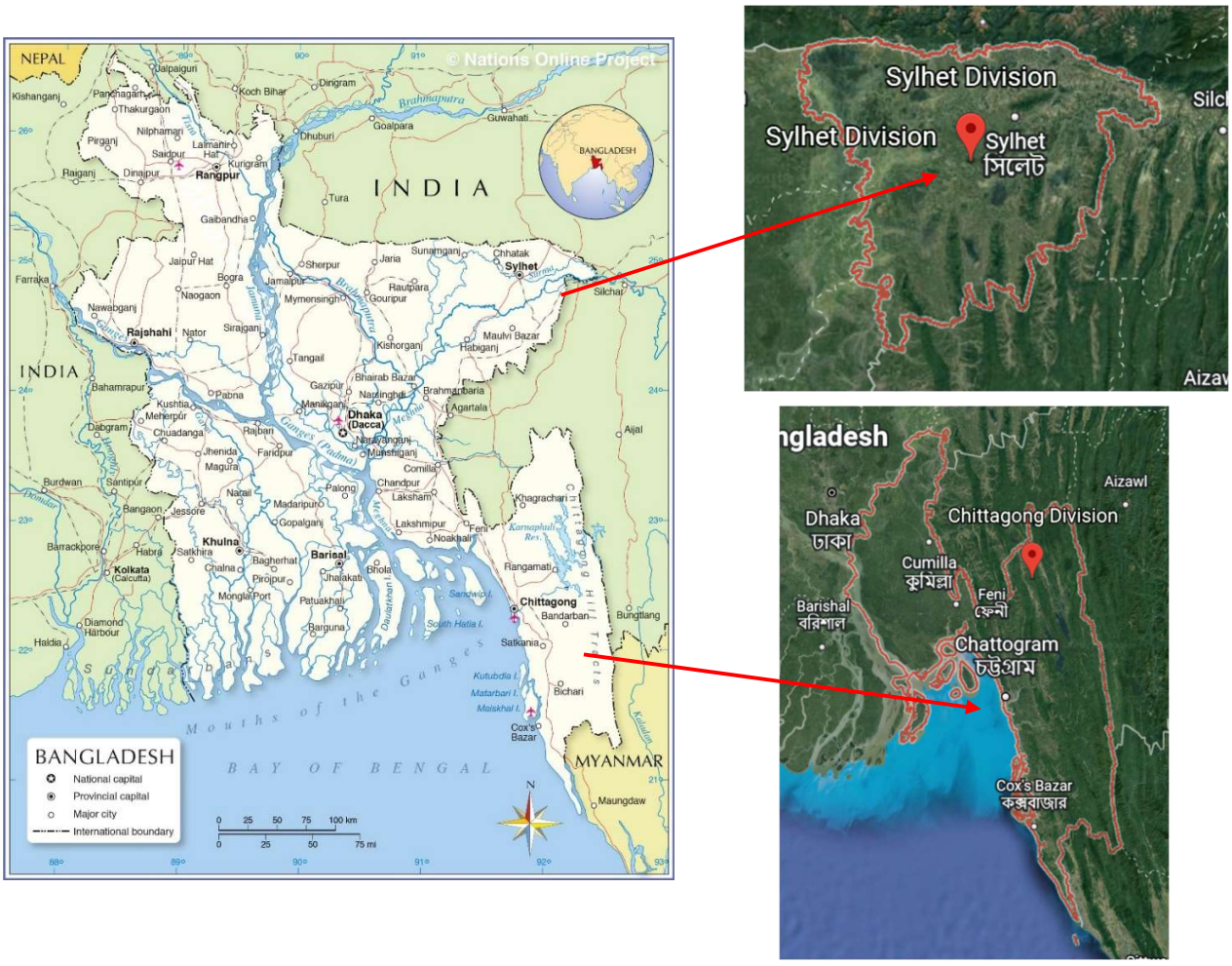


Figure 1: Map of Sylhet and Chittagong Divisions, Bangladesh

2.1.8 Baseline Scenario

Bangladesh is a country in South Asia. It is the eighth-most populous country in the world[1]. Bangladesh is a unitary parliamentary constitutional republic based on the Westminster system. Bengalis make up 98% of the total population of Bangladesh[2], and the large Muslim population of Bangladesh makes it the third-largest Muslim-majority country.

