

NATIONWIDE MAPPING OF STAKEHOLDERS IN THE CLEAN COOK STOVE VALUE CHAIN IN GHANA

FINAL REPORT



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Executive Summary

Background

The issues of clean and improved energy access for domestic, institutional and industrial usage are of utmost concern to citizens, governments and international organizations globally. In Ghana, the bulk of energy supply is met from woodfuels (firewood and charcoal) which accounts for over 70% of total primary energy supply and about 60% of the final energy demand with its negative health and environmental impact. Realizing the importance of promoting clean energy solutions, Ghana Alliance for Clean Cookstoves (GHACCO) was formed in 2012 to among other roles bring all stakeholders under one umbrella and mobilize high level national and donor commitments towards the goal of universal adoption of clean cookstoves and fuels in Ghana. GHACCO has set a target to foster the adoption of clean cookstoves and fuels by four million households in Ghana and support the distribution of five million cookstoves by 2020.

To achieve this target, GHACCO's planning, policy formulation, and projects/interventions must be underpinned by a solid nationwide database of the clean cook stove industry in Ghana. As a result of limited database of the various stakeholders in the [clean] cookstove sector, this project was commissioned to produce a document that could be used as a baseline for GHACCO's activities.

The goal of this survey was to conduct a nationwide mapping exercise of all the major actors in the clean cook stoves value chain in Ghana. The exercise sought to identify the various stakeholders in the clean cook stove value chain in Ghana excluding the consumers in that Global Alliance for Clean Cookstove has initiated a consumer segmentation study, categorize the stakeholders based on their activities in the value chain, and collect detailed information from each stakeholder about their business.

The survey commenced with the identification and categorization of major stakeholders in the cook stove sector. The stakeholders identified were categorized as;

- Stove manufacturers,
- Fuel Producers,
- Financial Institutions and International donor agencies,
- Distributors and retailers of stoves and fuels,
- Raw material suppliers, and
- Training and research institutions.

Data was collected from these stakeholders in all 10 regions and 65 districts of Ghana through administration of the questionnaires and interviews with appropriate representative employing Snowball sampling technique. A total of 543 stakeholders provided information for the exercise. Table 1 gives a breakdown of the regional distribution of the various stakeholders.

Table 1 Summary of data collected¹

Stakeholders / Region	Central	Western	Ashanti	Greater Accra	Volta	Upper East	Upper West	Eastern	Northern	Brong Ahafo	Total
Stove Manufacturers	9	2	26	16	5	7	14	8	6	3	96
Fuel Producers	4	44	9	1	58	7	16	16	20	9	184
Financial and International Institutions	3	1	2	3	0	0	0	0	0	4	13
Stove Distributors and Retailers	25	12	18	25	19	13	2	6	32	23	175
Capacity builders	2	0	5	6	1	0	0	0	2	1	16
Raw Materials Suppliers	2	0	7	0	0	0	11	0	0	0	20
Fuel Distributors and Retailers	4	2	22	8	1	0	0	1	0	0	38
Total	49	61	89	59	84	27	43	31	60	40	543

¹See appendix A for full list.

Key findings from the survey

The following key conclusions can be drawn from the mapping exercise:

- **Actors/Stakeholders:** The actors within the cookstove value-chain can be categorized into six main groups as shown below:
 - Stove manufacturers (household, institutional)
 - Fuel Producers,
 - Financial Institutions and International donor agencies,
 - Distributors and retailers of stoves and fuels,
 - Raw material suppliers, and
 - Training and research institutions.

The household stove manufacturing sector is well established and diverse involving both NGOs and SMEs unlike the manufacturing of institutional stoves. Apart from LPG and to some extent charcoal stove, firewood stoves which is usually used by institutions such as schools, indigenous industries and local restaurant are mostly manufactured on demand by a few individuals who have the expertise to build these stoves.

Most actors operate informally and are not registered with any public institution. The situation is even worse for actors such as fuel producers whose activities are confined to the remote areas. The percentage of public and registered organizations in the sector is small, about 2%. Of the registered organizations, 60% are known to the district assemblies under which they operate while the remaining ones are registered with the Registrar's General Department. Though ownership of business for all categories is tilted in favour of males, the percentage difference is only 5%. However, disparities are wider for stove manufacturers (male dominated) and retailers (female dominated).

A factor that all actors believe affects their operations is government policy. They believe the implementation of favourable policies to their promotions will boost their business.

- **Technology and Training:** Manufacturers design and fabricate both domestic and institutional stoves using locally available materials. The clean charcoal stoves are manufactured by a few bodies located mainly in Ashanti and Greater Accra Regions. However, modified firewood stoves consisting of tyre rims and scraps are manufactured in many locations especially in the Northern Region. A general trend observed was the gradual replacement of mud-based and three-stone firewood stoves with metal-based ones, creating a high demand for the metal-based stoves. Virtually, all performance testing of stoves are undertaken by improved stove manufacturers. Other manufacturers only assess the ability of the stove to function. The main challenge regarding the inability of manufacturers to test their products include the lack of testing centres and the cost of undertaking such tests. Moreover, manufacturers question the benefits of undertaking tests in terms of market penetration and sales, and they see it as avoidable expenses. In terms of technical training, manufacturers generally agree that skills in metal fabrication, welding and joinery, and spraying among others are required to improve quality and attractiveness of finished products. For capacity builders (trainers and

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researchers), there is lack of long-term support for research and training, a situation that has led to the marketing of inferior products by manufacturers.

- **Promotion and Marketing:** Marketing and promotion of stoves are mostly done by word-of-mouth; thus, formal promotion in the mass media is almost non-existent. Stoves are sold in shops at prices determined by the seller with the exception of a few where the price is controlled by the manufacturer. Many of the retailers are found in the main market centres. Poor awareness creation strategies are noted as a major factor inhibiting the growth of the sector. The market price of stoves is influenced by the size, type, material of construction, availability of carbon revenue, and the location. Even for stoves of the same model and size, Regional differences in price exist.
- **Financing:** The amount of capital required to start business in the sector ranges from Ghc 30 to 5000 for fuel producers and stove manufacturers or distributors, respectively. Most actors (86%) however raise capital themselves for the running of their business, without seeking support from financial institutions. Lack of access to sustainable finance was therefore identified as a major hindrance to the growth of the sector especially for stove manufacturers.
Financial institutions do not have special programmes for the cookstove sector. They only support their customers/clients that may be individuals/organizations operating in the sector, once they fulfill the (financial) institution's requirements. Though about half of the institutions interviewed have provided support (mainly as loans) to actors in the sector, about 90% of supports have gone to manufacturers. A few NGOs and international organizations provide grants to improved stove manufacturers.
Financial management and record keeping skills are generally lacking among all actors in the sector.
- **GHACCO:** The popularity of GHACCO is very low among all stakeholders; less than 10% of stakeholders are aware of GHACCO and its activities. The visibility however differ from one group to another; for example, while 77% of training and research institutions are aware of GHACCO's existence, only 1% of fuel producers know GHACCO. Moreover, only 65% of actors who are informed of GHACCO's existence and functions are actually members. For those who are not members, nearly 46% are eager to join the organization. For actors such as retailers and fuel producers, GHACCO's popularity is almost non-existing though about half of these groups expressed interest in joining the Alliance if educated and given the opportunity.

Recommendation/Action Plan

Based on the findings from the survey, the following recommended actions are proposed:

- Ghana Alliance for Clean Cookstoves (GHACCO) must adopt strategies to increase its popularity in order to make the needed impact and also to achieve its targets of promoting the adoption of 5 million clean cookstoves by 2020. This could be done by;
 1. Engaging all relevant stakeholders along the cookstove value chain,
 2. Decentralizing its activities by ensuring increased activities at the regional and district levels,

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3. Educating and sensitizing the general populace about the benefits of adopting clean cookstoves through various channels including but not limited to radio and TV discussions, encouraging national debates, community mobilization and durbars, social media engagements, banner ads etc...
- Form regional/zonal coordinating bodies to implement regional and stakeholder specific strategies. This document can be used as baseline to address specific challenges with the sector.
 - Training of artisans/manufacturers who are producing conventional cookstoves to produce quality improved stoves using locally available materials. Since most of these artisans are quite good with metal fabrication, the focus could be on how to improve the efficiency of the stove they are already producing through simple heat retention techniques/insulation.
 - Encourage the formation of credible associations/cooperatives within the stakeholders subsector with such as the association of stove producer, association of stove sellers, etc. A strong and unified association would provide a voice for the sector and can also serve as a regulator, advocate, and educator and comes with several benefits. For instance, the Association of Northern Region Blacksmith formed in 2012 with the support of UNDP produces most of the stoves sold in the Northern Region. They have membership of more 100 and are able to secure loans in the name of the Association for its members to support their business.
 - Educate the producers of fuels about new low-tech methods of increasing the efficiency of their operation and to produce quality charcoal.
 - Encourage the sales of improved cookstoves through tax incentives. This could be achieved by GHACCO negotiating with the various District Assemblies to exempt registered retailers of clean cookstoves from paying market/store levy.
 - Solicit support and funds to develop a clear capacity building plan for the sector based on the findings of this survey.

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About SNV Ghana

SNV is a Netherlands based International Development Organization that provides capacity development services to local institutions and organizations in more than 30 developing countries in Asia, Africa, Latin America and Eastern Europe.

Present in Ghana since 1992, SNV is committed to the reduction of poverty, and works to achieve this in line with national poverty reduction strategies. SNV currently has offices in Accra, Tamale and Wa. Our role in development is to promote efficient and effective implementation of strategies and programs in the Agricultural, Renewable Energy, and Water, Sanitation and Hygiene (WASH) sectors. SNV believes that Smart Development Works.

In the renewable energy sector, SNV Ghana aims to provide access to sustainable, clean and reliable energy sources for households and small enterprises and development of a vibrant renewable energy sector in an adequate enabling environment. This is done by focusing on four sub-sectors: biogas, biomass-fuelled improved cook stoves (ICS), solar electricity and REDD+ (Reduced Emission from Deforestation and Forest Degradation).

In 2013, SNV Ghana focused on 5 sub-programs in the above fields. These 5 sub programs are: (i) Energy Poverty and Gender (EnPoGen) with focus on agro-processing (ii) Switching to Clean Fuels sub-program including LPG; (iii) Renewable Energy Capacity Building sub-program; (iv) PV Solar sub-program; (v) Biomass Energy

In 2014 SNV Ghana is implementing projects that focus on:

1. Improved institutional cook stoves
2. Market development for biomass household stoves and biomass fuels
3. Biomass energy (biogas, gasifiers, woodlots, improved charcoal production technologies, faecal sludge charcoal briquettes)
4. Solar lanterns

SNV Ghana is committed to promote sustainable renewable energy technologies that reduce the energy expenditure of energy poor populations and increase their disposable income. SNV believes that renewable energy technologies must be financially viable to encourage increased adoption by energy poor households.

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SNV played a key role in the clean cookstoves sector. SNV in 2012 supported the establishment of the Ghana Alliance for Clean cookstoves (GHACCO) through its infancy.

About UNDP

In Ghana, UNDP supports national efforts and capacity building for sustainable human development in line with Ghana's own development strategies. The UNDP Country Programme for Ghana, which covers the period 2012-2016, is derived from the United Nations Development Assistance Framework (UNDAF), and is in line with Ghana Shared Growth Development Agenda. The programme focuses on the following three thematic areas: Democratic Governance, Inclusive Growth and **Sustainable Development**.

UNDP is committed to help Ghana achieve the global Millennium Development Goals (MDGs) as well as the national objectives articulated in consecutive Five-Year Plans. It aims to improve the lives of the poorest women and men, the marginalized and the disadvantaged in Ghana.

Towards these objectives, the UNDP Country Office draws on its own knowledge, expertise and resources, as well as those available through UNDP's global development network. The Office also nurtures and builds strong alliances with civil society, the private sector and donors.

UNDP also is a key partner of the Energy Commission in the context of the Sustainable Energy for All (SE4ALL Initiative). UNDP provided support for the development of the national Action Plan and is currently supporting the implementation of some of its components (e.g. the establishment of a regulatory framework for improved cookstoves).

About Energy Commission

The Energy Commission (EC) is a statutory body corporate with perpetual succession required by law to regulate and manage the development and utilization of energy resources in Ghana as well as to provide the legal, regulatory and supervisory framework for all providers of energy in the country, specifically by granting licenses for the transmission, wholesale, supply, distribution and sale of electricity and natural gas and related matters.

The Energy Commission among others provide the following functions:

- To serve as the Government's energy policy adviser by making national energy policy recommendations to the Minister of Energy;
- To formulate national policies for the development and utilization of indigenous energy resources, in particular, renewable energy:solar, wind and biomass;
- To promote energy efficiency and productive uses of electricity, natural gas; and petroleum products; and
- To secure a comprehensive database for national decision making for the efficient development and utilization of energy resources available to the nation.

List of Abbreviation and Acronyms

BoG – Bank of Ghana
CDM – Kyoto Clean Development Mechanism
CEESD – Centre for Energy, Environment and Sustainable Development
CF – Carbon Finance
COTVET – Council for Technical and Vocational Education and Training
CSIR – Council of Scientific and Industrial Research
GACC – Global Alliance for Clean Cookstoves
GhACCO – Ghana Alliance for Clean Cookstoves
GHC – Ghana Cedis
IAP – Indoor Air Pollution
IEA – International Energy Agency
ICS – Improved Cookstove
ISO –International Organization for Standardization
LPG – Liquid Petroleum Gas
MFI – Microfinance Institution
NAB – National Accreditation Board
NCTE – National Council for Tertiary Education
NGO – Non-Governmental Organization
KNUST – Kwame Nkrumah University of Science and Technology
KPREEE – Kumasi Polytechnic Renewable Energy and Energy Efficiency Center
RI/EW – Relief International/ Enterprise Works
SME – Small and Medium scale Enterprise
SNV – Netherlands Development Organisation
UNDP – United Nations Development Program
USD – US Dollars

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1. Introduction

1.1 Back ground

Increased energy access for domestic, institutional and industrial usage are of utmost concern to citizens, governments and international organizations, more so cleaner forms of energy. It is estimated that, 2.7 billion people lack access to clean cooking facilities, of which 1.9 billion are based in Asia, 657 million in Africa, and 85 million in Latin America (IEA, 2011). These people still depend on biomass as their main source of energy, and are forced to burn charcoal or wood for cooking, despite its known downsides². The critical thematic issues facing these marginalized groups in terms of energy access are usually three-fold namely;

- Inefficient burning of solid fuels on an open 'three stone fire' or by the use of a traditional cook stove is known to have severe negative health effects,
- Inefficient use of solid fuels in households increases deforestation, and
- Scarcity of readily available biomass also increases the time spent collecting fuel (firewood).

In Ghana, the bulk of energy supply is met from woodfuels (firewood and charcoal) which accounts for over 70% of total primary energy supply and about 60% of the final energy demand. In 2010, 40.2% of households used fuelwood as main fuel for cooking, 33.7% used charcoal, and only 18.2% used LPG³. On average, a household in Ghana uses 1,064.7 kg of firewood and 434.4 kg of charcoal every year⁴. It is estimated that 20 million tonnes of woodfuel are consumed annually in the form of firewood or converted for use as charcoal. Also, majority of households (about 80%) in Ghana depend on woodfuels for cooking and water heating in addition to commercial, industrial and institutional use, and the demand for woodfuel has for the past years been on the increase. If this trend of consumption continues, Ghana is likely to consume more than 25 million tonnes of woodfuel by the year 2020 (see Figure 1).

The demand for wood puts Ghana's forests under immense pressure and has severe consequences for the ecosystem as a whole. Deforestation rates in Ghana are amongst the highest in Africa, with current levels of woodfuel consumption far exceeding forest growth⁵.

²International Energy Agency, 2012

³(Ghana Statistical Service, 2012).

⁴Ghana Sustainable Energy for all Action Plan, 2012

⁵Ghana Sustainable Energy for all Action Plan, 2012

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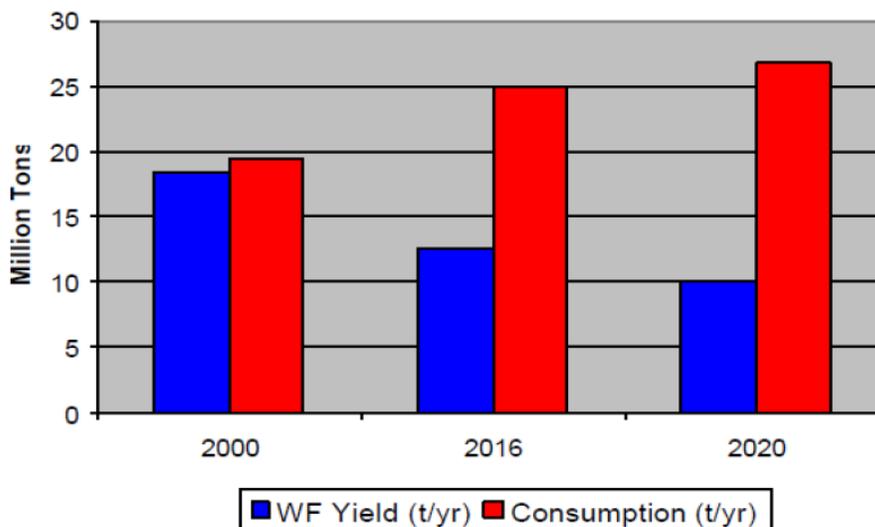


Figure 1-Woodfuel Balance of Ghana (2000-2020)

Source: Energy Commission⁶

Additionally, air pollution from cooking with solid fuel is a key risk factor in childhood acute lower respiratory infections (for example, pneumonia), as well as many other respiratory, cardio-vascular and ocular diseases. In Ghana, about 6,500 deaths are attributed to cooking induced illness yearly⁷. The reason lies in the use of inappropriate cooking technologies as well as the fuel type used.

One way to reverse the current trend is to encourage the deployment of clean and improved cook stoves such as electric cook stove, cook stoves based on clean fuels (biogas, methane, ethanol, solar) and cook stove designed to burn biomass inputs (wood, charcoal, other biomass) more efficiently through cleaner combustion.. Accordingly, the Government of Ghana introduced National LPG Promotion Programme (NLPGPP) in 1990 to ensure wider use of LPG as substitute for charcoal and firewood. Also, the recognition that improved cookstoves can lead to significant reduction in the use of woodfuel inspired the promotion of various forms of improved cookstoves in Ghana since the late 1980s. The first major effort to promote improved cookstoves in the country dates back to 1989 when the then Ministry of Mines and Energy in partnership with other stakeholders, developed, tested and disseminated the 'Ahibenso' stove. The 'Ahibenso' stove is reported to have a conversion efficiency of between 30-39 per cent and is reported to save about 35-40 per cent of charcoal over the traditional coal pot⁸. Even though the Ahibenso project was short-lived, the country has seen increased activity in the improved cookstove sector after this initiative.

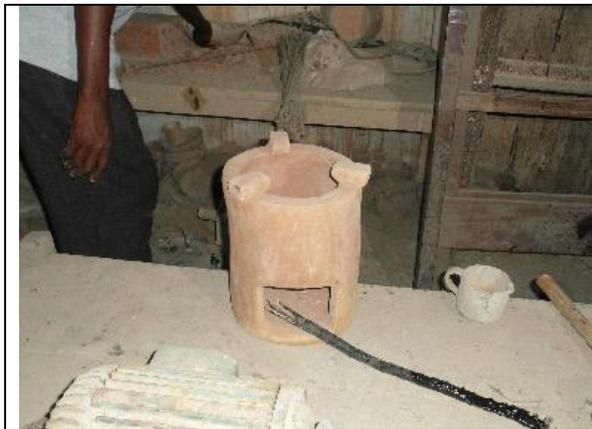
⁶http://www.clenergen.com/attachments/001_Renewable%20Ghana%20Woodfuel%20Outlook%5B1%5D.pdf

⁷http://www.firstclimate-climateneutral.com/fileadmin/user_upload/PDFs_FS/p4_en.pdf

⁸Low Carbon Africa: Ghana, 2011 (<http://www.christianaid.org.uk/images/low-carbon-africa-Ghana.pdf>)

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For instance, in 2002, Enterprise Works/VITA (EWV) started promoting a Kenyan sourced alternative cookstove (Kenya Ceramic Jico-Stove) called Gyapa (meaning 'good fire') stove under the Energy for Household Cooking Project with funding from USAID and the Shell Foundation. The project focused on the manufacture and commercialization of consumer-oriented designed stoves that reduce Indoor Air Pollution (IAP), use less fuel, last longer and are safer than traditional stoves. EWV trained 78 local metal workers and ceramists to manufacture the Gyapa and then linked them with local retail outlets. It is estimated that over six hundred thousand (600,000) Gyapa stoves (Figure 2) have been manufactured and sold in Ghana since 2002 through the EWV initiative⁹.