Sylhet Division is the northeast division of Bangladesh. The division's population is over 12 million and Bengali Muslims make up a large majority of the region's population. The area around Sylhet is a traditional tea growing area. The area has over 150 tea gardens, including three of the largest tea plantations in the world, both in terms of area and production. Nearly 300,000 workers, of which more than 75% are women, are employed on the tea estates. Employers prefer to engage women for plucking tea leaves since they do a better job than, but are paid less than, men. A recent drought has killed nearly a tenth of the tea shrubs.

The official language of Sylhet is Bengali. It is used in education and all government affairs in the division. The most common spoken language is Sylheti which is generally and officially considered as a dialect of Bengali[3].

[1] Bangladesh Statistics annual book 2020. Bangladesh Statistics Bureau. p. 21. ISBN 978-984-475-047-0.

[2] The Constitution of the People's Republic of Bangladesh. bdlaws.minlaw.gov.bd. Ministry of Law, The People's Republic of Bangladesh. Retrieved 1 February 2017.

[3] Niharranjan Ray (January 1980). Bangalir Itihas (in Bengali). Vol. 2.

The region is home to the Asian elephant and the One-horned rhinoceros, mostly towards the south. Tigers and leopards were once found throughout the region. Other notable fauna include the Sambar deer, Indian hog deer, Sylhet hara and Sylhet roofed turtle[4].

Chittagong Division, officially known as Chattogram Division, is geographically the largest of the eight administrative divisions of Bangladesh.

Natural calamities, such as floods, tropical cyclones, tornadoes, and tidal bores occur almost every year, combined with the effects of deforestation, soil degradation and erosion. The cyclones of 1970 and 1991 were particularly devastating, the latter killing some 140,000 people[5]. Bangladesh is recognised to be one of the most vulnerable countries to climate change. Natural hazards that come from increased rainfall, rising sea levels, and tropical cyclones are expected to increase as the climate changes, each seriously affecting agriculture, water and food security, human health, and shelter. It is estimated that by 2050, a 3-feet-rise in sea levels will inundate some 20 percent of the land and displace more than 30 million people[6]. To address the sea level rise threat in Bangladesh, the Bangladesh Delta Plan 2100 has been launched.

2.1.9 Causal Chain(s)

See appendix A for the Causal Chain image.

2.1.10 Threats to the Project

Natural-induced threats

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

Solution: Due to low income of end-users, they tend to use free firewood for stove instead of other fuel. Iceberg will continue to participate discussion and action around the design of sustainable forest management programs within project boundary. We not only distribute ICSs to households but also support local efforts to organize community forestry models.

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

Solution: 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

[4] B C Allen (1905). Assam District Gazetteers. Vol. 2. Calcutta: Government of Assam.

[5] Beset by Bay's Killer Storms, Bangladesh Prepares and Hopes, Archived 11 May 2011 at the Wayback Machine. Los Angeles Times. 27 February 2005

[6] Glennon, Robert. "The Unfolding Tragedy of Climate Change in Bangladesh". Archived from the original on 1 December 2017. Retrieved 23 November 2017.

partners are communicating smoothly by telephone and internet. If the new waves of COVID come to Bangladesh in the future, Iceberg will cooperate with its local partners to dispense personal protective equipment and disinfectants.

Human-induced threats

Threat: The households may not want to accept the ICS

Solution: Iceberg and its local partners will do research on the reason why some local households do not want to use the ICSs if it happens. First of all, the end-user households should be chosen carefully to avoid this problem. Only the poor households who do not have similar cookstoves will be chosen to receive our donation. Through the training, they can easily understand the benefits of the ICS, such as the reduction of air pollution and cost on wood fuel. The households accepting the ICS will share their experiences in the training to encourage higher usage rate. Iceberg and its local partners will continuously improve the training as well as other measures to increase the acceptance of the ICS.

2.1.11 Benefit Permanence

The project will distribute approximately 100,000 to households, which are produced in local factories. Hence the implementation of the project needs plenty of local people to participate in production, distribution or use steps, which will result in more job opportunity and income. It will train skilled workers for Bangladesh industry, which will benefit both themselves and the country even after the project activities have cesed. 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 will have 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 will protect the environment and biodiversity for a long time. The training about the proper usage of the ICS will be provided to the end-users, which will benefit them in the future. In addition, the project proponent plans to distribute new ICSs to replace the old ones from the sixth year of the crediting period. Since the lifetime of the ICSs is seven years, they can be still used for 2-3 years after the end of the crediting period. If the operation of the project can achieve the expectation of the project proponent, it plans to implement more ICS projects in Bangladesh.

2.2 Stakeholder Engagement

2.2.1 Stakeholder Identification

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. Local non-governmental organisations (NGOs) including Iceberg's partner who working on topics relevant to the project are stakeholders too.

2.2.2 Stakeholder Description

Relevant stakeholders have been identified as:

(a) The ICS end-users

The ICS end-users are directly affected by the project. It will reduce the drudgery of the local people, through time savings in cutting, collecting, and carrying firewood from trees far away from households as well as cooking over toxic smoky open fires.

(b) Stove manufacturer

The manufacturer which produces ICS is a local enterprise. It will hire more workers to produce ICSs for the project. The manufacturer and employees are directly influenced by the project.

(c) Local authorities

The support from local government is very crucial for the implementation of the project. It will provide indispensable information and authorization for the project. It will also help the project implementers to collect feedback from end-users.

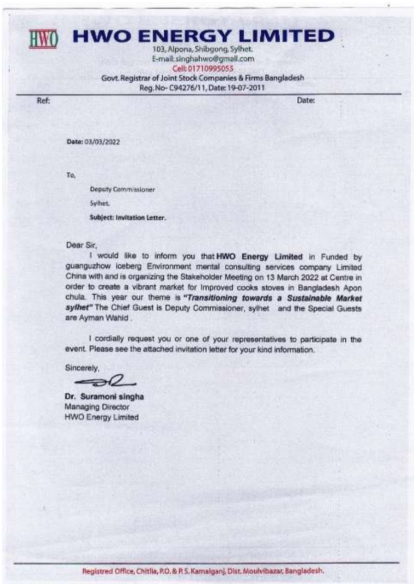
(d) NGOs

Iceberg will cooperate with local NGOs to make sure that the project will be implemented efficiently. Their feedback is very important for the improvement of the project implementation.

2.2.3 Stakeholder Consultation

Various inviting methods were applied for the stakeholder consultation meeting at least half a month before 28 March, 2022. For the convenience of end-users, an invitation letter in both English and Bengali was sent to them through broadcast in villages to make sure everyone can understand. For local officers, invitation letters were sent to them as formal invitation. Other local people and officials were invited in person with invitation letters for convenience. National government officials, local and international NGOs, women groups were invited by email.

Figure 2: Invitation letter


HWO ENERGY LIMITED
103, Alpona, Shibgong, Sylhet.
E-mail: singhahwo@gmail.com
Cell: 01710995055
Govt. Registrar of Joint Stock Companies & Firms Bangladesh
Reg. No- C94276/11, Date: 19-07-2011

Ref: Date:

Date: 03/03/2022

To,
Deputy Commissioner
Sylhet.
Subject: Invitation Letter.

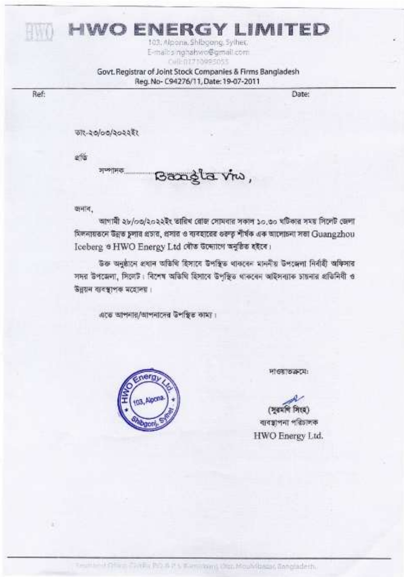
Dear Sir,
I would like to inform you that **HWO Energy Limited** in Funded by guanguzhow Iceberg Environment mental consulting services company Limited China with and is organizing the Stakeholder Meeting on 13 March 2022 at Centre in order to create a vibrant market for Improved cooks stoves in Bangladesh Apon chula. This year our theme is ***"Transitioning towards a Sustainable Market sylhet"*** The Chief Guest is Deputy Commissioner, sylhet and the Special Guests are Ayman Wahid .

I cordially request you or one of your representatives to participate in the event. Please see the attached invitation letter for your kind information.

Sincerely,

Dr. Suramoni singha
Managing Director
HWO Energy Limited

Registred Office, Chitlia, P.O. & P.S. Kamalganj, Dist. Moulvibazar, Bangladesh.