A firewood stove from Winneba



Tyre rim firewood stove¹⁰



Morrison Institutional Mud firewood stove



Gyapa/Holy Cook stove/Toyola

⁹Strategic National Energy Plan, 2006.

(<http://www.energycom.gov.gh/files/snep/ENERGY%20DEMAND%20final%20PD.pdf>)

¹⁰ Tamale SHS, June 2013 (Courtesy: EdemBensah)

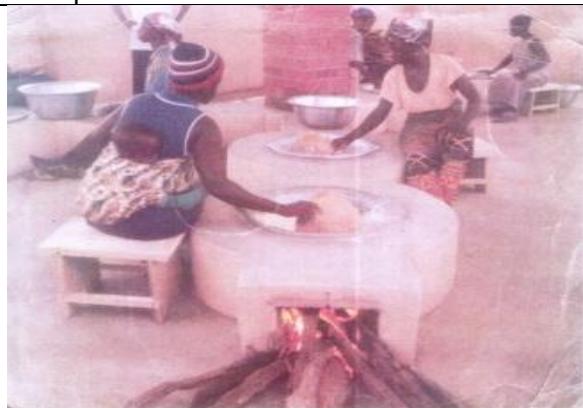
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A new Holy Cook charcoal stove by Man&Man enterprise¹¹



Envirofit charcoal and firewood stoves (CEESD)



Gari processing stove¹² (Donald Amrago)



Pito Brewing (Dolo) Stove



Kumasi Polytechnic fish smoking stove



Elsa Stove by Asa Initiative

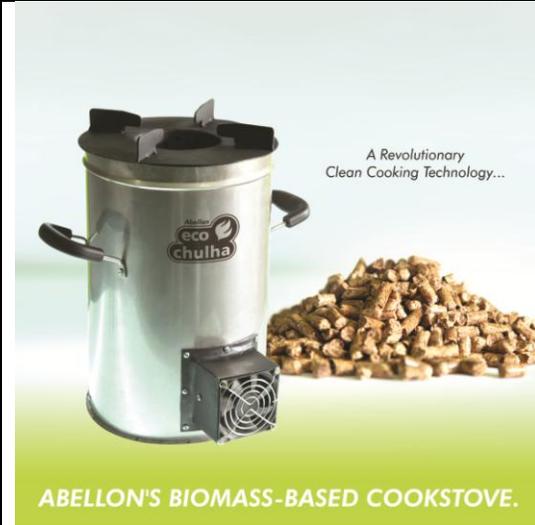
¹¹ Courtesy: Centre for Energy, Environment and Sustainable Development

¹² Courtesy: SNV database

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Philips Biomass based Gasifier Stove (SNV)



Abellon Biomass Based Cookstove



Morison Fish Smoking Stove



Cook mate

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Figure 2: Some stove models found in Ghana

Although there has been some successes choked in promoting these efficient cookstoves and fuels in Ghana, there is a general consensus to establish a body to coordinate and foster the adoption of clean cookstoves and fuels in Ghana.

It is against this background that the Ghana Alliance for Clean Cookstoves (GHACCO), which is a member of the Global Alliance for Clean Cookstoves (GACC), was established as a strong stakeholder platform to lead the front to catalyze a revolution in the cookstoves sector and mobilize high level national and donor commitments towards the goal of universal adoption of clean cookstoves and fuels in Ghana.

The Ghana Alliance has set an ambitious but achievable target to foster the adoption of clean cookstoves and fuels by 4 million households in Ghana and support the distribution of 5 million cookstoves by 2020.

To achieve the above ambitious agenda, GHACCO's planning, policy formulation, and projects/interventions must be underpinned by a solid nationwide database of the clean cook-stove industry in Ghana. This will help GHACCO to know the kind of interventions to implement; and areas where they should be carried out to achieve the desired outcomes. Unfortunately, there is limited comprehensive nationwide database on the clean cook stove actors in the value chain.

It is worth noting from the above that, there are various actors and stakeholders involved in the clean cook stove value chain in Ghana; from the design stage through production, distribution to the final consumer. These include NGOs, investors/stove entrepreneurs, raw material suppliers, metal artisans, ceramists, quality certification institutions, distributors, retailers, and consumers. It is also vital to point out that there are various institutions along the value chain providing various forms of capacity building and education in the design, production/manufacturing, distribution and consumption stages. The value chain for the clean cook stove is diagrammatically elaborated in figure 3.

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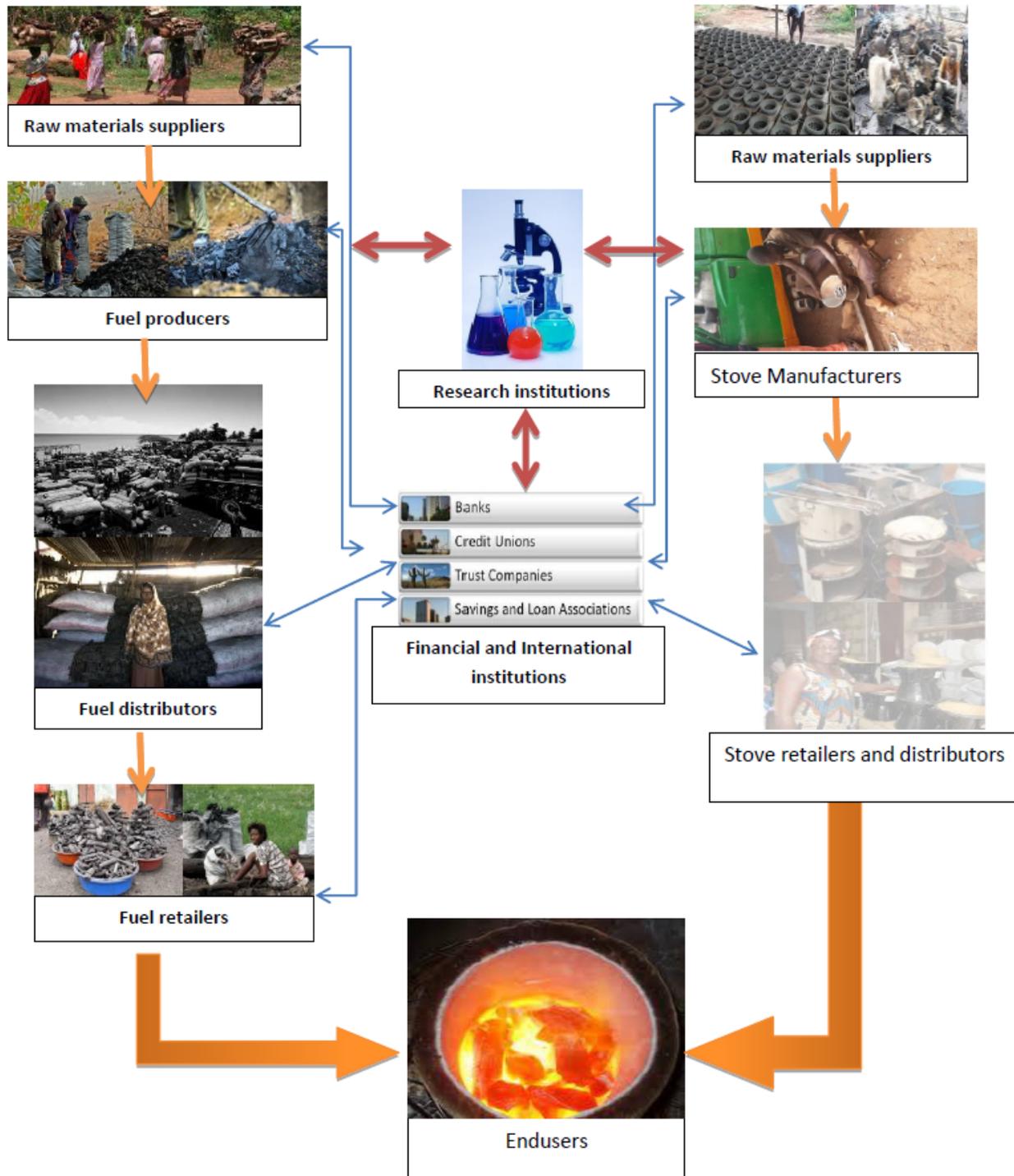


Figure 3: Clean cook stove value chain

Even though membership of GHACCO is expected to span the length and breadth of the country, majority of its membership are based in Accra. The present membership is also skewed towards manufacturers and some advocacy groups leaving out financial institutions,

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retailers and distributors, suppliers of raw materials and research and training institutions. This is primarily due to the low visibility of GHACCO in the other regions. All these stakeholders are needed on the table to drive the vision of reducing the number of people exposed to cooking induced illness and making the needed positive impact in the sector; thus the need for the mapping exercise to identify and map out all the major stakeholders across the country to provide the platform for bring on board all stakeholders.

1.2 Objective and Purpose of Mapping

The objective of the study was to conduct a nationwide mapping exercise of all the major actors in the clean cook stoves value chain in Ghana with limited focus on consumers to be used as basis for policy formulation and decision making.

The specific objectives were to:

- Identify the various stakeholders in the clean cook stove value chain in Ghana excluding the consumers (end-users);
- Categorize the stakeholders based on their activities in the value chain as either producers of fuel wood stoves (household and institutional), Charcoal stoves (households and institutional), LPG stoves (household and institutional), distributors, retailers, researchers or others;
- Collect detailed information from each stakeholder about their business. This includes – Name of organization, location of organization, contacts, status of Registration, Year(s) of operation(s), product type, actual productions in 2010, 2011, 2012 and 2013, business model, how they are funded(self, third party investor, debt, carbon financing) capital and profit outlays from 2010-2013, product lifespan, type of market target, major customers, marketing strategy(must include pricing strategy), impact of carbon financing on cost of goods sold and selling price, kind of fuel use, market, raw material source, quantity of raw materials used, product testing and certifications, communication strategy, distribution channel, opportunities, challenges and expectations; and other relevant information; and
- Produce a comprehensive report based on the information collected from the Clean Cook stove value chain actors in Ghana useful for planning, communication and decision making.

1.3 Methodology

The activities undertaken in the framework of the study included:

- Identification and categorization of major stakeholders in the cook stove sector. Six major group of players were identified as follows:
 - Stove manufacturers
 - Fuel Producers
 - Financial Institutions and International donor agencies
 - Distributors and retailers of stoves and fuels
 - Raw material suppliers

Mapping of stakeholders in the cookstove sector of Ghana

- Training and research institutions
- Preparation of questionnaire (see appendix A) for each category with input from SNV, EC and GHACCO
- Contacting and interviews with the stakeholders in all 10 regions to collect data. The questionnaires were administered using a snowball sampling approach.
- Consolidation and analysis of data gathered from all 10 regions visited, and writing report.

Categorization of Stakeholders

The stakeholders in the value chain of the cookstove sector were put into six categories as described below.

Manufacturers

All producers of stoves – domestic or institutional were classified as manufacturers. This group was strictly limited to producers of the final stove. As a result, producers of intermediate products (such as clay liners) were not placed under this category. The manufacturer's category thus comprises producers of traditional and improved charcoal stoves, traditional and improved firewood stoves, Liquefied Petroleum Gas (LPG) stoves, improved and traditional fish smokers, as well as improved and traditional ovens. This category also includes kerosene and electric stove manufacturers.

Financiers

Financiers comprise financial institutions such as commercial banks, rural banks and micro credit unions that have supported, continue to support or may support manufacturers, research and advocacy groups, distributors and retailers, fuel suppliers and suppliers of raw materials. State institutions like the Energy Commission and the Ministry of Energy and Petroleum were placed under financiers because of the special role they play in supporting green energy products including cookstoves financially even though they have other functions they play such as policy formulation and regulatory roles. International organizations that provide special grants for the development of green technologies including improved cookstoves were also placed in this category.

Suppliers of Raw Materials

Suppliers of raw materials such as clay, scrap metal, iron rods, cement, etc directly used for the manufacturing of cookstoves were all classified under Suppliers. This group also includes suppliers of intermediate products such clay liners. Since some manufacturers specialize in the production of liners which are not in itself stoves per say, the consultant found it more convenient placing these producers under suppliers of raw materials. Supply of other raw materials like palm kernel shell used for firing the clay liner were also placed in this category.

Training, Research and Advocacy

The research and advocacy group consists of all research and training institutions directly conducting research into cookstoves and providing technical training on clean cookstoves

Mapping of stakeholders in the cookstove sector of Ghana

and fuels. This category also includes advocacy groups involved in creating awareness on clean cookstoves. Testing centres also fall under this group.

Distributors and Retailers

Importers of foreign brands of cookstoves as well as major distributors of local brands and retailers of both foreign and local brands are classified as distributors and retailers.

Exporters of fuel

This category of stakeholders was left out for very good reasons. The energy commission has a complete database of all fuel especially charcoal exporters in the country. As a matter of fact one needs a license to export charcoal out of a Ghana. There was therefore no need to classify them and include them in the data collection.

1.4 Development of questionnaire

The classification of the major actors in the value chain led to the development of six different questionnaires specifically targeting the six identified groups. The questionnaire seeks to address all the issues raised in the second objective by collecting comprehensive data on the business, the business' financial outlay, product information, challenges and opportunities in the cookstoves sector, and knowledge about GHACCO.

1.5 Sample size determination and sampling approach

Due to the unknown population of the major actors it was difficult to come out with a sample size for the survey. A snowball sampling technique was used.

All ten (10) administrative Regions in Ghana were included in the survey involving 65 districts with no special emphasis on any. Reasonable efforts were made to visit all the 278 district assemblies spanning all the ten regions in Ghana, however given the limited time for the study, not all districts were visited and premium was given to those having visible activities related to the cookstove sector.

2.0 Analysis and discussion of stakeholders responses

This section presents an analysis of the responses obtained from stakeholders who were interviewed across the country on key issues as per the Terms of Reference. As indicated in the introductory sections, stakeholders interviewed were classified as stove manufacturers, fuel producers, financial Institutions and international donor agencies, distributors and retailers of stoves and fuels, raw material suppliers, and training and research institutions. Refer to **Appendix A** for complete list/profile of institutions and persons contacted and **Appendix B** for factual information on selected manufacturers and stove dealers.

A total of 543 stakeholders were identified and/or provided information for the exercise. Table 1 gives a breakdown of the regional distribution of the various stakeholders.

Section 2.1 gives a broad description of the cookstove sector based on responses of all stakeholders at the national and regional level. Sections 2.2 to 2.6 analyses the responses of specific stakeholders also at the national and regional levels. In each section, the major challenges, expectations and opportunities for business expansion are emphasized.

The percentages given in the figures and tables are calculated using the number of occurrences over the number of stakeholders who completed the questionnaire. Consolidation and analysis of data was done using STATA 10 and Microsoft Excel (2010 version) software packages.

2.1 Nature of business in the cookstove sector

The survey revealed that 98% of all stakeholders in the cook stove sector are owned by the private sector as shown in Figure 4. The remaining 2% are either public or state institutions. These private businesses/stakeholders operate mostly as sole proprietorship. About 75% of the privately owned businesses in the cookstoves sector are not registered with any state institution.

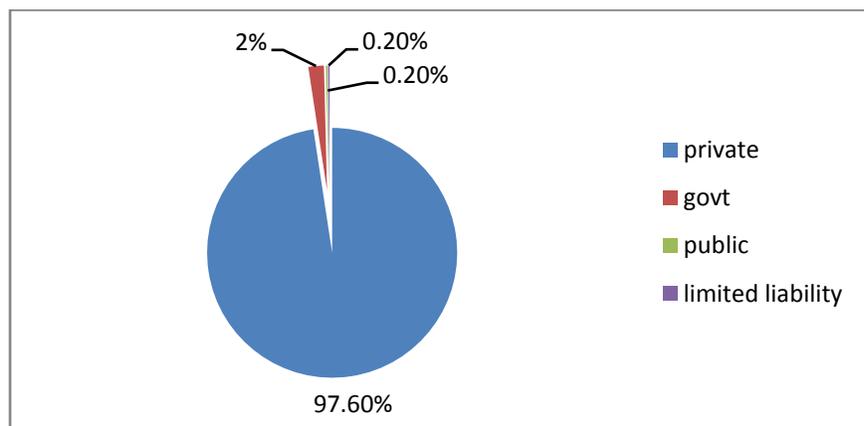


Figure 4: Nature of business

Mapping of stakeholders in the cookstove sector of Ghana

The remaining 25% were mostly registered with the district assemblies as shown in figure 5. Reasons offered by stakeholders for not registering their business were varied. While about 32% did not have knowledge about business registration process, about a third (30.3%) did not see business registration as necessary for their business. The other reasons offered were inadequate money to begin the process, low profit and registration process being expensive among others (see fig. 6).

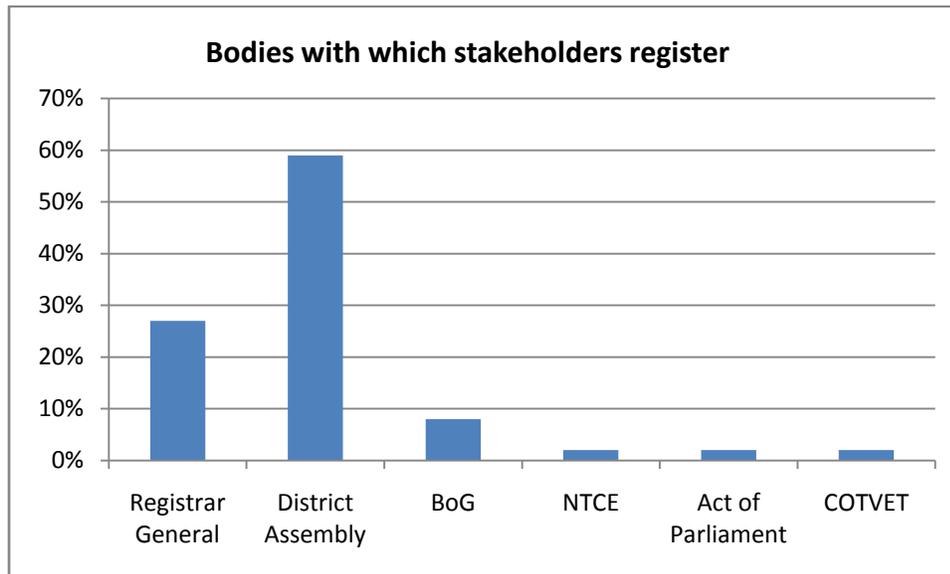


Figure 5: Bodies with which stakeholders register

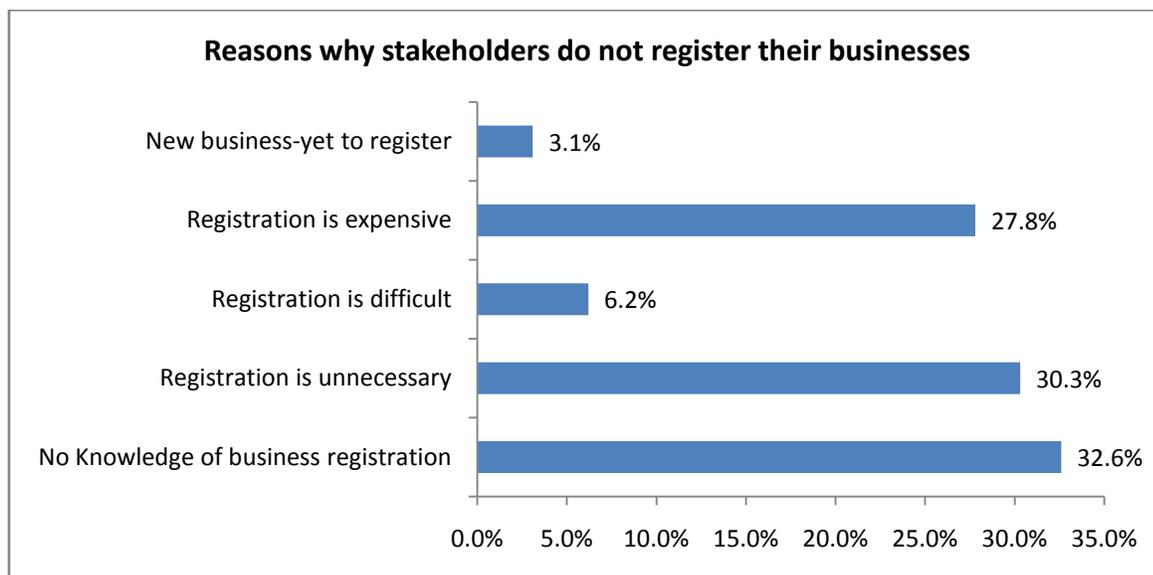


Figure 6: Reasons for not registering

Ownership of business is fairly balanced in terms of gender. About 49% of business owners are male, 44% are female while about 7% are jointly owned by both sexes as shown in Figure 7. However, there is wide variation in gender distribution across each value chain.

Mapping of stakeholders in the cookstove sector of Ghana

For instance there are more males involved in the stove manufacturing sector while the distribution and retailing sector is female dominated across the country.