HWO ENERGY LIMITED
103, Alpona, Shibgong, Sylhet.
E-mail: singhahwo@gmail.com
Cell: 01710995055
Govt. Registrar of Joint Stock Companies & Firms Bangladesh
Reg. No- C94276/11, Date: 19-07-2011

Ref: Date:

তাং-২৩/০৩/২০২২ইং

প্রতি
সম্পাদক........ Bangla view,

জনাব,
আগামী ২৮/০৩/২০২২ইং তারিখ রোজ সোমবার সকাল ১০.৩০ ঘটিকার সময় সিলেট জেলা মিলনায়তনে উন্নত চুলার প্রচার, প্রসার ও ব্যবহারের গুরুত্ব শীর্ষক এক আলোচনা সভা Guangzhou Iceberg ও HWO Energy Ltd যৌথ উদ্যোগে অনুষ্ঠিত হইবে।

উক্ত অনুষ্ঠানে প্রধান অতিথি হিসাবে উপস্থিত থাকবেন মাননীয় উপজেলা নির্বাহী অফিসার সদর উপজেলা, সিলেট। বিশেষ অতিথি হিসাবে উপস্থিত থাকবেন আইসব্যাক চায়নার প্রতিনিধি ও উন্নয়ন ব্যবস্থাপক মহোদয়।

এতে আপনার/আপনাদের উপস্থিত কাম্য।

HWO Energy Ltd. 103, Alpona. Shibgonj, Sylhet.

দাওয়াতক্রমে:
(সুরমণি সিংহ)
ব্যবস্থাপনা পরিচালক
HWO Energy Ltd.

Figure 3: Photos of stakeholder meeting on 28 March, 2022

2.2.4 Continued Consultation and Adaptive Management

The participants discussed how to keep contact between the users of improved cookstoves and the Iceberg and its local partners. They can use the phone and email:

Iceberg: Mr. Ji BAO baoji@icebergchina.com +8613560420840
HWO Energy Ltd.: Dr. Suromoni Singha +8801710995055
They could report problems concerning the project by phone or E-mail. The second way is to use our website (http://www.icebergchina.com/ens/channels/274.html) to submit any comment. And all information about the project can be found in this website. The third way is that they could report to their village leaders, who will transfer these opinions to Iceberg and local partners. The fourth way is to put an opinion book in the villages where the project is implemented. The village leaders are in charge of reporting the problems stated in the books, The representatives of HWO will check the opinion books occasionally and find solutions with users.

2.2.5 Anti-Discrimination

Iceberg will distribute ICSs to local people who uses traditional low efficiency cooking solutions without distinction in genders, races, religions, educational backgrounds or any other aspects. The local factories and NGOs cooperated with Iceberg also dedicate to the elimination of discrimination. They need more employees to implement the project. Iceberg and they will make sure that women, persons with disabilities, and minority will have equal chance to get the jobs.

2.2.6 Worker Training

The implementation of project needs plenty of local people to participate in production, distribution or use steps. They will get relevant skills and sustainable development and global citizenship education through training by project proponent. Besides technical skills, the workers will be trained about the management structure, regulations and worker rights.

Training about monitoring plan will be provided to local partners, including survey method, data record and analysis. The monitoring plan will be carried out by qualified personnel trained for quality assurance and quality control.

2.2.7 Equal Work Opportunities

Iceberg is dedicated to make sure that all stakeholders, no matter their genders, races, religions, educational backgrounds or any other aspects, will be given an equal opportunity to fill all work positions. Recruitment advertising for the local villages will be given before the hiring of the full-time and part-time staff for the project. The recruitment advertisement will be provided in Bengali for them to understand.

The project will also encourage women, persons with disabilities, and minority to apply the jobs.

2.2.8 Workers' Rights

Iceberg and its local partners have a labour contract with each worker. Before the workers sign it, the contracts will be 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[7]. The workers will also be trained about the related regulations and laws.

2.2.9 Occupational Safety Assessment

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

The ICS uses firewood only. It is assumed will not cause any extraordinary risks. Fire burn (especially for kids), road accidents, or minor social disputes during delivery and demonstration activities may be main risks. Risks will be minimized by informing the end-users and workers about them, and by properly training.

2.2.10 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 complaint is received by HWO first. They record the complaint and try to solve it immediately. If the problem can't be solved, they will inform Iceberg to work together. All feedback and grievances are recorded in summary. Iceberg will identify if the complaint is a project-wide issue that makes a system change in implementation necessary.