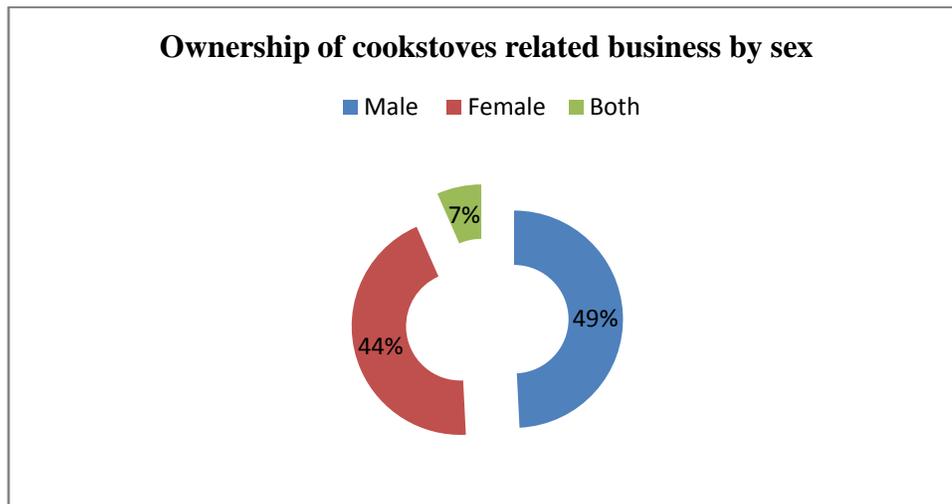


Figure 7: Gender distribution

Most stakeholders self-finance their businesses as indicated in figure 8. The amount of money invested annually is generally not more than GHC 5000. According to all the respondents across the country, the major barriers/challenges affecting their business are access to finance and awareness creation. They agree that, increasing awareness in the sector would help improve their business and therefore expect more activities targeted at increasing public awareness about cookstoves and means of getting easy access to funds to support the business as indicated in figure 9.

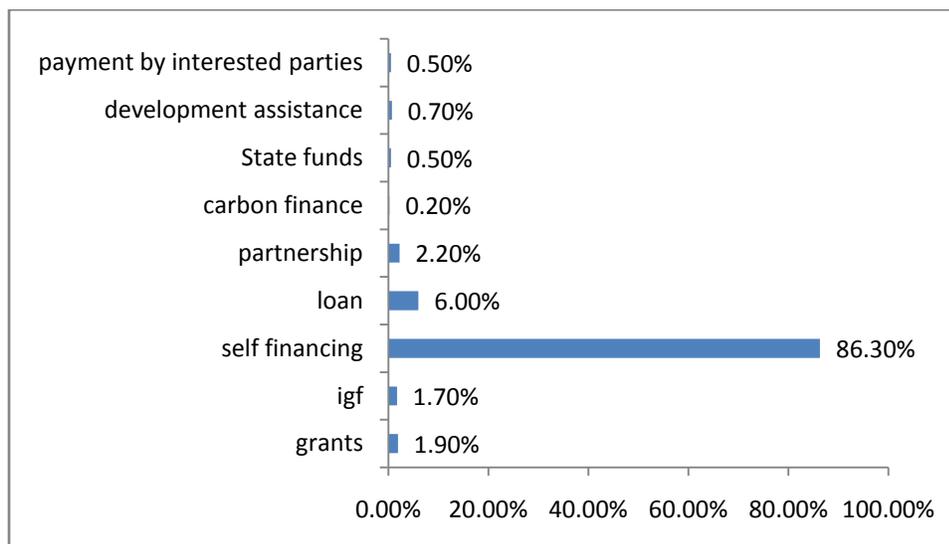


Figure 8: Financing of business

Mapping of stakeholders in the cookstove sector of Ghana

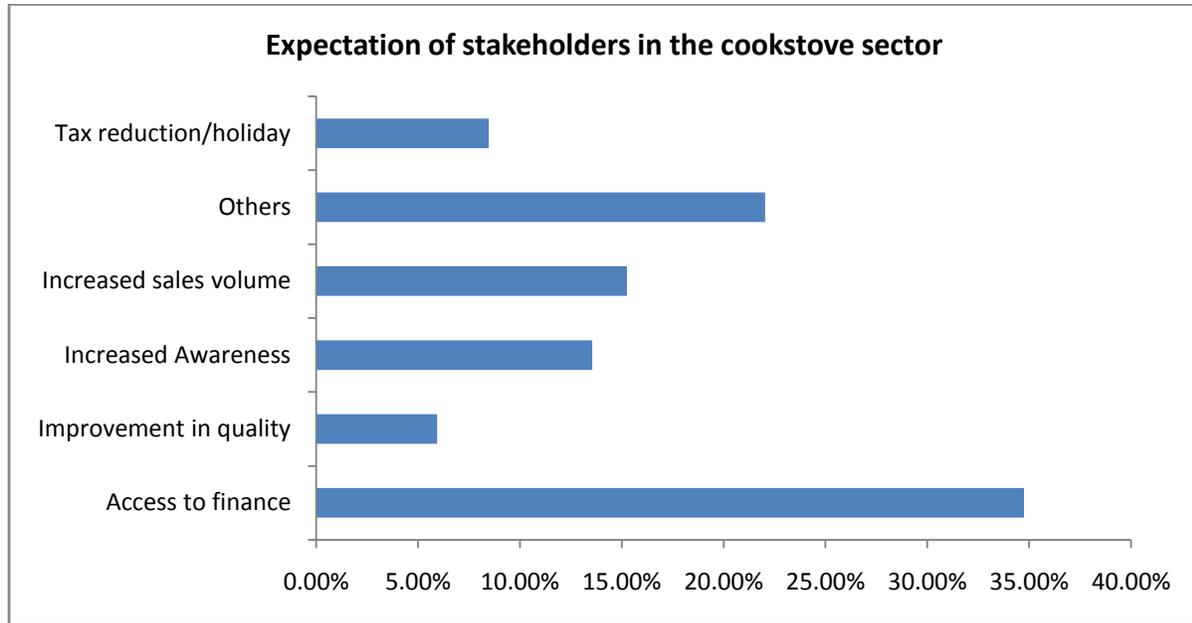


Figure 9: Expectation of stakeholders

Other expectations of the stakeholders are;

- Elimination of traditional cookstoves and promotion of improved/efficient stoves,
- Development of standards for cookstoves,
- Building capacity of local manufacturers to produce quality stoves,
- Increased adoption of clean cookstoves by Ghanaian households,
- Subsidize stoves for the poor, and
- Using the cookstove industry to eradicate poverty.

The study revealed that GHACCO has very little visibility as very few respondents have heard of the organization. Only 9% have heard of GHACCO or know about its activities, of which 64.5% are already members. About 46% of stakeholders who are not members of GHACCO are willing to join the organization if they are contacted. However, 39% are not willing to join GHACCO and the remaining are ambivalent. This is shown in figure 10.

In order for GHACCO to make the needed impact and also meet its targets, it needs to adopt strategies to bring all the relevant stakeholders on board. As already indicated, most of these stakeholders are private individuals who may decline to become members of GHACCO unless they consider it beneficial to their business/activity.

Mapping of stakeholders in the cookstove sector of Ghana

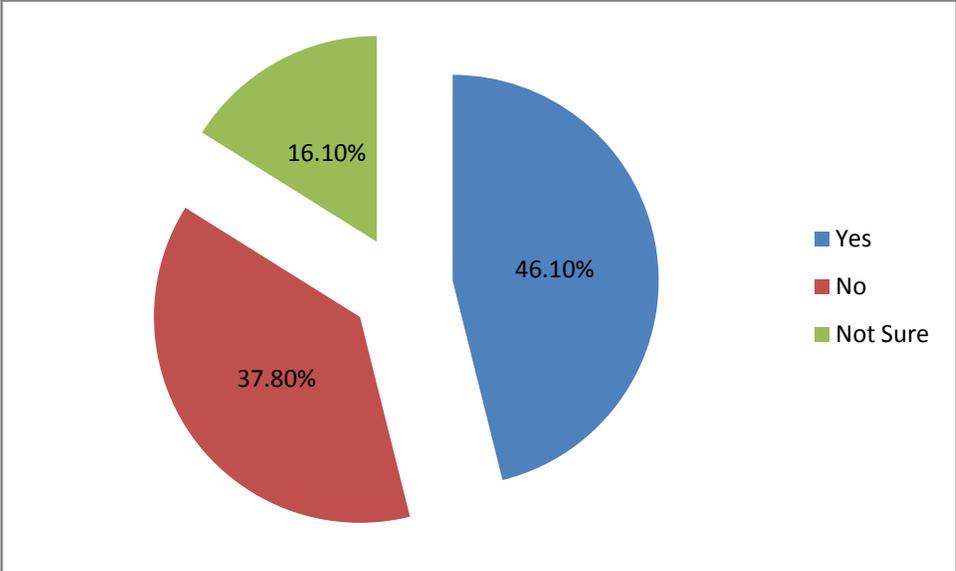


Figure 10: Willingness to join GHACCO

Mapping of stakeholders in the cookstove sector of Ghana

2.2 Manufacturers of Stoves

A total of ninety-six (96) stove manufacturers were interviewed in all 10 regions of Ghana and their responses to questions on nature of business, types of stove manufactured, pricing and marketing strategies, capacity needs, expectations and challenges affecting their business are presented below.



Figure 11: A stove manufacturer at work

Table 2 List of manufacturers Contacted

S.No	Name	Contact	Location
562	Abbah welding and fabrication	0247703097	Ho
362	Abdulai workshop	0546906913	UWR/ Wa Municipal
291	Abdul-manan metal workshop	0203171106	NR/Tamale/ Dagban Dabifong, Near SGSSB in Tamale
409	Abellon Clean Energy Ghana Ltd	Pragnesh Mishrah, 020222385 / 0542965206	G/A [A/R], Plot No. 10, Asaago, Kumasi, Ashanti
323	AdongoAlbert	0545503255	UER /BOLGATANGA
324	Adumpola		UER/BONGO/AKAYONGA, Near Akayonga Market
420	Agbobloshie (june 4)	None	Accra
156	Agya Boat Metal Works	Collins Ntiamoah, 0275190588	Kumasi
239	Alfred Metal works	Alfred Afedomenyo 0244065707/0204147931	Mampong Municipal
237	Alidu Alhassah	0243481836	Kumasi, Suame zone 6, Opposite positive micro finance
277	All is Good Ltd	0244897549	E/R, NJ, Koforidua
242	All shall pass metal works	Antwi Boasiako Emmanuel, 0241549832	
280	Amoako Desmond		E/R, New Juaben, Koforidua
113	Asedu Welding Shop	Opoku Yaw Frank 0243986946	Brong Ahafo
240	Awal Mohammed	0266084178	Ejura

Mapping of stakeholders in the cookstove sector of Ghana

230	Azaaman metal works and fabrication	Isaac quansah 0242-723918	Obuasi Metro
221	Bernard Agbley	0247529010	Kumasi Suame Zone 6 and 7
235	Bernard Awuku	0244504971	Kumasi, Suame zone 9
412	Bismark	0275231325	Accra
	CookClean Ltd	Erasmus Osei-Essah	GREATER ACCRA, ACCRA
	Dotse	0249510207	Central Region
355	Duramanualijatu	0507193973	UWR/ WA WEST DISTRICT/ CHOGSIA
282	Edivine Kpetii	0242786743	E/R, New Juaben, Koforidua Magazine
83	Ekem Arts Pottery Ltd	Richard Ekem, 0244795459	Central Region, Winneba
222	Emodie engineering	Adu Kofi Murphy, 0244991144	Kumasi, Suame zone 6
419	Eric	None	Accra
411	Fati	0576200146	Accra
233	Frimpong Mason	0277143238	Suame zone 6
210	Fuseni Issaka	0261292123	Kumasi, Moshie Zongo Behind Zeba mosque
224	God never fails welding and fabrication workshop	Berno Nyakpo 0277-644673/0545-506653	Obuasi, Bogobiri-Born again junction
241	Good God metal works	Asuako Richard, 0204296668	
	Greener Impact	Kassim 0570388869	Accra
	Gyapa	Titiati Atsu macatsu@yahoo.com	Accra
86	Gye Nyame Welding Workshop	Master Ackon, 0246535457	Central Region, Swedru
236	Halidu Adam	0248870726	Kumasi, Suame zone 21
229	Ibrahim osman	0242-643224	Obuasi, Stadium junction
413	Innocent abledu	0243785670	Accra
238	Isaac Asamoah	0244057041	Kumasi, suame, opposite Anointing pillars
290	Issahaku sowed	0546368504	BulpelaTuugbeni, Tamale, Lat: 9.39889 – Log: 0.83833
15	Jacob Agyei	0267921370	Teshie
289	Kakpagyilli Doo Sani	Idrisu Seidu, 024125446	Bulpela Tuugbeni, Tamale, Lat: 9.39889 – Log: 0.83833
292	Kakpagyilli doo sani	0243811911	NR/Tamale/ Bulpela, Near baobab tree
232	King Solomon	0244435680	Abuabo railways/scrap dealers
112	Koffas Metal Work	Fosu Ameyaw, 0274296786 0508613439	Brong Ahafo
278	Kofi	0244880177	E/R, NJ, Ada

Mapping of stakeholders in the cookstove sector of Ghana

	Kojo Obeng	0203170008	Cape cost
	Kow Quansah	0245880194	Central Region
227	Kwaku Obeng	0246140023	A/R, Sekyere Afram Plains, Bodomase, Behind Roman Catholic Church
421	Kweku	None	Accra
281	Kwesi Amankwah	0249537270	New Juaben, Koforidua Effiduase, Eastern region
22	Kwesi Anyesi	0241931491	Central Region
360	Lanchina metals work		UWR/ WA WEST DISTRICT/ CHOGSIA, Along in-service wall, WA
351	Lansini abdu		UWR/ WA WEST DISTRICT/CHOGSIA
373	Less is More Metals	Muniru Sumaila	UWR/ WA MUNICIPAL/ DZUIEGU, Kabanye
234	Man and Man enterprise	Michael Yaw Agyei, 0243473642	Kumasi
287	Master Issah Welding Shop	0246676457	Gumbinini ,Tamale Lat: 9.42167 – Log: 0.84722
223	Michael Duway	0243859682	Kumasi, Suame Zone 6
225	Mohammed Salifu	0268-013520	Obuasi, Kunka Newtown, Ashanti Region.
20	Mpaebotsefo Ltd	Kojo Obeng, 0203170008	Assin Foso, Central Region
226	Mr. Kwame Boah	0575965696 / 0244090640	Suame, Ashanti Region.
322	New Era Enterprise	Mr. Nyaaba, 0200333669	Bolgatanga, UER
	Nicholas OrayDadzie	0549900370	Central Region
288	Northern Reg. Association of Blacksmith	Numanu Saynti (Secretary) 0244862043	Near central mosque, Tamale, Northern Region Lat: 9.40083- Log: 0.84056
366	Nuhu co. ltd.	0205899112	UWR/ WA MUNICIPAL/
353	Nuurideen Isshaku	0540458390	UWR/ WA WEST DISTRICT/CHOGSIA
111	Ojugu Manufacturing Company	Beniako Ankomah 0545487779	Brong Ahafo
422	Peter Agordzetor	0277121678	Accra
85	Progress Enterprise	Fuseini Keita, 0543781939	C/R, Tarkwa Naboso
414	Raymond	0207137719	Accra
	Richard Ekem	0244795459	Central Region
418	Samuel	None	Accra
211	Samuel Akpo	0207657817	Kumasi
228	Samuel Opoku	0233-437123	Obuasi
	Stella Adebé	0245590255	Volta region
231	Sulama Kaasim	0270325580	Kumasi, Abuabo

Mapping of stakeholders in the cookstove sector of Ghana

			railways/scrap dealers
	Sule	0543865015	Central Region
	Toyola	Suraj Wahab 0243115898	Accra
158	Vakiss metal works	Stephen Akolatse 0243-852468	Ho, Opposite SIC
284	Wilson Metal Works	Wilson Kofi Sarpong, 0278954380	E/R, New Juaben, Koforidua
279	Yaw	0244538590	E/R, NJ, Ada
283	Yaw Owusu	0204245687	E/R, NJMA, Magazine
361	Yussif Osman	0209717290	UWR/ Wa Municipal
394	Zaliyatu Abdullah		N/R, Tamale, Aboabo Market
392	Zuyena Baaba	0203266631	N/R, Tamale
	Justice Agblor	0243821653/0209416222	Hohoe, Near the Main Market close to CRAN (Christian Rural Aid Network) office
	Gagrapah Tech. Works (Ashmiu Ibn-Adam)	0243365021	Volta Region, Jasikan
	Ghana Cylinder Manufacturing Company Limited (GCMC)	0302 811720/0302 811698	ACCRA, Spintex Road
	Mawusi Amar	0508797473	Volta Region, Kpando main station
	Quasco Metal Works (Michael Kugblenu)	0243145956	Volta Region, Opposite Kpando district assembly office by the old RC cemetery
	Senyo	0204196409	Volta Region, Kpando
	Joseph	0506086028	Volta region, Adidome

2.2.1 Nature and status of business

Most of the stove manufacturers are private cottage and small scale businesses (informal businesses), and only 35.4% have registered their business and have license to operate as shown in figure 12.

Some of the manufactures are metal fabricators or welders who produce stoves only on demand. This group usually manufacture large (institutional) stoves for local restaurants (chop bar) based on the pot size required.

Mapping of stakeholders in the cookstove sector of Ghana

As a generally observed trend, most stakeholders in the informal sector do not register their business because of reasons indicated in figure 13. About 62% of respondents have not registered either because they think it is unnecessary or they do not have money to register their business, while 16% of the manufacturers claim they do not know how to register their business.

It was also observed that about 65% of the registration is done at the District Assembly while the rest takes place with the Registrar General Department.

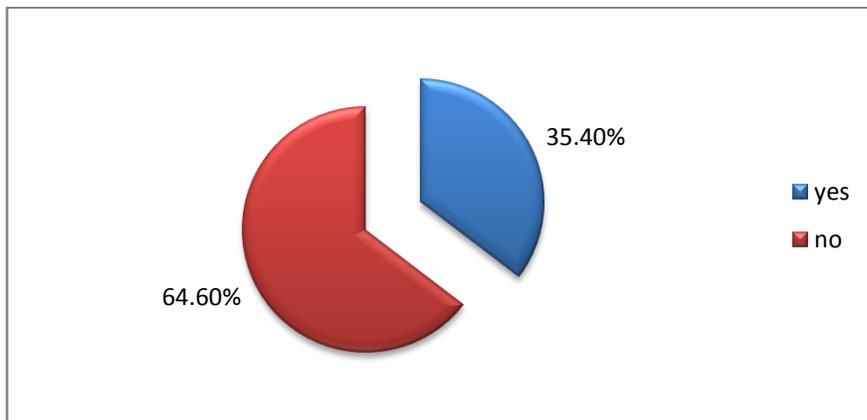


Figure 12: Percentage of registered stove manufacturers

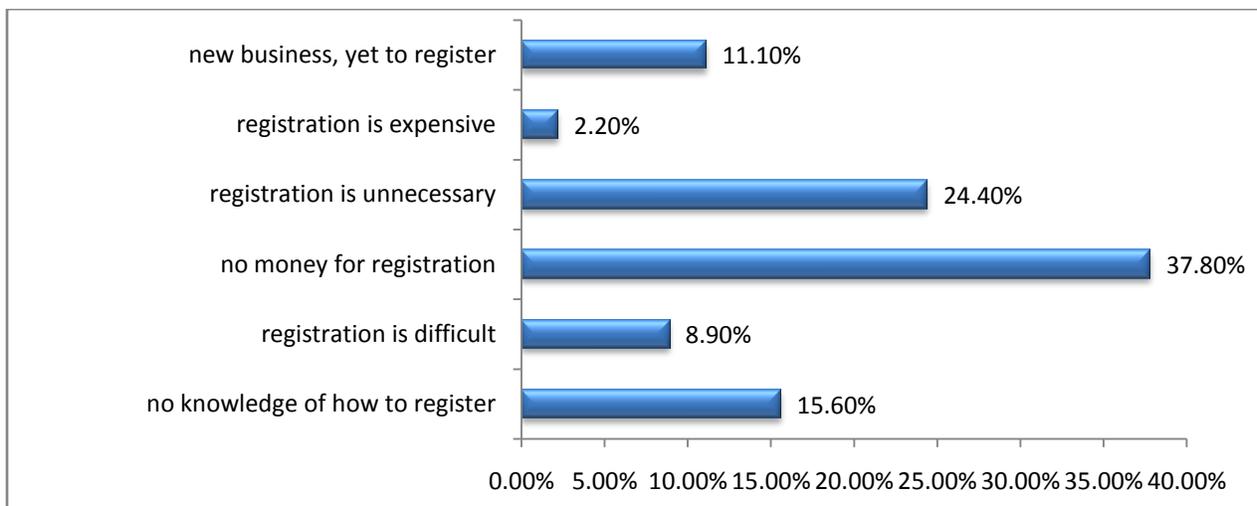


Figure 13: Reasons for not registering stove manufacturing business

2.2.2 Types of stoves manufactured

Different types of stoves made from different materials are manufactured locally in Ghana, figure 14. Manufacturers have the capacity and have been fabricating both domestic and institutional stoves. 62.2% of respondents manufacture only domestic stoves, 2.4% manufacture institutional stoves and 35.4% manufacture both.

Mapping of stakeholders in the cookstove sector of Ghana

Each Region has a unique stove design but the stoves can generally be categorized as:

- Conventional charcoal stove;
- Improved charcoal stove with clay lining;
- Improved firewood stove;
- Metal firewood stove;
- LPG stoves;
- Electric stove;
- Ethanol stove;
- Saw dust stoves;
- Kerosene stoves; and
- Palm kernel/pellets/briquettes stoves.

These stoves are produced from different materials (metals) as follows:

- Mild steel;
- Tyre rim;
- Scrap metal;
- Aluminum cast; and
- Cast iron.

	
Improved Charcoal stove	firewood stove
	
LPG stoves	Saw dust/wood chippings stove

Mapping of stakeholders in the cookstove sector of Ghana



Conventional charcoal stove

Charcoal stove

Charcoal Stove

Firewood stove

Figure 14 Types of locally manufactured stoves

According to the manufacturers, the lifespan of the stoves depend on the material used for construction and on the end-user. However, they estimate that the stoves should have lifespan as indicated in the table 2 below.

Table 3 Types of stove manufactured

Material of construction	Expected Life span
Tyre rim	6-10 years
Mild steel	3-5 years
Cast iron	3-5 years
Aluminium cast	3-5 years
Scrap metal	1-2 years

2.2.3 Testing of stove

Majority of manufacturers do not test their stoves. Only 35% test their stoves and most of them are manufacturers of improved cook stove. Manufacturers of other types of stoves perform their own tests which do not follow any standard protocols. These tests are performed basically to determine if the stoves would work. The frequency of testing is indicated in figure 16 and the type of test in figure 15. It can be observed that the stoves are not tested individually on production basis but are tested either once at inception (41.2%) that is when license is acquired for production or tested at each batch (47.1%).

Mapping of stakeholders in the cookstove sector of Ghana

Even manufacturers who test their stoves do not perform the entire standard tests as can be seen in figure 16.

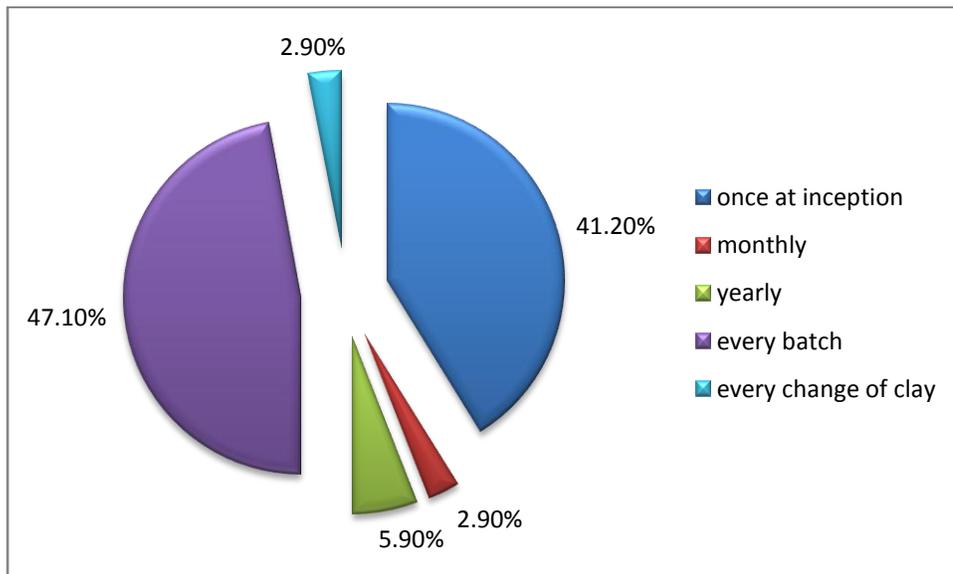


Figure 15 Testing of stove

Respondents employ various test protocols for their stoves. The nature of tests undertaken can be described in two broad forms as outlined below:

- “Manufacturer’s test” consists of the manufacturer using one of the stoves in the batch to find out its “efficiency”. For those manufacturing LPG tyre rim stoves, their tests consist of ensuring that gas flows properly through the gas tubes and element. There is also the liner test which checks the strength of the clay liners for use in improved charcoal stoves. For those who use the standard test protocols for their stoves the only testing agency is CSIR – IIR located in Accra.

Mapping of stakeholders in the cookstove sector of Ghana

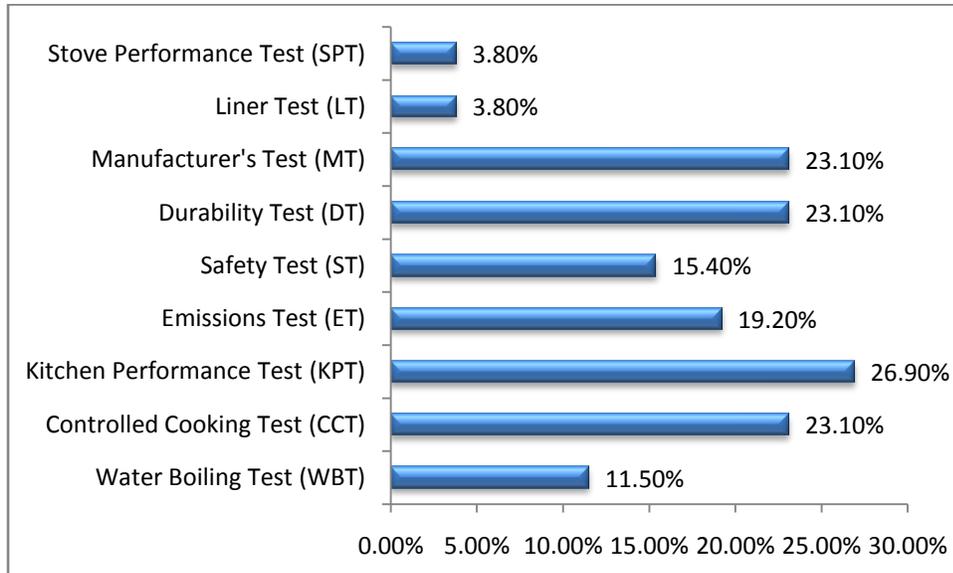


Figure 16 Type of test

The non-availability of testing centres is a major factor influencing the inability of manufacturers to test their stoves. About 47% of respondent thought there were no testing centres in the country as shown in figure 17. This obviously means that the visibility of the testing centre at Institute of Industrial Research is very low. The other reasons offered were high cost of tests, cost of transportation to the testing centre, and they believe that stoves were of high quality and did not need any test.

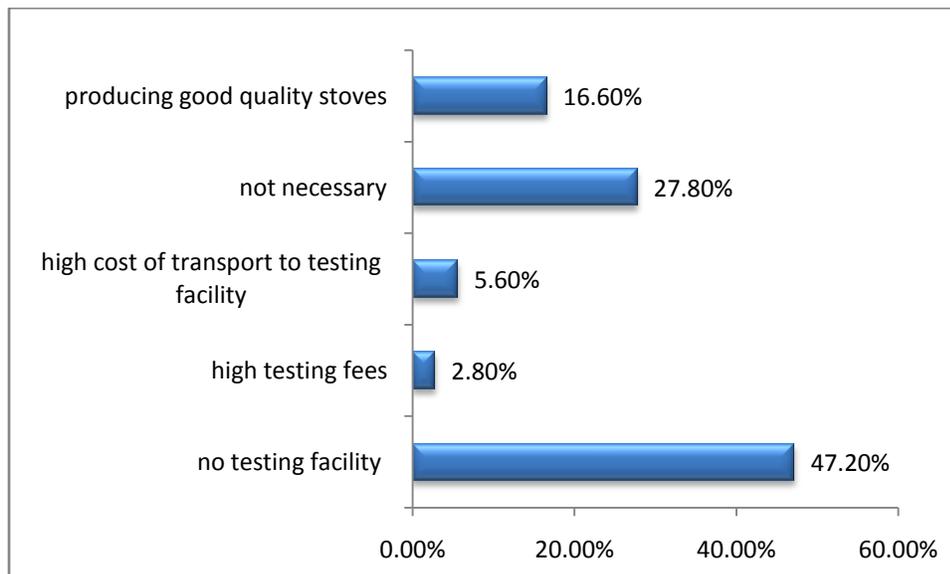


Figure 17: Reasons for not testing stoves

2.2.4 Financing of business

Mapping of stakeholders in the cookstove sector of Ghana

The manufacturing sector is mostly made of cottage and small scale businesses requiring not more than GHC 5000 to start-up. Most, 91%, of the manufacturers self finance their businesses with only 4.5% relying on loans from financial institutions (see figures 18 and 19).

A few of the manufacturers, about 1%, make use of carbon financing which is generally voluntary to support their business. The beneficiaries pointed out that the carbon financing greatly reduce the price of the stoves which might otherwise be expensive and therefore help them to sell more stoves and increase their profit margin.

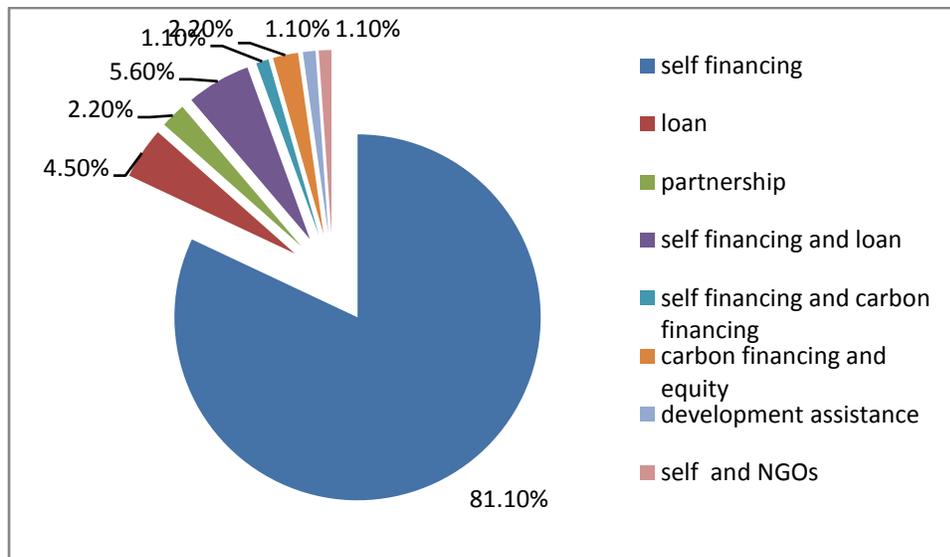


Figure 18: Source of business financing for manufactures

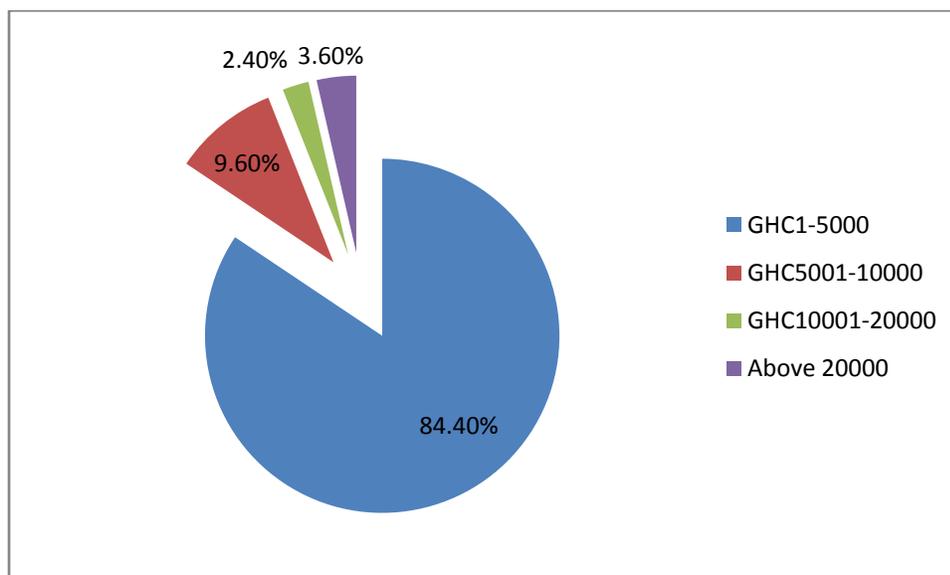


Figure 19: Amount invested per year

2.2.5 Advertising strategy

Mapping of stakeholders in the cookstove sector of Ghana

These manufacturers sell their stoves through referrals or word of mouth with very few using radio, television, exhibition and print media, Figure 20.

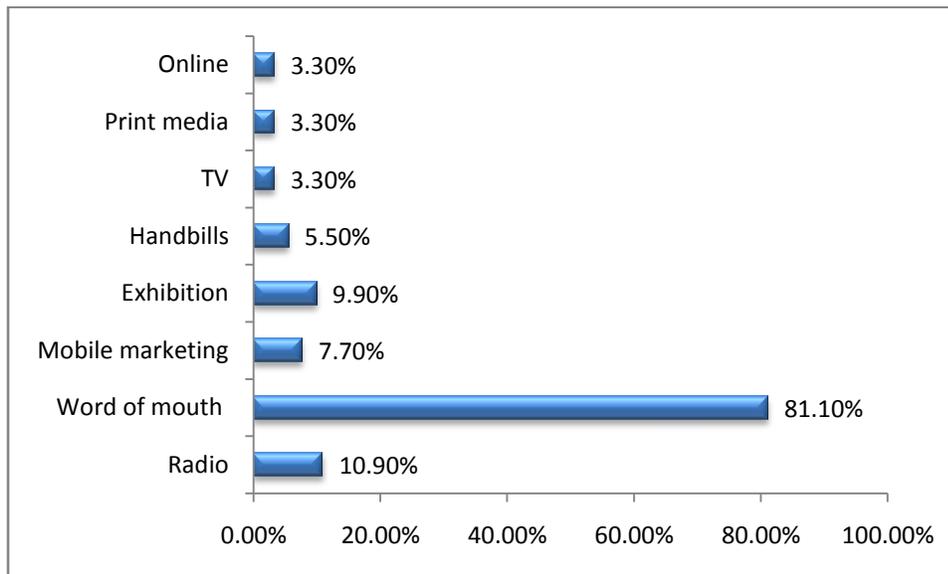
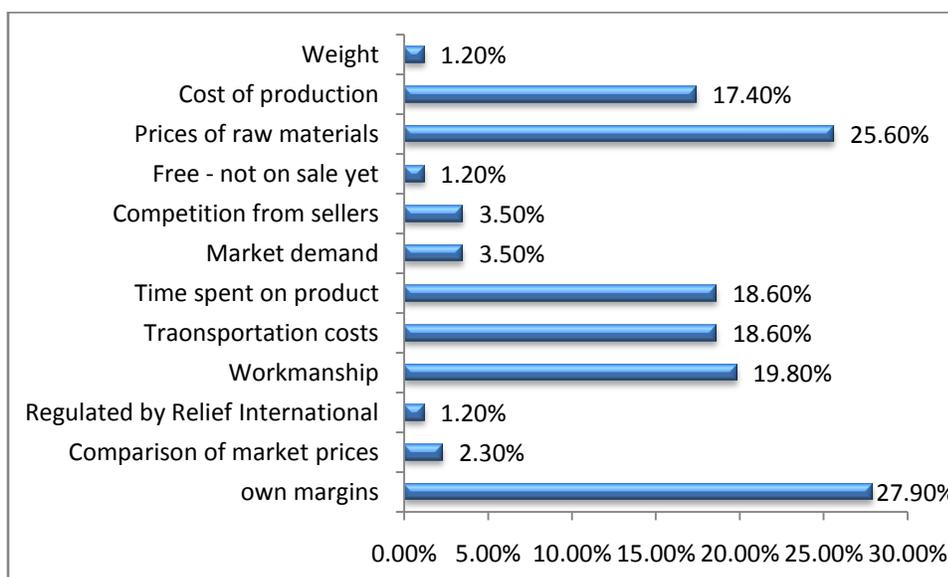


Figure 20: Mode of advertising

2.2.6 Pricing strategy

The price of stove is mostly dependent on the material of construction and size. The final price of stove is determined based on several factors as indicated in figure 21. The prices also vary significantly in each region for the same size and type of stove. Table 3 presents the range of price for each group of stove. The stoves are sold mainly on cash and carry basis and those who provide credit collect the money by themselves without involving any micro-finance institution. The crediting period is usually between 1-2 weeks of purchase.



Mapping of stakeholders in the cookstove sector of Ghana

Figure 21: Determinants of stove price

Mapping of stakeholders in the cookstove sector of Ghana

Table 4 Price of stoves in Ghana (Manufacturers Quote)

Type of Stove	National, GHS		Regional Mean Prices, GHS							
	Price Range	Mean Price	Ashanti Region	Brong Ahafo	Central Region	G. Accra	Northern Region	Upper East Region	Upper West Region	Volta Region
Traditional Charcoal stove (Scrap metal)	2.5-4	2.5					2.5		4	3
Tradition charcoal stove (Mild steel/aluminium cast)	5-30	13.8	11	11.7	14.5	15.8	18.9	17		4
Tyre Rim Charcoal stove	20-30	25	24	22.5			26.5			
Improved Charcoal stove	12-36	17	13	14.4	17.6	20				
Firewood stove (Scrap metal)	5-7	6.4					5	6	5.5	
LPG stove (Local)	35-120	55.4	77.5		55.8	49				

Mapping of stakeholders in the cookstove sector of Ghana

2.2.7 Institutional framework

It is perceived by manufacturers that lack of finance, lack of awareness, marketing and government policies are the main barriers affecting their business as shown in figure 22. About 58% of the manufacturers believe provision of good public-private partnerships, stove labelling and standardization and financing of businesses could help improve the sector.

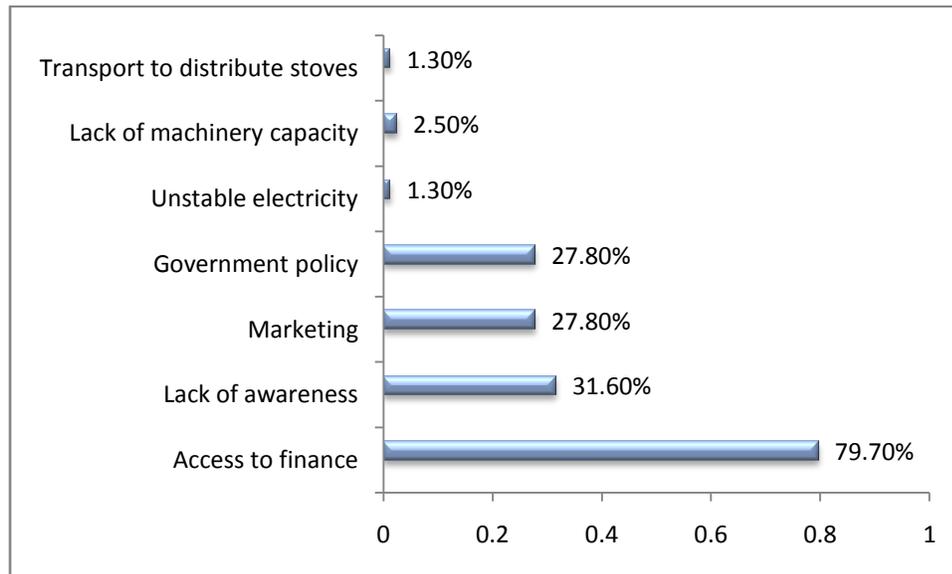


Figure 22 Barriers affecting manufacturing of stoves

They recommend technical training in metal fabrication, financial management, book keeping, welding and spraying as capacity building activities to enhance the quality of their work.