People can complaint to local leaders or HWO directly by calling, cell phone message, email and opinion books. They can contact Iceberg by calling and email too. HWO will report the feedbacks to Iceberg periodically.

2.2.11 Feedback and Grievance Redress Procedure Accessibility

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/ens/channels/274.html

[7] Bangladesh Labour Act 2006 - Better Work

Additionally, it will be socialized and publicized to communities throughout the project location on local notice boards in Bengali.

2.2.12 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 will be uploaded on VERRA website and the same ones will be publicized on the Iceberg website during the whole crediting period of the project as the following linkage:
http://www.icebergchina.com/en/contents/128/91.html

2.2.13 Information to Stakeholders on Assessment Process

Iceberg and its local partners inform end-users that they are participating in a project that distributes the ICS free of charge to improve their respiratory health, the family economy, and the environment. They are informed in advance that the use of ICS generates carbon credits which in turn are used to cover the cost of ICS production and distribution through donation and carbon transfer agreement. To make sure that all the stakeholders know the process of SD VISta project assessment, including the site visits of assessors, Iceberg and its local partners will inform them through the website linkage, phone, email or in person.

2.3 Project Management

2.3.1 Avoidance of Corruption

Iceberg has rules and regulations about the avoidance of corruption, code of conduct, and business ethics. All the staff of Iceberg should abide by them. These rules and regulations will also be provided to Iceberg's local partners, who should promise to comply with them for cooperation with Iceberg. Any person or organization which violates the anti-corruption rules and regulations of Iceberg cannot continue to work for or cooperate with Iceberg. Iceberg will ensure that the implementation of project in accordance with all legal requirements and is held to the highest standard of operation.

2.3.2 Statutory and Customary Rights

The project activity involves distribution of ICSs to individual households only and it will not involve any land use or acquisition.

2.3.3 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 will sign donation and carbon transfer agreements with Iceberg when they receive ICSs to confirm the property rights of ICSs and carbon credits.

2.3.4 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.

2.3.5 Restitution and/or Compensation for Affected Resources

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

2.3.6 Property Rights Removal/Relocation of Property Rights Holders

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

2.3.7 Identification of Illegal Activities

Theft and corruption may be identified during the implementation of the project. Iceberg and its local partner will avoid any corruption as per Section 2.3.1 of this document. End-users will be reminded to keep their ICSs in safe places to reduce theft when they receive the ICSs.

2.3.8 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 that were resolved during the last twenty years.

2.3.9 National and Local Laws and Regulations

After searching, there are no laws, statutes and regulatory frameworks about the application of improved cookstoves in Bangladesh households. Iceberg and its local partners obey all relevant Bangladesh and local laws and regulations.

2.3.10 Project Ownership

Iceberg will purchase ICSs and distribute them to end-users free of charge. Before the distribution, end-users and Iceberg will sign an agreement to confirm that the property right of ICS belongs to end-users while that of the carbon credits generated from the project belong to Iceberg.

2.3.11 Grouped Projects

The project is not a grouped project.

3 BENEFITS FOR PEOPLE AND PROSPERITY

3.1 Condition of Stakeholders at Project Start

(a) The ICS end-users

Bangladesh is a least developed country till now. Gross national income (GNI) per capita in 2021 is 1827 USD. The under-five mortality rate is 30.8 per 1000 live birth. The education condition is not optimistic too. The adult literacy rate is 74.7%[8]. The life level of the local residents was low, most of them still use low efficiency traditional three-shone open fire at project start. They spend plenty time on cutting, collecting, and carrying firewood from trees far removed from households and exposed to toxic smoke.

(b) Stove manufacturer

All the factories participating in the project are small scale enterprises. They do not have many manufacturing equipment and employees. The investment for the implementation of the project will help them obtain enough investment to purchase more equipment and hire more employees, which will contribute to the development of stove industry in Bangladesh.

(c) Local authorities

Local officers welcome the project because the implementation of project will improve the living standard and economic situation within project boundary.

(d) NGOs

There are various NGOs dedicated to help local people in different ways in Bangladesh. They are very experienced in operating different types of donation projects. Local NGOs cooperate with Iceberg to make sure that the project goes well.