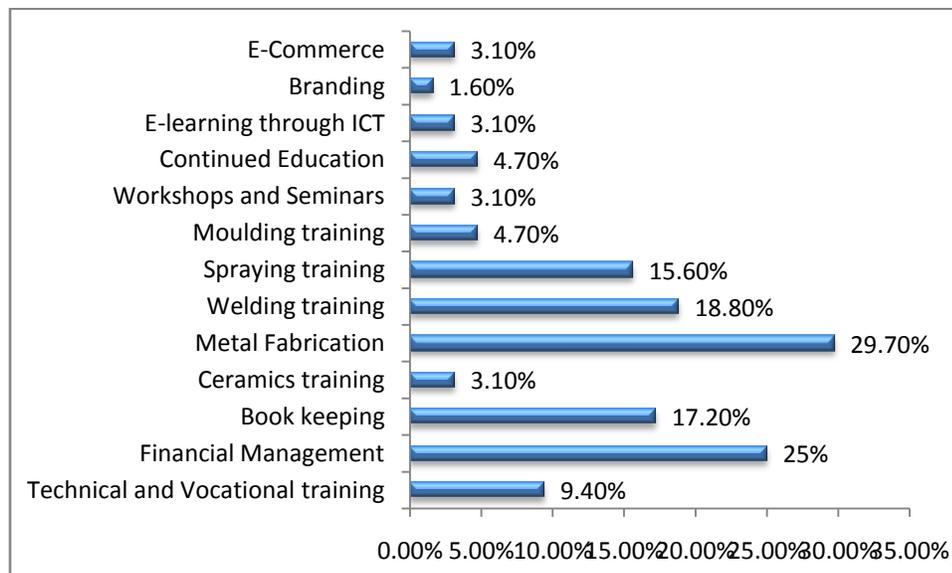


Figure 23 Capacity building needs

Mapping of stakeholders in the cookstove sector of Ghana

2.2.8 Visibility of GHACCO

GHACCO has very poor visibility among the manufacturers of stoves in Ghana. Only 18% of respondents have heard or know of GHACCO out of which 65% are already members. The manufacturers who follow the activities of GHACCO are mainly located in Accra and Kumasi. In the three Northern regions for instant, no manufacturer has ever heard of GHACCO or knows of their activity.

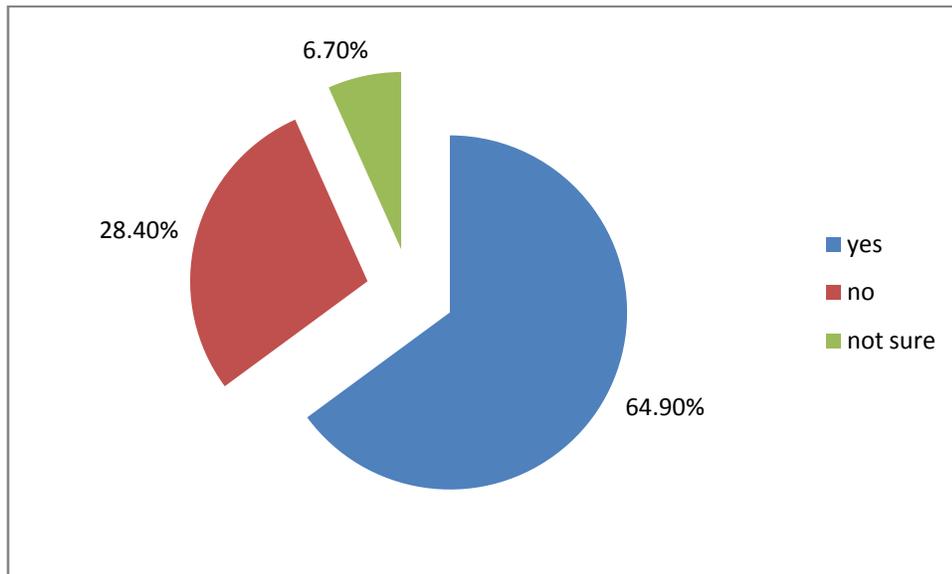


Figure 24 Knowledge of GHACCO

However, about 66% of respondents are willing to become members of GHACCO if given the opportunity to do so.

2.3 Distributors/Retailers of Stoves

A total of 175 stove distributors and/or retailers were interviewed in all 10 Regions and their responses to key questions on nature of business, types of stove sold, pricing and marketing strategies, capacity needs and challenges affecting their business are presented below. Refer to Appendix A for complete profile of stove retailers and distributors.



2.3.1 Nature and status of business

Distribution and retailing of stoves are done on small scale mainly by private individuals who are mostly women. About 98% of respondents in this sector operate sole proprietorships with only 38 % having registered their businesses with either the district assembly or Registrar General’s Department.

Table 5 Reasons for stoves sellers not registering their business

Reasons	Percentage
No knowledge of business registration procedure	35.10%
Registration process is difficult	9.20%
No money for registration	24.70%
Registration is unnecessary	22.70%
New business-yet to register	6.2.20%
Unaware of business registration	2.10%

60% of stove sellers engage in retailing with a few distributing on large scale as indicated in figure 23. Most the distributors are either manufacturers or non-governmental organizations involved in the promotion of the stoves.

Mapping of stakeholders in the cookstove sector of Ghana

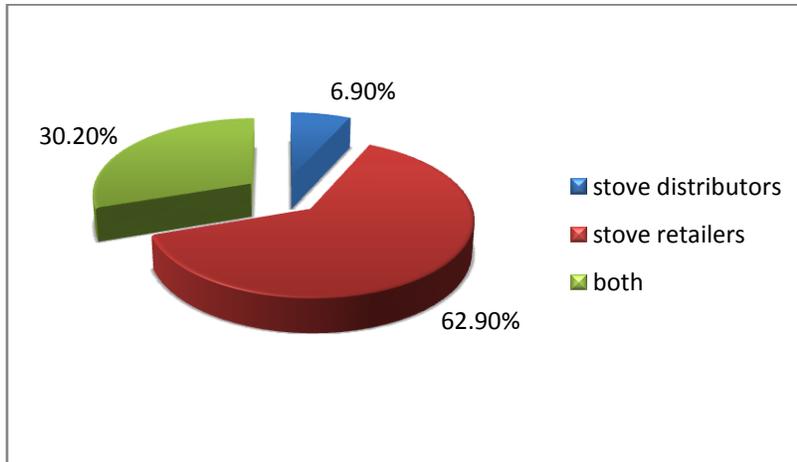


Figure 25: Type of business

Unlike the manufacturing sector, the distribution and retailing sector is dominated by women (Figure 26).

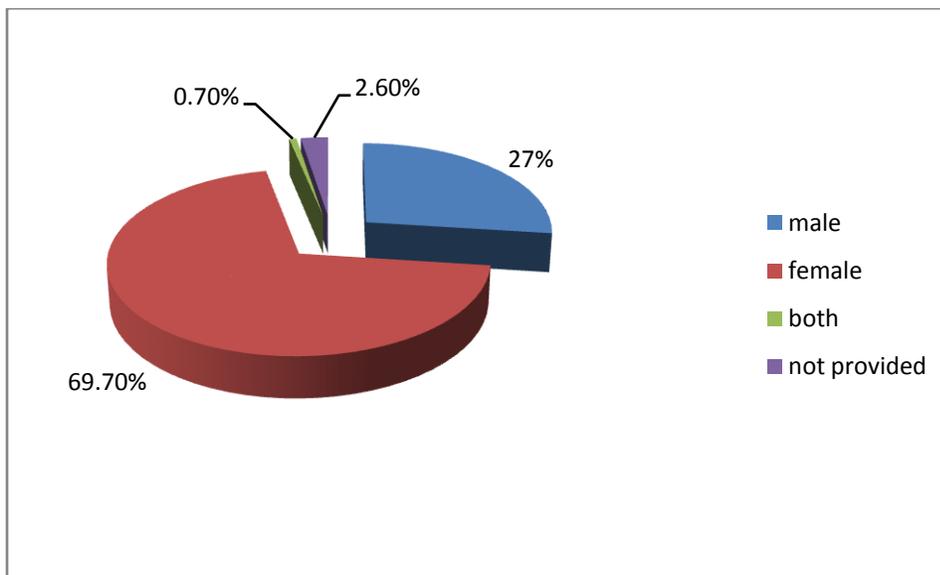


Figure 26: Gender distribution

2.3.2 Types of stoves sold

Different types of stoves made from different materials can be found on the Ghanaian market.

Each Region has a unique stove design which can be linked to the cooking style and available fuel source. For instance, you would come across different types of firewood and sawdust stoves in the three Northern Regions because firewood is commonly used. See Table 5.

However, the stoves can generally be categorized as shown in Section 2.2.2:

Mapping of stakeholders in the cookstove sector of Ghana

These stoves are produced from different materials (metals) as follows:

Mild steel;

- Tyre rim;
- Scrap metal;
- Aluminum cast; and
- Cast iron.

According to the stove sellers the lifespan of the stoves depend on the material of construction and the end-user. However, they estimate that the stoves should have lifespan as indicated in the table 5 below.

Mapping of stakeholders in the cookstove sector of Ghana

Table 6 Stoves common in markets across the country

Type of Stove	Ashanti Region	Brong Ahafo	Central Region	Eastern Region	Greater Accra	Northern Region	Upper East Region	Upper West Region	Volta Region	Western Region
Traditional Charcoal stove (Scrap metal)				√	√	√	√	√	√	
Tradition charcoal stove (Mild steel/aluminium cast)	√	√	√	√	√	√	√	√	√	√
Tyre Rim Charcoal stove				√		√	√	√		√
Improved Charcoal stove	√	√	√		√					
Firewood stove (Scrap metal)						√	√	√		√
Tyre rim Firewood stove			√	√		√	√	√		√
Saw dust stove						√	√	√		
LPG stove	√	√	√	√	√	√	√	√	√	√

Mapping of stakeholders in the cookstove sector of Ghana

Table 7: Expected lifespan of stove sold

Material of construction	Expected Life span
Mild steel	3-5 years
Cast iron	3-5 years
Aluminium cast	3-5 years
Scrap metal	1-2 years

Although there are a few large-sized or institutional stoves on the market, the stoves mostly sold are for domestic use. About 77% of respondents sell domestic type of stoves while 23% sell both domestic and institutional stoves.

Some of the sellers provide warranty on the stoves in the form of replacement, money back or repair of stove. What is not clear is whether the provision of warranty has any impact on sales volume.

2.3.3 Financing of business

Most sellers of stoves self-finance their businesses with only 6.5% relying on loans from financial institutions, figure 27.

Only 0.6 % makes use of carbon financing which is mostly voluntary to finance their business. They point out that the carbon financing greatly reduce price of the stoves which might otherwise be expensive and therefore help them to sell more stoves and increase their profit margin. However, they indicated that the information taken from consumers to satisfy carbon finance requirements also do affect the number of stoves sold.

Distributors or retailers who take loan for their business depend on financial institutions as indicated in figure 28.

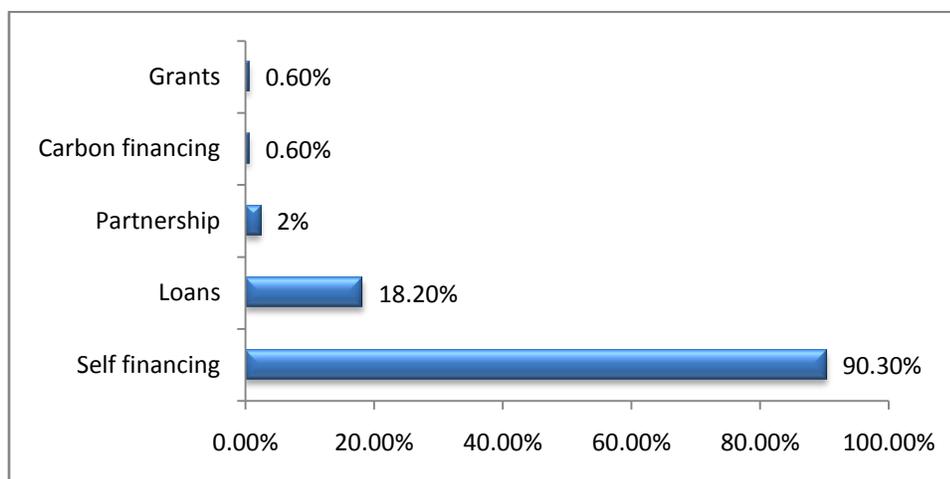


Figure 27: Financing of business

Mapping of stakeholders in the cookstove sector of Ghana

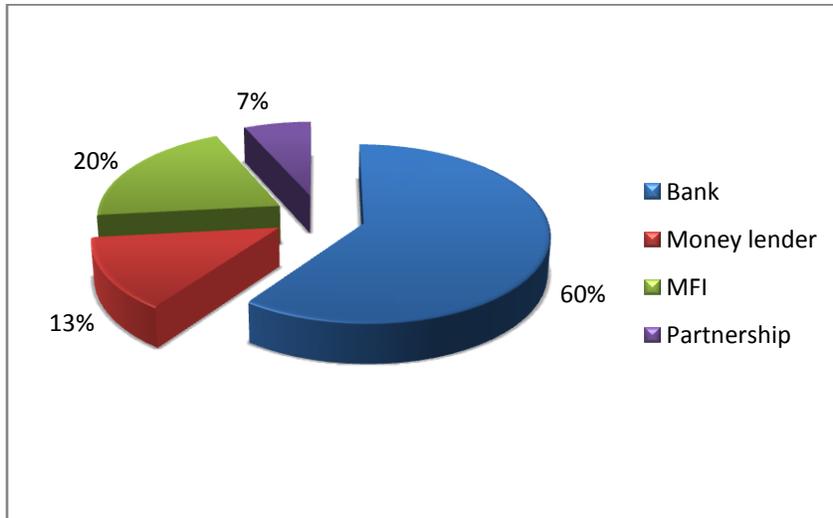


Figure 28: Sources of loan

It should however be noted that the distributors and retailers are given loans by these financial institutions because they are customers and save with them not because of the stoves they sell.

The amount of money invested in the business is generally below **GHC 5,000**. Most stove distributors/retailers pay cash for the stoves from manufacturers/suppliers. Consequently, they usually sell the stoves on cash-and-carry basis to avoid having to chase customers for debt payment. Credit is given to only trusted customers who have usually generated that relationship over a long period of time. Respondents report that often customers take advantage of that relationship and refuse to pay for items purchased.

It is worthy of note that none of the respondents collaborate with any institution or individuals to recover their credit from customers.

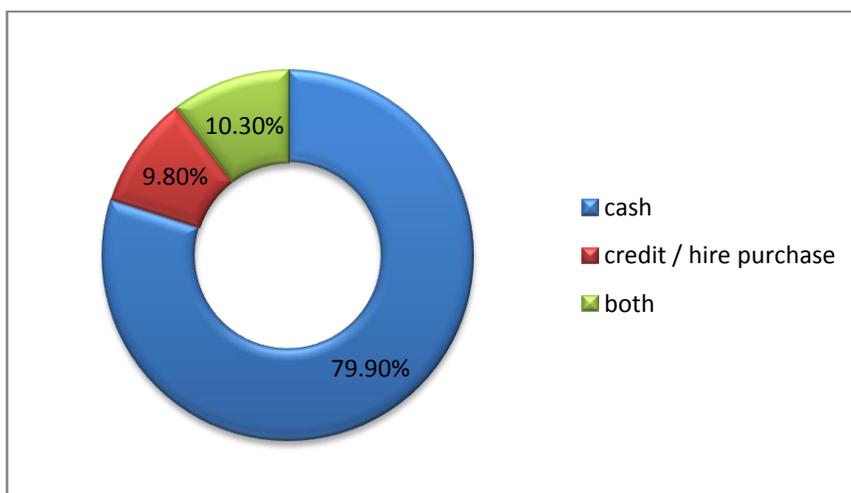


Figure 29: Mode of payment

Mapping of stakeholders in the cookstove sector of Ghana

2.3.4 Marketing strategy

The stoves are mainly sold in shops as indicated in figure 30. However, most shops are located in the main market centres of the respective regions such as Aboabo market in Tamale and Central market in Kumasi. Only 12% of the respondents sell their stoves through exhibitions.

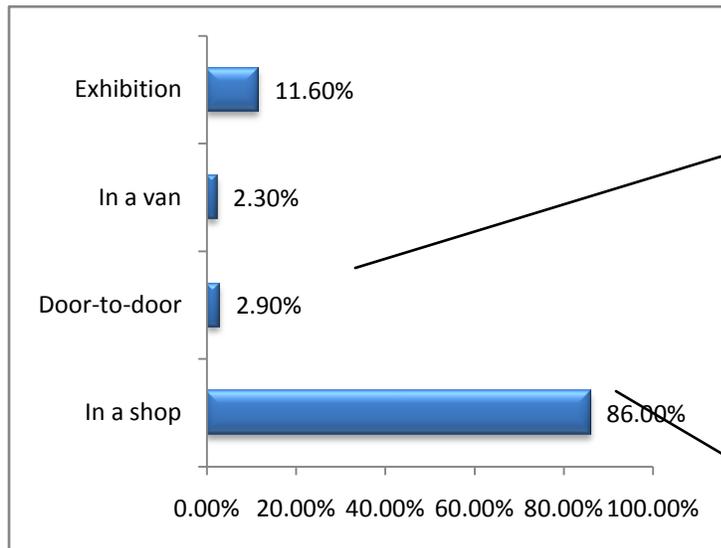


Figure 30: Places of sale

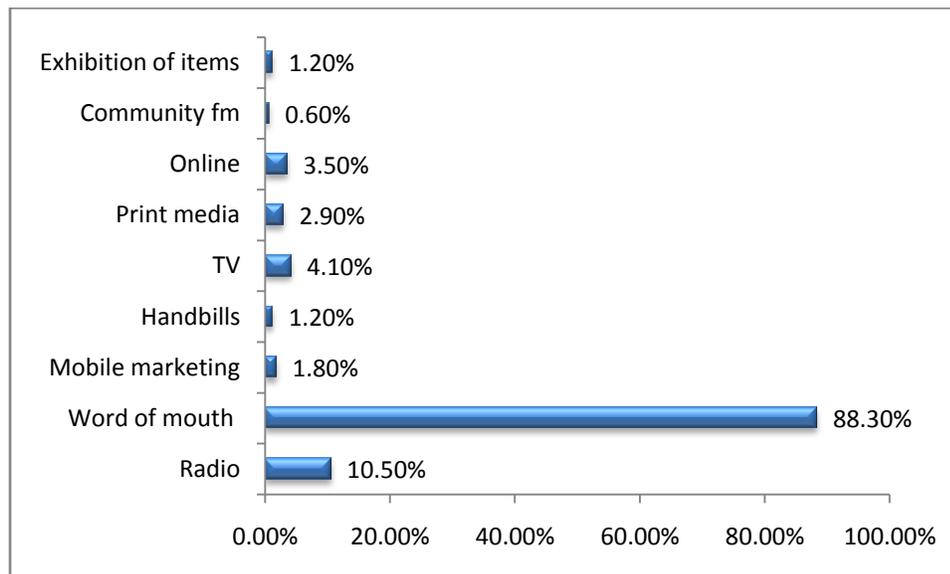


Figure 31: Mode of advertising

Word of mouth marketing is the main mode of advertising their products as indicated in figure 31. This is obvious since most of the sellers cannot afford the expensive media

Mapping of stakeholders in the cookstove sector of Ghana

advertisement. A few of the distributors use or have used radio and TV for marketing their stoves. They are unable to measure the impact of media advertisement on sales.

2.3.5 Pricing strategy

The final market price of stoves is determined by the seller. The price is largely dependent on the manufacturers/supplier price and the seller's own [profit] margin. Some of the stoves have fixed prices by the suppliers but about 90% of the price of stoves is determined by retailer and are usually negotiable to a certain minimum amount. The prices also vary significantly in each Region for the same size and type of stove. Table 6 presents the range of price for each class of stove. The stoves are sold mainly on cash-and-carry basis and those who provide credit collect the money themselves without involving any micro-finance institution. The crediting period is usually between 1-3 months of purchase, figure 32.

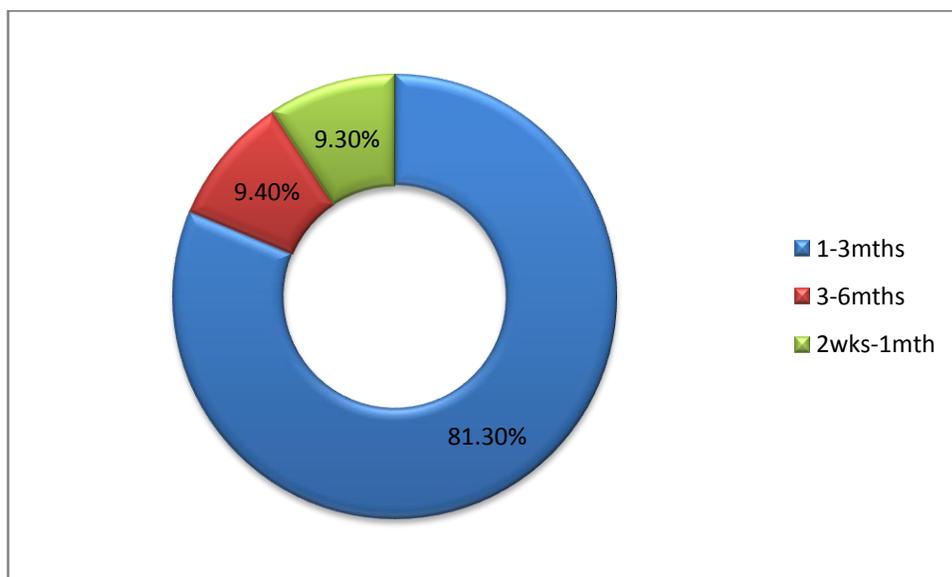


Figure 32 Duration of credit

Mapping of stakeholders in the cookstove sector of Ghana

Table 8 Price of stoves in the Market (Distributors/Retailers Quote)

Type of Stove	National, GHS		Regional Mean Prices, GHS								
	Price Range	Mean Price	Ashanti Region	Brong Ahafo	Central Region	Eastern Region	G. Accra	Northern Region	Upper East Region	Upper West Region	Volta Region
Traditional Charcoal stove (Scrap metal)	2.5-25	9		9	8			4.5	4	5	7
Tradition charcoal stove (Mild steel/aluminium cast)	6-45	15	11	11.7	14.5	12	15.8	18.9	17		8
Tyre Rim Charcoal stove	12-60	25.7	24	22.5							
Improved Charcoal stove	10-36	17.5	15	14.4	17.6		20	26			
Firewood stove (Scrap metal)	5-7	6.4						6.5	6	5.5	
Tyre rim Firewood stove	12-60	22	31					14	25	35	
Saw dust stove	5-7	6.5						6.5			
LPG stove (Local)	20-90	55.4			55.8		49				

Mapping of stakeholders in the cookstove sector of Ghana

2.3.6 Institutional framework

There appears to be unanimity among the distributors and retailers of stoves that access to finance is a major barrier affecting their business as indicated in figure 33. They also indicate that lack of awareness about improved cookstoves and their benefits, improper marketing strategies and some government policies such as relocation (decongestion) exercises and tax increases also affect their businesses negatively.

Apart from awareness creation and access to finance to improve stove selling business, a good proportion of the distributors and retailers believe that subsidizing the stoves especially for the poor could help improve the business (figure 34).



Figure 33: Barriers to sales of stoves

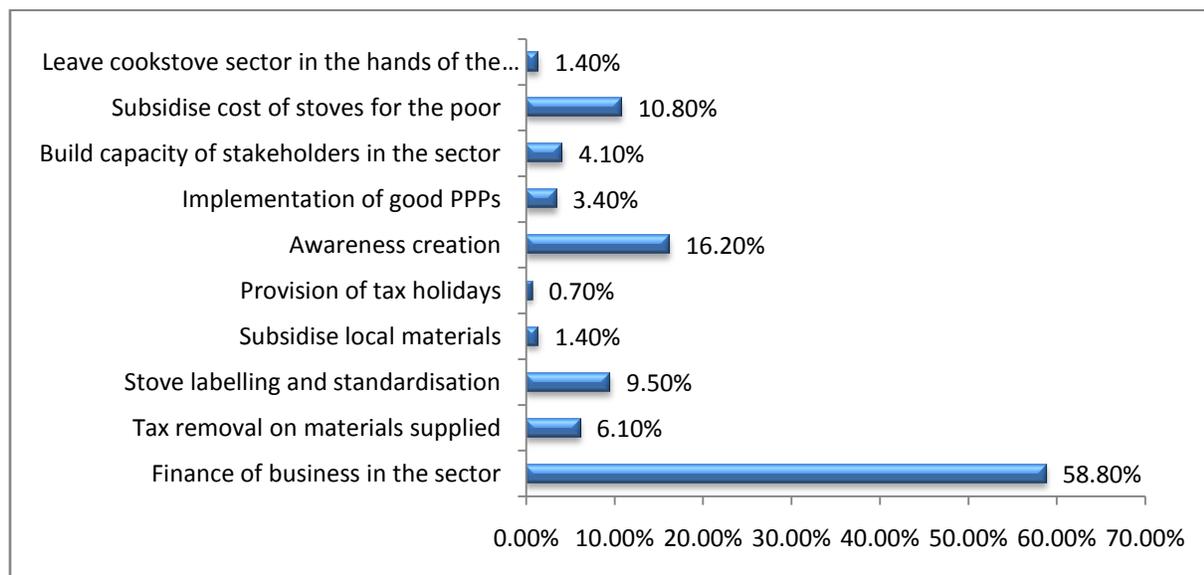


Figure 34: Major activities to enhance sales of stoves

Mapping of stakeholders in the cookstove sector of Ghana

They recommend technical training in financial management and book keeping as capacity building activities to enhance the quality of their operations.

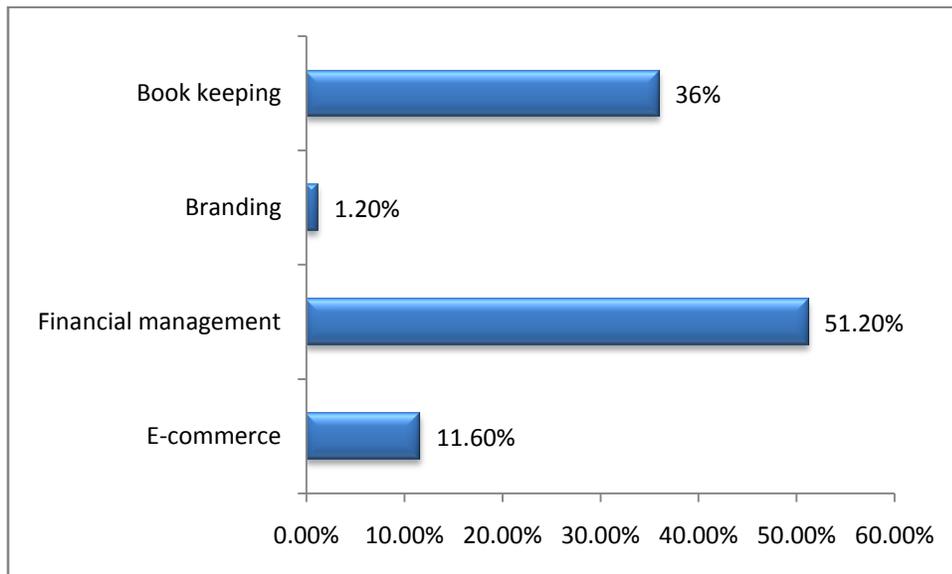


Figure 35: Capacity building needs

2.3.7 Visibility of GHACCO

GHACCO has very poor visibility among the distributors and retailers of stoves in Ghana. Only 9 % of respondents have heard or know of GHACCO out of which 33% claim to be members. These stakeholders who are aware of the activities of GHACCO are mostly located in Accra and Kumasi. In the three Northern regions for instance, no retailer or distributor has ever heard of GHACCO.

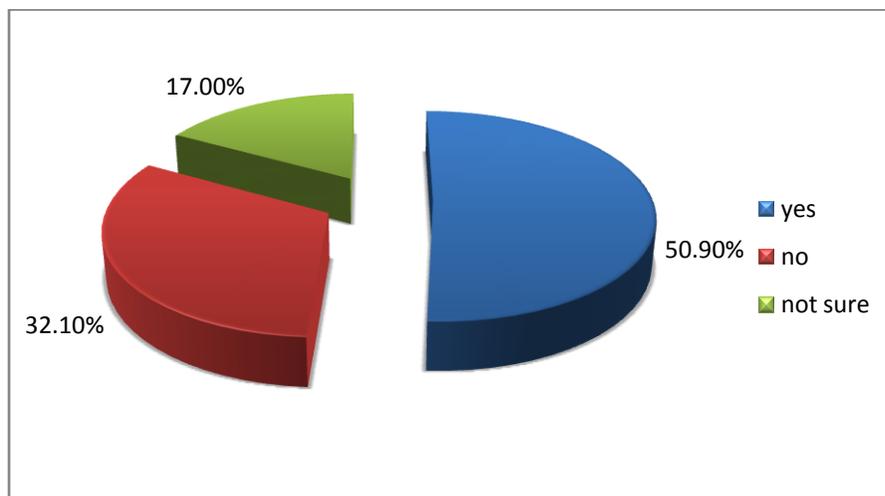


Figure 36 Knowledge of GHACCO

However, about 51% of respondents are willing to become members of GHACCO if given the opportunity.

2.4 Fuel producers

The total number of fuel producers interviewed was 183. Refer to table 12 in appendix A for full details.

Although some registered organisations (Abellon Ghana Ltd and ASA Initiative) that produce fuel were identified, they could not complete the questionnaire within the survey period.

All fuel producers interviewed are private individuals. Many of them learn the trade from their parents and are usually located in remote villages. Unlike the manufacturing and distribution sector which are respectively male and female dominated, the fuel production sector is fairly balanced – 55% male and 45% female.

Though some of the producers come together to form associations, none of those interviewed has registered their operation. The reasons for none registrations are indicated in figure 37.

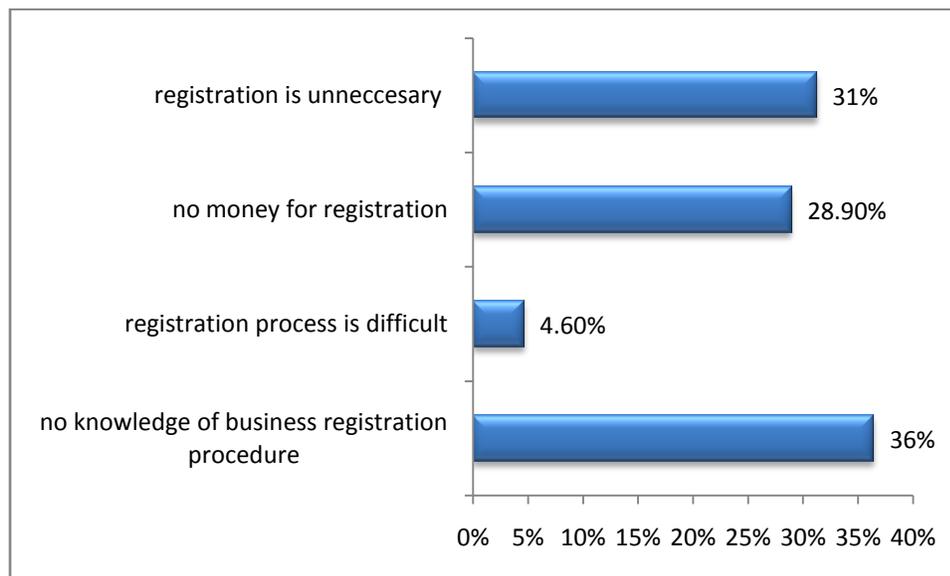


Figure 37: Reasons for fuel producers not registering their business

About 99 % of the producers of fuel produce charcoal and firewood though there are a few people (1%) who produce briquettes and wood pellets.

Mapping of stakeholders in the cookstove sector of Ghana

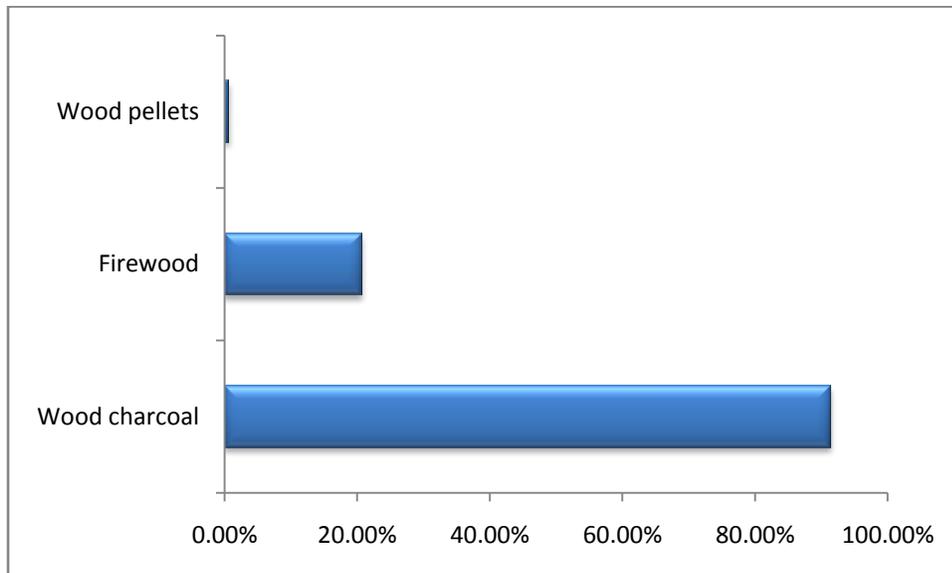


Figure 38: Types of fuel produce

96 % of respondents finance their activities by themselves. It must be noted that most of the producers get the raw material (wood) free from the bush and the only investment needed is money to buy equipment such as cutlass, axe, boot and sometimes head pan that is required for production. The amount of money required ranges from GHC 30 – GHC 100. Once they buy the tools needed for production, it takes a long time to replace them.

Consequently, the respondents consider the selling price of their product as the profit they make. The price of charcoal is usually determined by the intermediaries who buy them from the producer for further distribution (figure 39). This price is usually dependent on the season and quality of charcoal.

This approach is different from what happens in the manufacturing of stoves and distribution of stoves sector where the profit margin is usually fixed by owners.

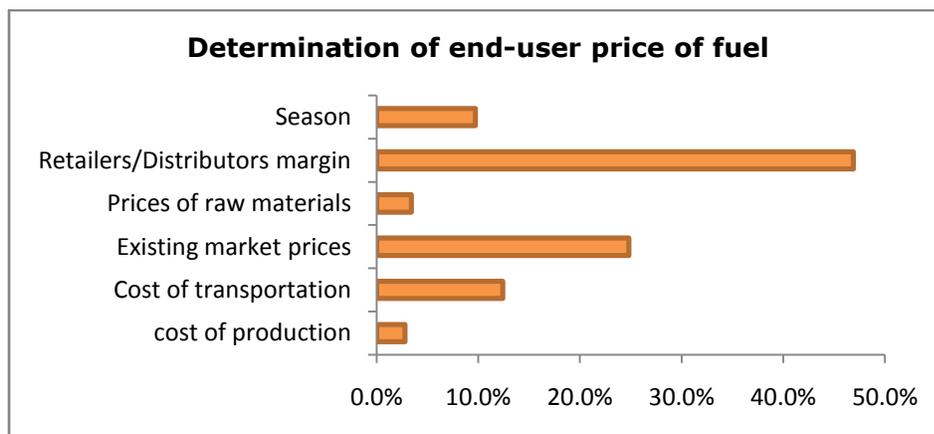


Figure 39 Factors determining final price of fuels

Mapping of stakeholders in the cookstove sector of Ghana

Majority of respondents (55%) are flexible with payment from customers and prefer both cash and credit as mode of payment from customers. 42% operate solely on cash basis. This is obvious since the intermediaries/customers has developed a long standing relationship with the producers of fuel.

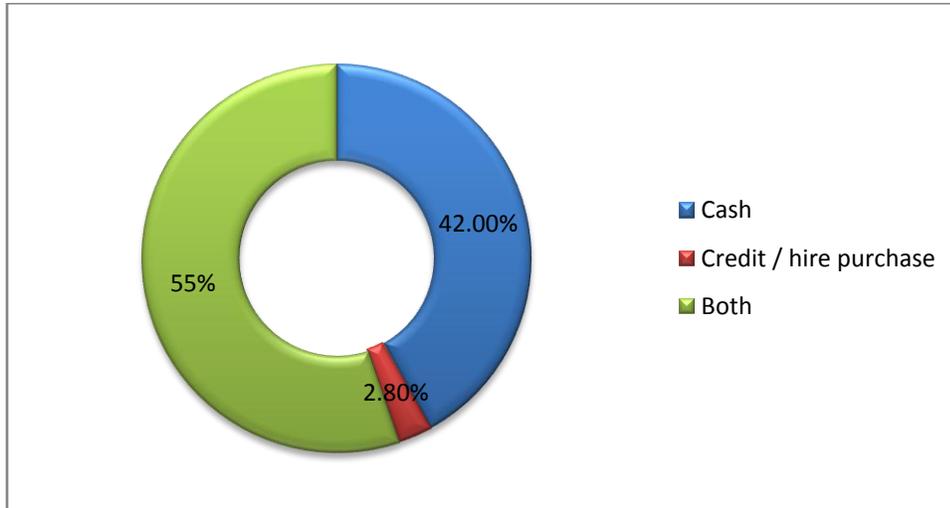


Figure 40 Mode of payment by customers

Access to finance, government policy, marketing and access to wood for the production of charcoal were identified by fuel producers as challenges facing their business. The producers claim that wood is increasingly becoming scarce and that they have to travel deep into the forest to harvest wood to produce charcoal. Most respondents in the Volta and Northern region claim this is their main challenge. According to respondents, alternate means of getting the raw material is to buy timber waste (off-cut) and therefore believe access to finance can help reduce the impact of this challenge (figure 41).

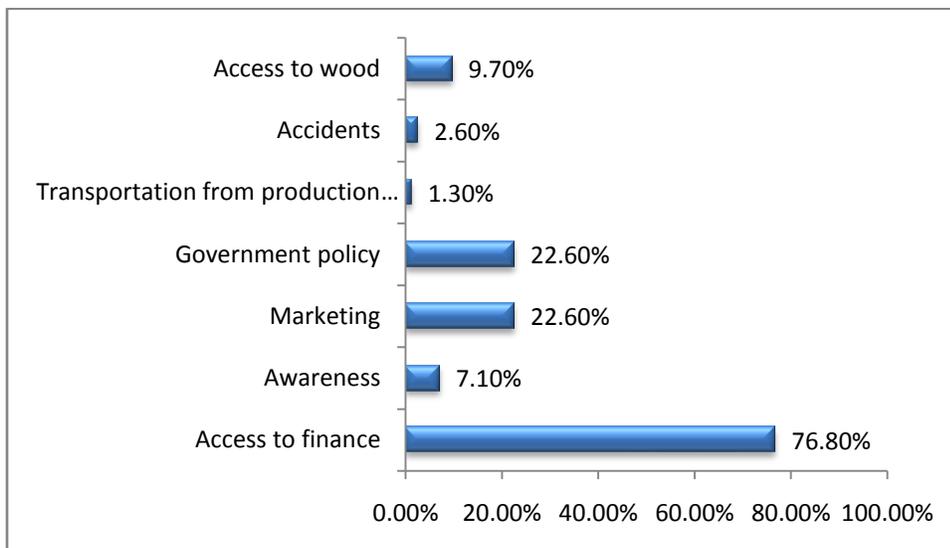


Figure 41 Barriers to fuel production

Mapping of stakeholders in the cookstove sector of Ghana

The respondents unanimously wish they could have technical training in financial management as indicated in figure 42.

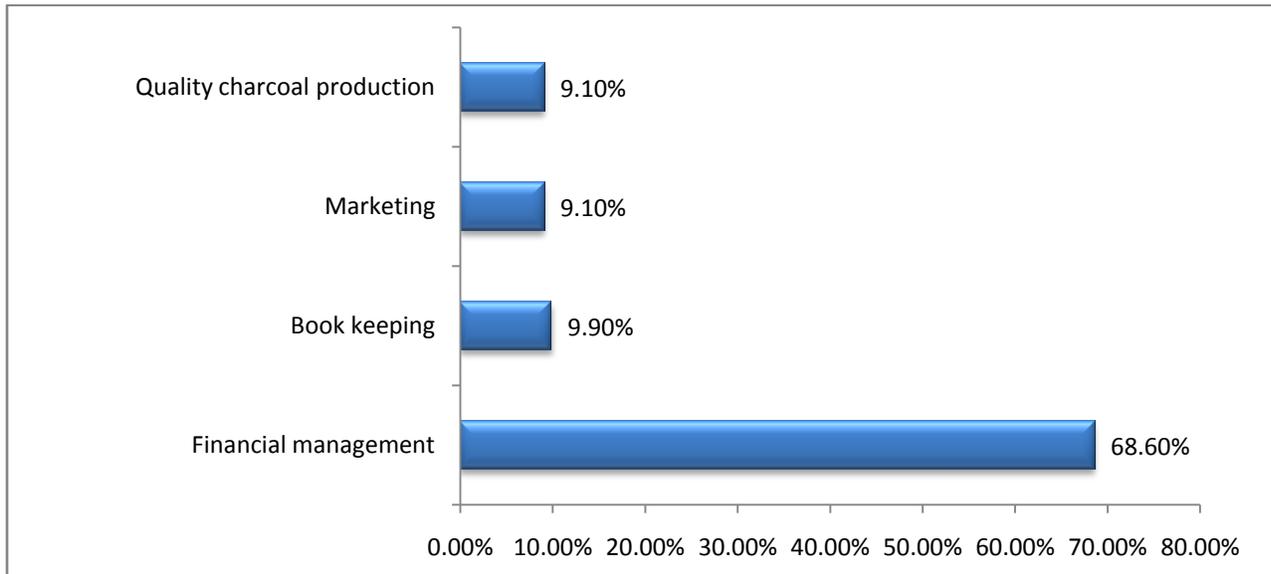


Figure 42: Capacity building activities

Almost all the respondents, 99%, do not know of GHACCO. Those willing to join out of the given percentage are indicated in figure 43.