3.2 Expected Impacts on Stakeholders

Impact #1	Access to ICS
Type of Impact	Positive, actual, direct

[8] https://www.un.org/development/desa/dpad/least-developed-country-category-bangladesh.html

Affected Stakeholder Group(s)	ICS end-users
Resulting Change in Well-being	Reduce inadequate cooking, the burden of firewood collection, the time to prepare food, the cost to buy firewood. Especially for women and children.

Impact #2	Improved Health Status
Type of Impact	Positive, predicted, direct
Affected Stakeholder Group(s)	ICS end-users
Resulting Change in Well-being	Reduce people's exposure to high PM2.5 and high CO due to higher efficiency of combustion. It will also reduce 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, predicted, direct
Affected Stakeholder Group(s)	ICS end-users
Resulting Change in Well-being	Reduce 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	It will hire more workers to produce ICSs for the project. During the project crediting period, the project proponent and its local partners will be in charge of maintenance and monitoring plan, which also needs to hire local people.

Impact #5	Expand production capacity
Type of Impact	Positive, actual, direct
Affected Stakeholder Group(s)	Stove manufacturer
Resulting Change in Well-being	The manufacturer will expand production capacity to satisfy the needs of the project. Thus, the upstream and downstream supply chain will benefit from the project.

3.3 Stakeholder Monitoring Plan

The project activity is distributing ICSs to households, which will have 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.

Iceberg and its local partners will collect data through interviews, surveys, direct observations and group discussions 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 will collect primary information through regular visits and interviews with the end-users and other stakeholders. Direct observations and group discussions will be held at times. The data from these interactions will be compiled into reports and submit to the Iceberg. To make sure the data is credible, the data may be cross checked by a third-party or Iceberg.

Considering the heavy workload of collecting data, Iceberg and local partners may use an app 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 should conduct a one-time identification and sensitization visit to local villages. Local partners identify and visit villages which are suitable for the project activity. They have discussions with the leaders of villages and villagers. They also communicate with other stakeholder such as local officers and NGOs, and search for their support and cooperation. In discussion with stakeholders, they explain 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 community-wide training session is held to introduce the project to all interested households. The training includes information on the multiple benefits and how they can participant in the project.

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 explain how to use and maintain the ICSs. Local partners will 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.

Checking visit

Iceberg and/or local partners will conduct one-time follow-up visits with households after the distribution. This is the most critical visit because during this time that frustration with the ICS may arise. Villages where the project has been implemented will be chosen randomly. The staff will help end-users facilitate the adaptation, provide support to the women who cook, and solve emerging problems. Feedbacks from end-users will be collected. Iceberg and local partners will analyse these feedbacks and improve the project activity accordingly when applicable, increasing the adaptation of the community to the project.

Verification visit

During each time of the project verification, Iceberg and/or local partners will conduct a 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 will be monitored and recorded in the questionnaires. Other stakeholders' opinion and suggestion will also be recorded.

3.4 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. The project will reduce the drudgery undertaken by them especially for women and children through time savings in cutting, collecting, and carrying firewood from trees. The project will also improve food security and nutrition status by reducing inadequate cooking. By using ICS, it will reduce people's exposure to high PM2.5 and high CO due to higher efficiency of combustion, which leads 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.

(b) Stove manufacturer

The manufacturer which produces ICS are local enterprises. They will hire more workers to produce ICSs for the project. The project will contribute to the scale-up of local business and organizations with the potential to create jobs in cookstove industry, such as productions, assembly, marketing and distribution of related devices.

(c) Local authorities

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

(d) NGOs

There are various NGOs dedicated to help local people in different ways in Bangladesh, which are very experienced in operating donation projects. Local NGO cooperates with Iceberg to make sure the project goes well. It will also earn more experiences, especially for ICS project, from the project.

4 BENEFITS FOR THE PLANET

4.1 Condition of Natural Capital and Ecosystem Services at Project Start

Bangladesh occupies a forestry area of 1,47,57,000 ha[9]. For many years, the country has been aiming to have 20% of its geographical area under forest and tree cover. Although no complete inventory of the current tree cover of the country is available, the estimated tree cover in the country, on the basis of available data, is approximately 24,91,555 ha, including wooded lands outside state forests. This amounts to be nearly 16.88% of the geographical area of the country. If the exiting wetlands and water bodies in the country are excluded, as trees cannot be grown there, the tree covered area of the country exceeds 20% of the available area. Incidentally, all the increase in the tree cover has taken place outside the designated state forests while most of the natural forests, except the Sundarban, have been seriously denuded. Only about 15% of the natural sal forests in the plains and 11% of natural hill forests are now left in the country and these too are under severe biotic pressure.