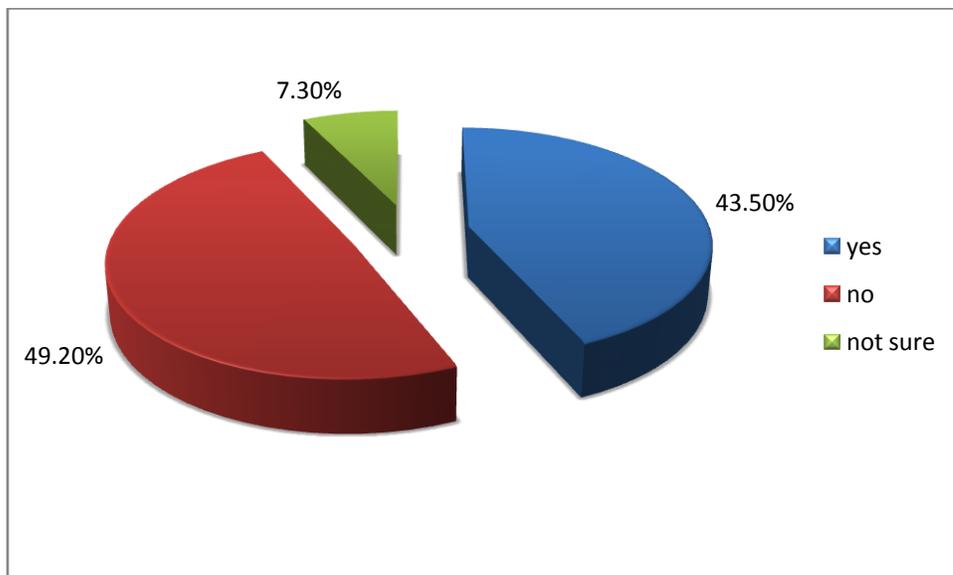


Figure 43: Willingness to join GHACCO

2.5 Financial and International agencies

Fourteen institutions were interviewed across the country. The small number reflects the number of these institutions who are involved in the cookstove sector. 50% of the

Mapping of stakeholders in the cookstove sector of Ghana

respondents have funded activities in the cookstove sector and all of them are willing to continue funding various activities in the sector. Those who do not provide funding in the sector say they do not because it does not fit into institutions objectives/goal.

Table 9 Organisations that provide funding for the cookstove Sector

S. No	Name	Contact	Location
01	ASA Initiative	Veronica Akitti, 0244631848	Cape Coast
02	Multi-Credit Savings and Loans	Alexander Opoku 0322037418 0322034719	Kumasi
03	Persistent Energy Partners Ghana Limited	Michael Larbi 0302776507 michael.larbi@persistentenergypartner.com	Accra, Silver star building, Airport.
04	Shell Foundation (VIVO Energy)	Sylvia AtalobraSylvia.Atalobra@vivoenergy.com	Accra
05	Sinapi Aba Savings And Loans	Degraft Acheampong, 0511277466	Kumasi, Adum
06	SNV	Enno Heijndermans, 0546384726	Accra
07	UNDP	Paolo Dalla Stella 0302215670-83 Ext. 629	UN House No.7 Ring Road East, Accra

Most of the funds go to support manufacturing of improved cookstoves and distribution of stoves as indicated in figure 45. Other activities they fund include training and research, focusing on cookstoves.

The funding usually comes in the form of loans (83%) as indicated in figure 44. This is in contrast to figures 17 and 26 which show that most manufacturers and sellers of stove self-finance their own business, representing 81% and 90% respectively. This could only be as a result of the fact that financial support from these financial institutions and international donors benefit just a few stakeholders.

Mapping of stakeholders in the cookstove sector of Ghana

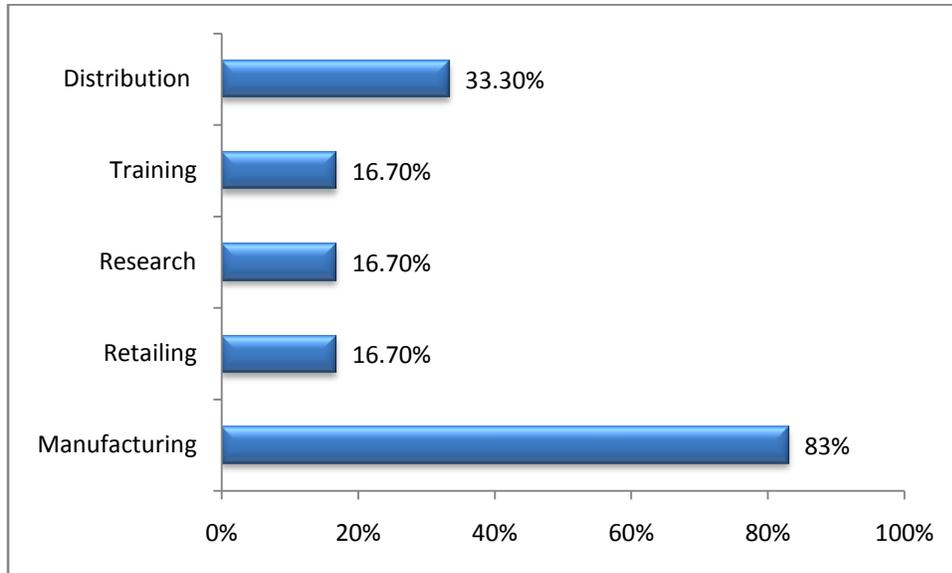


Figure 44: Areas of funding

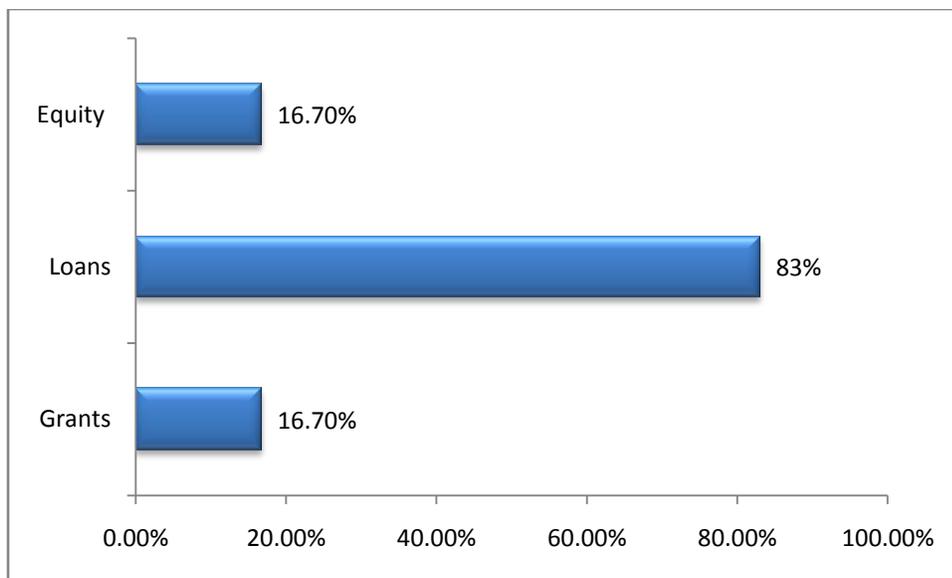


Figure 45: Forms of funding

Also, 33% of respondents provide funding because it fits into companies' strategic goals, 50% provide it purely on business grounds while 17% provide funds to support their SME drive. Most of the funding is also provided by either financial NGOs or international donors.

GHACCO is not known to most of these respondents. Only 31% have heard or know about GHACCO, of which all of them are existing members. However, 67% of respondents who are not members of GHACCO are not willing to join and 33% are unsure.

Basically, the financial institutions were completely unaware of the clean cookstove sectors and their actions towards clients were purely based on business.

Mapping of stakeholders in the cookstove sector of Ghana

There would be the need for seminars nationwide to inform them on issues and encourage them to generate portfolios to facilitate the activities of other stakeholders in the clean cookstove value chain.

Mapping of stakeholders in the cookstove sector of Ghana

2.6 Capacity builders

Fifteen institutions/persons were interviewed in this sector of which 77% of respondents have heard of GHACCO. These groups of stakeholders are involved in training, research, and/or advocacy.

Table 10 List of capacity builders contacted

S.No	Name	Contact	Location
01	Agya Boat's Metal Works	0275190588	Ashanti Region, Kumasi
02	Alice Coffie	0200246619	Ho (ARSUD)
03	Centre For Energy, Environment And Sustainable Development	Julius Ahiekpor, 0244529589 juliusahiekpor@ceedghana.org; info@ceedghana.org	Kumasi, Maxima
04	CSIR	Dr Ben Hagan	Accra
05	Ho Polytechnic	Louis Atsu	Volta Region, Ho
06	Industrial Research (CSIR)	Dr. Gabriel Laryea 0243222370/0302500195	Accra, Otinshie (East Legon Near American House)
07	International Network For Bamboo And Rattan	Michael Kwaku, 03220-61375, Info@Inbar.Int	Fumesua, Forestry Institute Of Ghana, Fumesua-Ejisu
08	Kumasi Institute Of Technology, Energy & Environment (KITE)	Stephany Lawson 0302-256800/01	Dzorwulu - Accra
09	Kumasi Polytechnic (KPREEE)	Edward Antwi, 0268250357	Kumasi
10	Kumasi Polytechnic (KPREEE)	Edem Bensah, 0246450842	Kumasi
11	Mr. Morison	0244873014	Kasoa
12	New Energy	Alhaji Mahama	Tamale
13	Tamale Polytechnic	Dr. Cliffird Braimah 0205975820/0244210612	Tamale
14	Technology Consultancy Centre (KNUST)	Michael Commeh, 0322060296/97	Kumasi
15	Technology Consultancy Centre (KNUST)	Amagro, 0322060296/97	Kumasi
16	University Of Energy And Natural Resources	Mawufemo Modjinou 035223461	Sunyani

Their activities span across different types of stoves but mostly centred on improved charcoal stoves and improved mud-based firewood stoves for institutional application as in figure 46.

It was observed that this group of stakeholders include individuals who have expertise in manufacturing institution stoves (usually Mud-based) on demand and on-site. These types of stoves are usually used for indigenous activities such as;

Mapping of stakeholders in the cookstove sector of Ghana

- Gari processing
- Fish smoking,
- Oil processing (palm oil, coconut oil, groundnut oil,)
- Pito brewing,
- Shea butter processing.

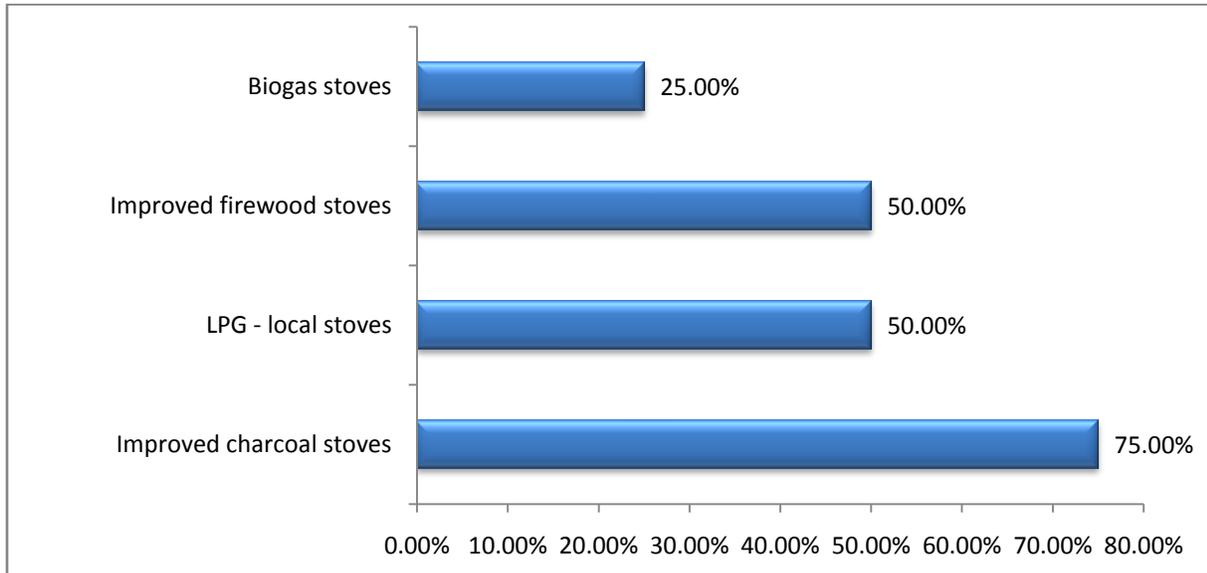


Figure 46: Focus of capacity builders

Their areas of specialisation are fuel consumption, protection of forest resources, air pollution, and climate change as shown in figure 47.

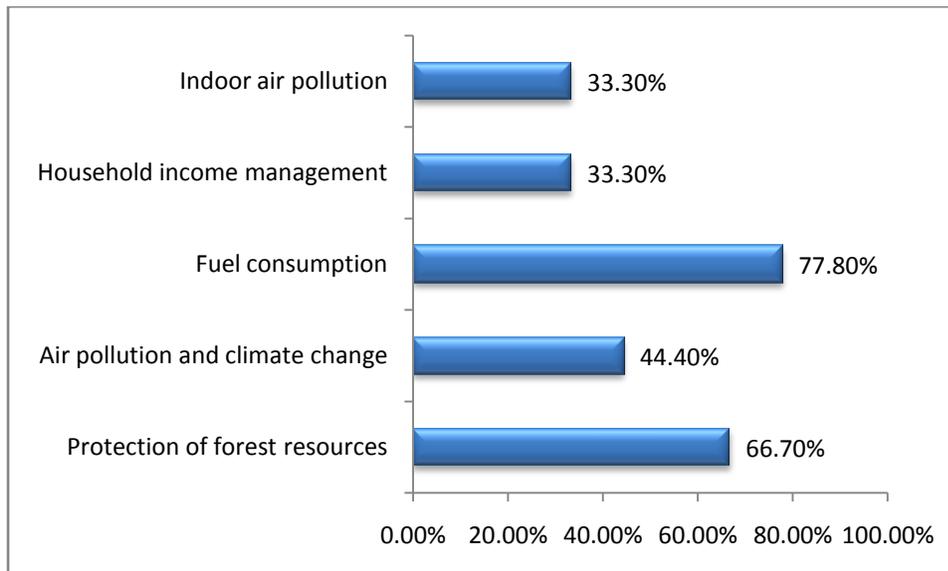


Figure 47: Areas of specialization

Mapping of stakeholders in the cookstove sector of Ghana

Capacity builders see inadequate funds as a major challenge facing the development of the cookstove sector. Other challenges identified are

- Inadequate information in sector
- Poor quality of some stoves
- Limited standardization in the sector
- Poor packaging for consumers, and
- In-fighting among stove manufacturers while there is a large and available market

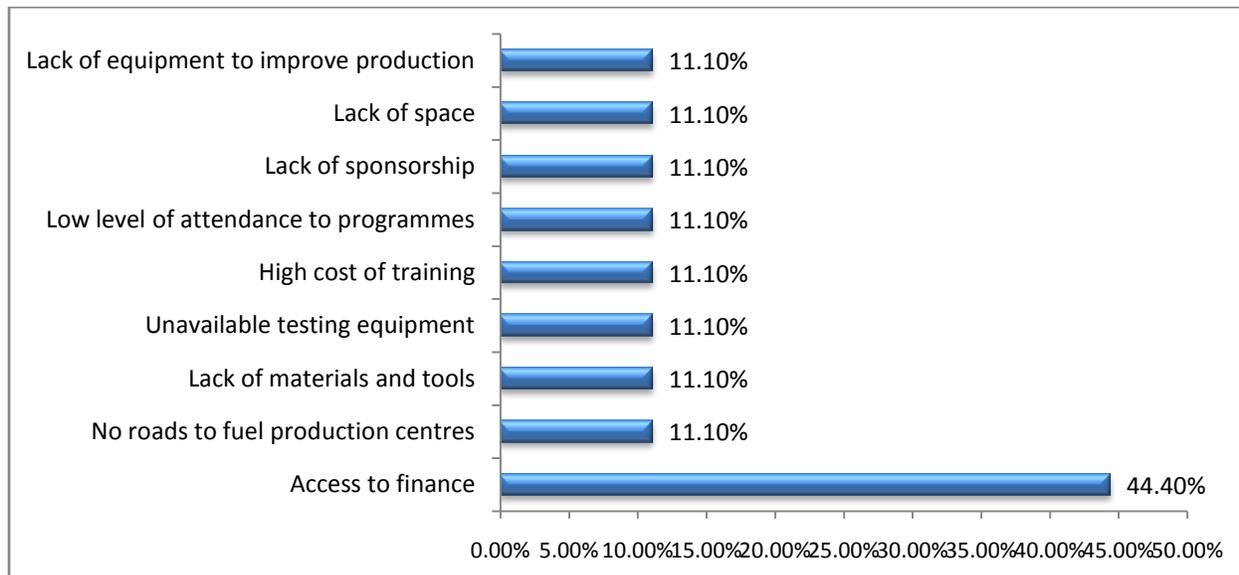


Figure 48 Challenges facing the cookstove sector

3.0 Key Findings

3.1 All stakeholders

1. **The cookstove sector is mostly informal.** Most of the stakeholders are private individuals who own their own businesses which are mostly not registered. Only 2% of stakeholders identified in this survey are public or state institutions.
2. **Registration of business is mostly done at the District Assembly.** 60% of all registered businesses in the sector register with their respective district assemblies.
3. **The sector is fairly gender balanced consisting of businesses owned by 49% males, 44% females and 7% jointly owned.** However, there is wide variation in gender distribution across each value chain. For instance they are more males involved in the stove manufacturing sector while the distribution and retailing sector is female dominated across the country.
4. **Self financing is the main means of finance within the sector.** About 86% of stakeholders self finance their business while loans, grants, carbon finance, etc constitute 14%. The amount of money invested annually or needed to start a business is averagely less than GHC 5,000. It ranges from as low as GHC 30 for fuel producers to about GHC 5000 for Stove manufacturers and distributors.
5. **Main barriers** to expansion of the clean cookstove sector are access to finance, awareness creation, capacity building and in-fighting among some manufacturers.
6. Stakeholders believe **increasing awareness** creation activities, access to finance and capacity building could enhance the [clean] cookstove sector.
7. **GHACCO has very low visibility across the 10 regions of Ghana.** Only 9% have heard of GHACCO or know about its activities. GhACCO has the highest visibility in the Ashanti and Greater Accra Regions with 25% and 18% respectively. Out of the percentage of who know of GHACCO, 64.5% are already members. About 46% of stakeholders who are not member of GHACCO are however, willing to become a member if they are contacted.

3.2 Stove manufacturing sector

1. **Different types of stoves made from different materials are manufactured** locally in Ghana. Manufacturers have the capacity and have been fabricating both domestic and institutional stoves. The domestic stove sector is well established and diverse than the institutional stoves. It was observed that production of some institutional wood stoves for activities such as fish smoking, oil processing, soap making, cooking, and pito brewing is done on demand.
2. **Some stove types or designs can only be found in certain parts of the country.** Improved/efficient stoves are manufactured mostly in Greater Accra and Ashanti Regions. Several [modified] firewood stoves are manufactured in the

Mapping of stakeholders in the cookstove sector of Ghana

Northern Region. These are not necessary Improved/efficient stoves but firewood stoves made from with metals (tyre rims and scrap metals). Interestingly, there is high demand for these stoves suggesting that households are moving away from the conventional three-stone and mud type firewood stoves.

3. **Most manufacturers do not test their stoves.** Only 35% test their stoves and most of them are manufacturers of improved cook stove. Manufacturers of other types of stoves perform their own tests which do not follow any standard protocols. These tests are performed basically to determine if the stoves would work.
4. **47%** of manufactures claim they do not perform any testing on their stoves because there are no testing facilities.
5. **Word-of-mouth** is the most important channel to spread awareness and generate customer confidence.
6. **84%** of the manufacturers require less than GHC 5,000 to support and expand their businesses.
7. **The price of stove is mostly dependent on the material of construction and size.** The prices also vary significantly in each region for the same size and type of stove.
8. It is perceived by manufacturers that lack of finance, lack of awareness, marketing and government policies are the **main barriers** affecting their business.
9. Capacity build activities should focus on metal fabrication, financial management, book keeping, welding and spraying to enhance the quality of their work.
10. This sector is dominated by males.