The key challenge for the forestry sector is to preserve, preferably enhance, the forest and tree cover for ecological and environmental purposes, and as a defence against the impacts of impending climate change, while meeting the needs of the public for wood and non-wood products generated by forests. In view of the huge demand for forest products, land hunger, poverty and shortage of funds, the country has not been able to meet this challenge successfully, so far.

Although tree cover outside state forests has increased significantly over the last few decades, the natural forests have come under severe strain due to illegal felling, shifting cultivation and encroachments.

Bangladesh has been rated as among the most climate vulnerable country in the world, due to its low lying deltaic position, poverty, poor infrastructure and low ability to respond to extreme weather events. Global warming and the resultant changes in global climate in the form of rising temperatures, changes in rainfall patterns, sea level rise and a rise in the frequency of extreme weather events, like storms surges and cyclones, are likely to have a serious impact on the people and economy of the country. The country is likely to experience warmer winters, more rainfall over a shorter monsoon, more saline seas and salinity intrusion, and large parts of coastal areas, particularly mangroves, are likely to be submerged under water due to rising sea level. Although productivity of forest ecosystems is likely to go up due to increased photosynthesis in a warmer world, many existing forests may become unsuitable for some current species due to changes in local conditions. Poor condition of the hill forests, due to excessive human pressure makes them more vulnerable to the impacts of climate change.

[9] BANGLADESH FORESTRY MASTER PLAN 2017-2036 issued by Bangladesh Forest Department

As Bangladesh is a low carbon emitting country, its role in global warming is negligible while it is among the worst affected. Although the country is participating whole-heartedly in the global effort to combat climate change, the country needs to develop adequate adaptive and mitigative capacity in order to protect her people and economy against the impacts of climate change.

4.2 Expected Impacts on Natural Capital and Ecosystem Services

Impact #1	Tonnes of greenhouse gas emissions avoided or removed
Type of Impact	Positive, predicted, direct
Affected Natural Capital and/or Ecosystem Service(s)	GHG concentration of atmosphere, climate change
Resulting Change in Condition	The average annual GHG emission reduction from the project is expected to be 461,439 tCO2e due to less firewood combustion for cooking and heating in the households.

Impact #2	Avoided deforestation due to consume less firewood of ICS
Type of Impact	Positive, predicted, direct
Affected Natural Capital and/or Ecosystem Service(s)	Forest area, biodiversity, and water and soil, etc.
Resulting Change in Condition	The project will help local people consume less firewood as the ICS has higher thermal efficiency. It will save 235,222t non-renewable biomass every year and it will result in a significant reduction of deforestation.

4.3 Natural Capital and Ecosystem Services Monitoring Plan

To monitor the impact on natural capital and ecosystem services, Iceberg and local partners will track:

(a) The amount of non-renewable biomass used to meet thermal energy needs for cooking using ICS.

(b) Survey the difficulty in collecting firewood, including distance and time.

(c) Official data about forest resource, including local, national and international.

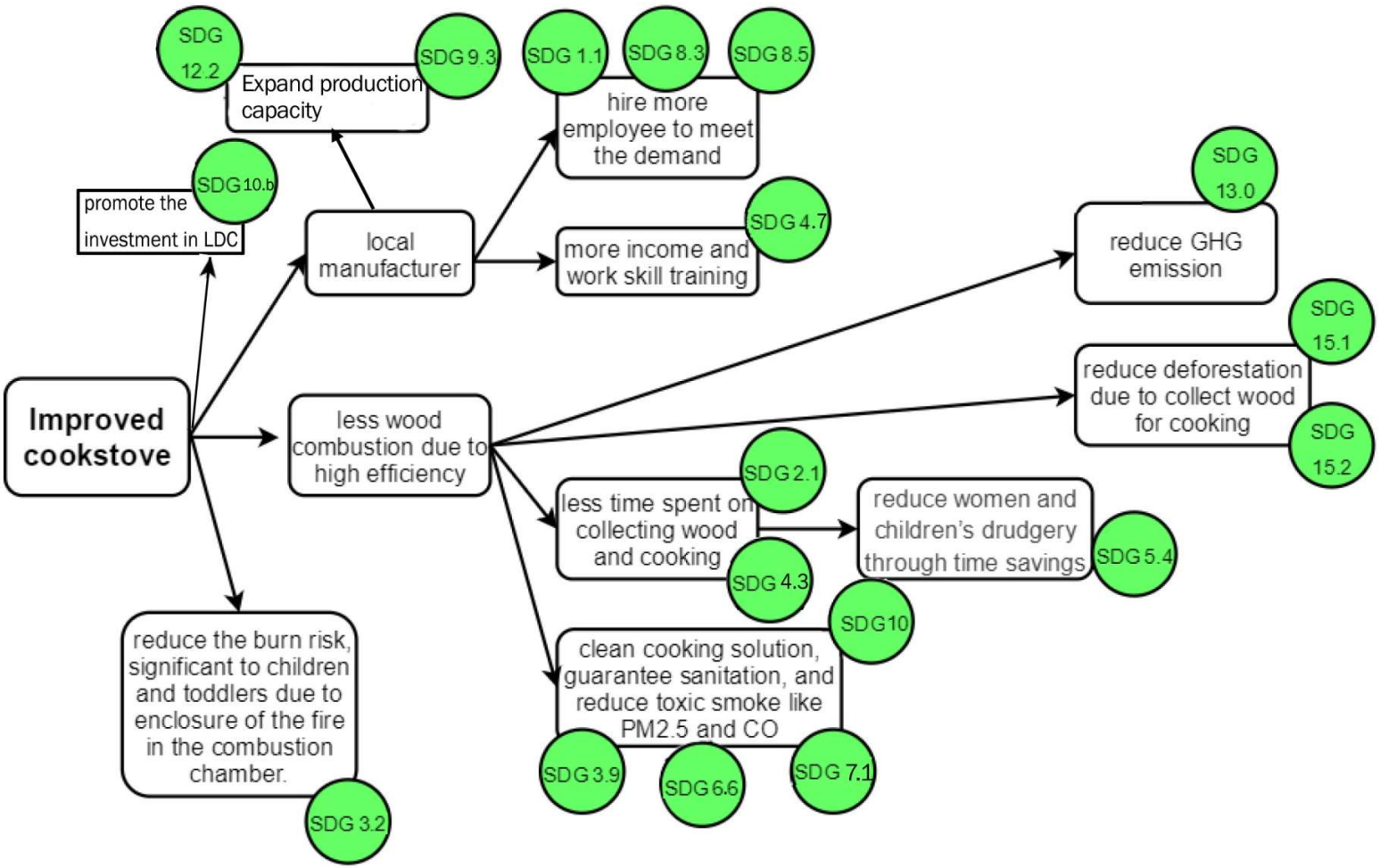
The above data will be collected through survey and fuel consumption test, which is the responsibility of the local partners. Iceberg will train its local partners about the monitoring plan and supervise their work. The data may be cross checked by a third-party. The end-user households where the survey and test are conducted will be chosen through random sampling. The data from test and survey will be recorded, analysed and reported by Iceberg and its local partners. The monitoring and reporting will be conducted each time when verification of SD-VISta is conducted.

4.4 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 will increase energy efficiency resulting in less fire wood combustion, thus generate net GHG reductions. The average annual GHG emission reduction from the project is expected to be 461,439 tCO2e. The crediting period is expected to be 10 years. Hence the total GHG emission reduction is 4,614,391 tCO2e. The project will save 235,222t non-renewable biomass every year and it will result in a significant reduction of deforestation.

APPENDIX

Appendix A: Causal chain.


SDG 12.2
Expand production capacity
SDG 9.3
SDG 1.1
SDG 8.3
SDG 8.5
hire more employee to meet the demand
SDG 10.b
promote the investment in LDC
local manufacturer
more income and work skill training
SDG 4.7
SDG 13.0
reduce GHG emission
SDG 15.1
reduce deforestation due to collect wood for cooking
SDG 15.2
Improved cookstove
less wood combustion due to high efficiency
SDG 2.1
less time spent on collecting wood and cooking
SDG 4.3
reduce women and children's drudgery through time savings
SDG 5.4
SDG10
clean cooking solution, guarantee sanitation, and reduce toxic smoke like PM2.5 and CO
SDG 3.9
SDG 6.6
SDG 7.1
reduce the burn risk, significant to children and toddlers due to enclosure of the fire in the combustion chamber.
SDG 3.2