3.3 Distributors and retailers of stoves

1. **The stoves are mostly sold in shops.** Although few of the shops are located in different parts of town within the region, most shops are located in the main market centers of the respective regions such as Aboabo market in Tamale and Central market in Kumasi.
2. **Word-of-mouth** remains the most important channel to spread awareness and generate customer confidence. About 90% of stakeholders use this means to market their stoves.
3. **The final market price of stoves is determined by the seller.** The price is largely dependent on the manufacturers/supplier price and the seller's own [profit] margin. Some of the stoves have fixed prices by the suppliers but about 90% of the price of stoves is determine by retailer and are usually negotiable to a certain minimum amount. The prices also vary significantly in each region for the same size and type of stove.
4. **Main barrier to doing business is access to finance.** 60% of retailers claim providing access to finance could help enhance their business. 16% believe increased awareness of the sector could enhance their business.
5. **About 90%** wants capacity building activities in financial management and proper book keeping.
6. **Knowledge of GHACCO** in most of the regions zero. Most of the distributors and retailers have do not know what GHACCO is and what it does. However, 51% are willing to become members.

Mapping of stakeholders in the cookstove sector of Ghana

3.4 Fuel Producers

1. Mostly located in remote villages producing charcoal and firewood.
2. Most of them get the raw material (wood) for production free from the bush.
3. The price of charcoal is usually determined by intermediaries (middlemen) who buy them from the producer for further distribution. This price is usually dependent on the season and quality of charcoal.
4. Besides, access to finance, government policy, marketing and access to wood for the production of charcoal were identified by fuel producers as challenges facing their business. The producers claim that wood is increasingly becoming scarce and that they have to go deep into the forest to harvest wood to produce charcoal or buy the wood.
5. About 69 % of fuel producers want technical training in financial management.
6. 99% of fuel producers interviewed have not heard of GHACCO.

3.5 Financial Institutions and International Agencies

1. Not many financial institutions or International agencies are involved in the [clean] cookstove sector.
2. 50% have funded and will continue to fund activities in the cookstove sector.
3. Most, 90% of the funding goes to support manufacturing and distribution of stoves.
4. 33% of respondents provide funding because it fits in company strategic goals, 50% provide it purely as a business while 17% provide funds to support their SME drive. Most of the funding is also provided by either financial NGOs or International donors.
5. The funding usually is in the form of loans (83%).

3.6 Training and Research Institutions

1. 77% of respondents in this sector have heard of GHACCO.
2. There are just a few capacity builders in this sector involved in training, research and advocacy. Capacity building activities are generally low – almost non-existing.
3. Capacity builders see inadequate funds as a major challenge facing the development of the cookstove sector. Other challenges identified are
 - Inadequate information in sector
 - Poor quality of some stoves
 - Limited standardization in the sector
 - Poor packaging for consumers
 - In-fighting among stove manufacturers while there is a large and available market
4. Their areas of specialisation are fuel consumption, protection of forest resources, and air pollution and climate change
5. Most of them know about carbon financing.

Mapping of stakeholders in the cookstove sector of Ghana

4.0 Recommendations/Action Plan

Item / stakeholder	Capacity building activity	Aim	Method / Approach	Suggested collaborators / expected benefit
GHACCO	Visibility and awareness creation	To make GHACCO visible nationwide	Utilize TV and radio	Music and Movie celebrities locals are familiar with
	Regional coordination and integration	To strengthen GHACCO at regional levels	Strengthen / Brand the offices of regional coordinators	GHACCO becomes fully integrated in the regions and districts
			Regional coordinators become the face of GHACCO tasked with the following: -organisation of stakeholder meetings -registration of stakeholders -regular updating of stakeholder databases	GHACCO presence at community levels for better awareness creation and paradigm shifting
	Advocacy	To lobby government for: - reduction of taxes on local materials needed for stove production - reduction of stoves price for the poor, e.g., beneficiaries of LEAP		Government provides concession on raw materials for stove production Government subsidizes stoves for the poor (e.g. LEAP beneficiaries)
Stove manufacturers	Visibility	To make GHACCO visible	Stickers on stoves. Supply of GHACCO	GHACCO made visible

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			embossed aprons	
	Formation of associations	Generation of unity and a voice to speak on behalf of stove manufacturers	Discussion with stakeholders	GHACCO Stakeholders
	Awareness creation	Generation of awareness of negative (social, health, economic, climatic) impact of utilization of traditional stoves	Seminars and Workshops	Stove manufacturers become aware of the negative effects of traditional stoves
		Paradigm shift towards production of clean cookstoves Need for testing of stoves -Stove labeling and standardization etc		Stove manufacturers understand the need to: - channel skills towards the production of much cleaner and more beneficial stoves without losing source of livelihood - test stoves and pay for associated costs
	Technical training: -Welding -Spraying -Finishing -Fabrication	Enhance quality of stove production	Seminars and Workshops	Stove manufacturers are able to keep basic records on stoves manufactured, stoves sold, profits made, etc
	Book keeping and Financial Management	Acquisition of basic book keeping and financial management skills		Stove manufacturers increase sales
	Formation of associations	Generation of unity and a voice to speak on behalf of stove manufacturers	Discussion with stakeholders	GHACCO Stakeholders
	Book keeping and Financial Management	Acquisition of basic book keeping and	Seminars and Workshops	Stove manufacturers are able to keep

Mapping of stakeholders in the cookstove sector of Ghana

		financial management skills		basic records on stoves manufactured, stoves sold, profits made, etc Fuel distributors and retailers increase sales
	Awareness creation	Generation of awareness of negative (social, health, economic, climatic) impact of utilization of traditional stoves Paradigm shift towards use of clean cookstoves	Seminars and Workshops	Fuel distributors and retailers become aware of the negative effects of traditional stoves Use and promotion of clean among fuel retailers
Stove distributors and retailers	Visibility	To make GHACCO visible	Supply of GHACCO embossed aprons	GHACCO made visible
	Formation of associations	Generation of unity and a voice to speak on behalf of stove manufacturers	Discussion with stakeholders Seminars and workshops	GHACCO Stakeholders
	Book keeping and Financial Management	Acquisition of basic book keeping and financial management skills	Seminars and Workshops	Stove manufacturers are able to keep basic records on stoves manufactured, stoves sold, profits made, etc Stove distributors and retailers increase sales
	Awareness creation	Generation of awareness of negative (social, health, economic,	Seminars and Workshops	Fuel distributors and retailers become aware of the negative

Mapping of stakeholders in the cookstove sector of Ghana

		climatic) impact of utilization of traditional stoves		effects of traditional stoves
		Paradigm shift towards use of clean cookstoves		Use and promotion of clean among stove retailers
Researchers	Visibility	To make GHACCO visible	Supply of GHACCO embossed aprons	GHACCO made visible
	Collaboration	To couple activities of fuel producers with researchers to generation easily adaptable ,effective and efficient charcoal production methods	Joint stakeholder meetings and seminars	Researchers see for results of research for enhanced production
		Provide researchers with active and practical fields to implement or apply results of research		Researchers have easy access to funds for sector-oriented research
		Facilitate access to funds for research		
Financial and international institutions	Visibility	To make GHACCO visible	Supply of GHACCO embossed aprons	GHACCO made visible
	Awareness creation	To make institutions aware of negative impacts of utilization of traditional cookstoves	Seminars and workshops	Financial institutions are educated on negative effects of traditional cookstoves
	Collaboration	GHACCO liaises with financial and international institutions at highest levels for funds for	Joint stakeholder meetings and seminars	Stakeholders benefit from special rates for loans, grants from international

Mapping of stakeholders in the cookstove sector of Ghana

		stakeholders, special concessions and rates for members of the cookstove sector		organisations for higher production and sales rates, improved livelihoods
Fuel producers	Visibility	To make GHACCO visible		GHACCO made visible
	Formation of associations	Generation of unity and a voice to speak on behalf of stove manufacturers	Discussion with stakeholders Seminars and workshops	GHACCO Stakeholders
	Book keeping and Financial Management	Acquisition of basic book keeping and financial management skills	Seminars and Workshops	Stove manufacturers are able to keep basic records on stoves manufactured, stoves sold, profits made, etc
	Awareness creation	Generation of awareness of negative (social, health, economic, climatic) impact of utilization of traditional stoves Paradigm shift towards use of clean cookstoves	Seminars and Workshops	Fuel producers increase sales Fuel distributors and retailers become aware of the negative effects of traditional stoves Use and promotion of clean among fuel producers
	Collaboration	To couple activities of fuel producers with researchers to generation easily adaptable ,effective and efficient charcoal production methods Provide researchers with active and	Joint stakeholder meetings and seminars	Fuel producers benefit for results of research for enhanced production Increased production sales, profit and improvement in livelihood

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practical fields to
implement or
apply results of
research

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Appendix A: Profile of stakeholders

Table 11 List of stakeholders contacted

S. No	Name of Organisation/Individual	Contact	Location Region/District/Town	Type of Activity in Cookstove sector
1.	Imperial Women's Trust (Microfinance)	Frank K. Nutakor 0302814404 0249265488	Accra	Finance
2.	Shell Foundation	Sylvia Atalobrasylvia.Atalobra@Vivoenergy.Com	Accra	Finance
3.	Achimota Old Station (Union of Charcoal Distributors)	Chairman 0208190649 0246456005	Accra	Fuel Distributor
4.	Greener Impact	Kassim 0570388869	Accra	Stove Manufacturer
5.	Gyapa	Titiati Atsu Macatsu@Yahoo.Com	Accra	Stove Manufacturer
6.	Toyola	Suraj Wahab 0243115898	Accra	Stove Manufacturer
7.	Cookclean Ltd	Erasmus Osei-Essah	ACCRA	Stove Manufacturer
8.	Fati	0576200146	Accra	Stove Manufacturer
9.	Bismark	0275231325	Accra	Stove Manufacturer
10.	Innocent Abledu	0243785670	Accra	Stove Manufacturer
11.	Raymond	0207137719	Accra	Stove Manufacturer

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12.	Samuel	None	Accra	Stove Manufacturer
13.	Eric	None	Accra	Stove Manufacturer
14.	Agbobloshie (June 4)	None	Accra	Stove Manufacturer
15.	Kweku	None	Accra	Stove Manufacturer
16.	Peter Agordzetur	0277121678	Accra	Stove Manufacturer
17.	Rashied	0244745192	Accra	Stove Retailer
18.	Kofi	None	Accra	Stove Retailer
19.	Faizam Mohammed	None	Accra	Stove Retailer
20.	Happy Store	0266707442	Accra	Stove Retailer
21.	Nancy Kuntoh	0248184932	Accra	Stove Retailer
22.	George Ofosu	027474100	Accra	Stove Retailer
23.	Grace Mensah	0207737951	Accra	Stove Retailer
24.	Nkrumah	0246150033	Accra	Stove Retailer
25.	Mensah Bonus	0249416692	Accra	Stove Retailer
26.	Antie Bridget		Accra	Stove Retailer
27.	Anthony	None	Accra	Stove Retailer
28.	Spintex-Opposite Cylinders	None	Accra	Stove Retailer

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29.	Kwabena	None	Accra	Stove Retailer
30.	Florence	None	Accra	Stove Retailer
31.	Green Garden House Enterprise	None	Accra	Stove Retailer
32.	Nyarko-B Enterprise	0243063588	Accra	Stove Retailer
33.	Dera Foundation	0265090505/0201319084	Accra, Art Centre	Finance
34.	Kumasi Institute Of Technology, Energy & Environment (KITE)	Stephany Lawson 0302-256800/01	Accra, Dzorwulu	Research And Advocacy
35.	Standard Chartered Bank		Accra, High Street	Finance
36.	Barclays Bank	Corporate Affairs 0302661293	Accra, High Street	Finance
37.	Industrial Research (CSIR)	Dr. Gabriel Laryea 0243222370/0302500195	Accra, Otinshie (East Legon Near American House)	Testing Of Stove
38.	Ghana Cylinder Manufacturing Company Limited (GCMC)	0302 811720/0302 811698	ACCRA, Spintex Road	Stove Producer
39.	Jacob Agyei	0267921370	Accra, Teshie	Stove Manufacturer
40.	UNDP	Paolo Dalla Stella 0302215670-83 Ext. 629	Accra, UN House No.7 Ring Road East, Accra	Finance
41.	Mr. Kwame Boah	0575965696 / 0244090640	Ashanti region , Suame, People Lover	Stove Manufacturer
42.	King Solomon	0244435680	Ashanti Region, Abuabo Ashanti Region, Railways/Scrap Dealers	Stove Manufacturer
43.	Attah Kwadu	0242-181919	Ashanti Region, Asafo	Stove Distributor
44.	Selestina Bawa	0545611799	Ashanti Region, Asokwa	Fuel Distributors
45.	Rita Bayeti	0249560579	Ashanti Region, Asokwa, Behind MOFA	Raw Material Supplier
46.	Afua Kyerewah	0245773394	Ashanti Region, Asokwa, Behind MOFA	Fuel Distributors

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47.	Emmanuel Asante	0547123964	ASHANTI REGION, BODOMASE	Fuel Producer
48.	Katapilar Dankara	0209742890/0241426744	Ashanti Region, Bodomase	Fuel Producer
49.	Naade-Binanimda Joshua	0241426744/0209742890	Ashanti Region, Bodomase	Fuel Producer
50.	Kwaku Laari	0248408023	Ashanti Region, Bodomase	Fuel Producer
51.	Hannah Atia	0246418365	Ashanti Region, Bogobiri Stadium Junction-Obuasi	Raw Material Supplier
52.	Awal Mohammed	0266084178	Ashanti Region, Ejura	Stove Manufacturer
53.	Fati Alhasan	0547274793	Ashanti Region, Ejura/Ashanti	Fuel Distributors
54.	Charcoal Queen Mother	0547148976	Ashanti Region, Ejura/Ashanti	Fuel Distributors
55.	Yaa Tanya	0247518672	Ashanti Region, Ejura/Ashanti	Fuel Distributors
56.	Fulera Isifu	0544123648	Ashanti Region, Ejura/Ashanti	Fuel Distributors
57.	Grace Addo	0249098622	Ashanti Region, Ejura/Ashanti	Fuel Distributors
58.	Alimamonkaye	0541802183	Ashanti Region, Ejura/Ashanti	Fuel Distributors
59.	Elizabeth Konadu	0547148041	Ashanti Region, Ejura/Ashanti	Fuel Distributors
60.	Salamatu Issifu	None	Ashanti Region, Ejura/Ashanti	Fuel Distributors
61.	Hannah Addai	0242208092	Ashanti Region, Ejura/Ashanti	Fuel Distributors
62.	International Network For Bamboo And Rattan	Michael Kwaku, 03220-61375, Info@Inbar.Int	Ashanti Region, Fumesua, Forestry Institute Of Ghana, Fumesua-Ejisu	Researcher, Capacity Builder, Trainer
63.	Alsanakarim	0261672127	Ashanti Region, Kaase-Angola	Fuel Producer
64.	Agya Boat's Metal Works	0275190588	ASHANTI REGION, KUMASI	Capacity Builders
65.	Multi-Credit Savings And Loans	Alexander Opoku 0322037418 0322034719	Ashanti Region, Kumasi	Finance
66.	GAG Gas	Osei Boakye Yiadom, 0243103393	Ashanti Region, Kumasi	Fuel Distributor
67.	Technology Consultancy Centre (KNUST)	Michael Commeh, 0322060296/97	Ashanti Region, Kumasi	Researcher, Capacity Builder, Trainer
68.	Centre For Energy, Environment And Sustainable Development	Julius Ahiekpor (Director) 0244529589 Juliusahiekpor@Ceedsghana.Org	Ashanti Region, Kumasi	Stove Distributor

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69.	Agya Boat Metal Works	Collins Ntiamoah, 0275190588	Ashanti Region, Kumasi	Stove Manufacturer
70.	Samuel Akpo	0207657817	Ashanti Region, Kumasi	Stove Manufacturer
	Man And Man Enterprise	Michael Yaw Agyei0243473642	Ashanti Region, Kumasi	Stove Manufacturer
71.	Bernard Agbley	0247529010	Ashanti Region, Kumasi Suame Zone 6 And 7	Stove Manufacturer
72.	Sulamakaasim	0270325580	Ashanti Region, Kumasi, Abuabo Railways/Scrap Dealers	Stove Manufacturer
73.	Ecobank	Esther Aboagye, 0322021417	Ashanti Region, Kumasi, Adum	Finance
74.	Ut Bank		Ashanti Region, Kumasi, Adum	Finance
75.	Sinapi Aba Savings And Loans	Degraft Acheampong, 0511277466	Ashanti Region, Kumasi, Adum	Finance
76.	Melcom Group Of Companies	Donkor Fredrick Rockson	Ashanti Region, Kumasi, Adum	Stove Distributor/Retailer
77.	Good News Credit Union	Albert Whyte, 0233235632	Ashanti Region, Kumasi, Amakom	Finance
78.	Nana Owusu Ansah and Sons Ltd.	Theophilus Larweh Aidoo, 0322021725 Noaslx@Yahoo.Com	Ashanti Region, Kumasi, Macro	Raw Materials Supplier
79.	Centre For Energy, Environment And Sustainable Development	Julius Ahiekpor, 0244529589 Juliusahiekpor@Yahoo.Co.uk Info@Ceesdghana.Org	Ashanti Region, Kumasi, Maxima	Researcher, Capacity Builder, Trainer
80.	Fusenni Issaka	0261292123	Ashanti Region, Kumasi, Moshie Zongo behind Zeba Mosque	Stove Manufacturer
81.	Theresa Nkansah	0242327644	Ashanti Region, Kumasi, Pankrono	Fuel Distributors
82.	Halidu Adam	0248870726	Ashanti Region, Kumasi, Suame Zone 21	Stove Manufacturer
83.	Emodie Engineering	Adu Kofi Murphy, 0244991144	Ashanti Region, Kumasi, Suame Zone 6	Stove Manufacturer
84.	Michael Duway	0243859682	Ashanti Region, Kumasi, Suame Zone 6	Stove Manufacturer
85.	Alidualhassah	0243481836	Ashanti Region, Kumasi, Suame Zone 6, Opposite Positive Micro Finance	Stove Manufacturer
	Bernard Awuku	0244504971	Ashanti Region, Kumasi, Suame	Stove

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			Zone 9	Manufacturer
86.	Isaac Asamoah	0244057041	Ashanti Region, Kumasi, Suame, Opposite Anointing Pillars	Stove Manufacturer
87.	Afia Boatemaa	0246-003884	Ashanti Region, Kwadaso, Kwadaso Market A-KMC/003	Stove Distributor
88.	Alfred Metal Works	Alfred Afedomenyo 0244065707/0204147931	Ashanti Region, Mampong Municipal	Stove Manufacturer
89.	Millicent Asante	0544931989	Ashanti Region, Mampong/Ashanti	Fuel Distributors
90.	Felicia Yeboah	0241965683	Ashanti Region, Mampong/Ashanti	Fuel Distributors
91.	Samuel Opoku	0233-437123	Ashanti Region, Obuasi	Stove Manufacturer
92.	Azaaman Metal Works And Fabrication	Isaac Quansah 0242-723918	Ashanti Region, Obuasi Metro	Stove Manufacturer
93.	God Never Fails Welding And Fabrication Workshop	Bernony Akpo 0277-644673/0545-506653	Ashanti Region, Obuasi, Bogobiri-Born Again Junction	Stove Manufacturer
94.	Mohammed Salifu	0268-013520	Ashanti Region, Obuasi, Kunka Newtown	Stove Manufacturer
95.	Ibrahim Osman	0242-643224	Ashanti Region, Obuasi, Stadium Junction	Stove Manufacturer
96.	Kwaku Obeng	0246140023	Ashanti Region, Sekyere Afram Plains, Bodomase	Stove Manufacturer
97.	Adwoa Tima	0243773524	Ashanti Region, Sekyere East/ Kumawu, Behind Kumawu Market	Fuel Distributors
98.	Comfort Agyei	0546386559	Ashanti Region, Sekyere Afram Plains/Bodomase, Opposite Kumawuman Rural Bank	Fuel Distributors
99.	Kwaku Obeng	0246-140023	Ashanti Region, Sekyere Afram plains, Bodomase Behind Roman Catholic Church	Stove Manufacturer
100.	Elizabeth Adomako	0247-456379	Ashanti Region, Sekyere-East, Kumawu, Behind Liberation Church	Fuel Distributors
101.	Mr.Kwame Boah	0575-965696/0244-090640	Ashanti Region, Suame	Stove Manufacturer
102.	Azumah Atia	0247301710	Ashanti Region, Suame Zone 5, Behind The Mosque	Raw Material Supplier
103.	Joel Nyaa	0204605960	Ashanti Region, Suame Zone 5, Behind The Mosque	Raw Material Supplier

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104.	KwabenaAbodee	0248460863	Ashanti Region, Suame Zone 5, Behind The Mosque	Raw Material Supplier
	Frimpong Mason	0277143238	Ashanti Region, Suame Zone 6	Stove Manufacturer
105.	Alhassan Nuru	0246531542	Ashanti Region, Suame Zone2, Alaje Mode Enterprise	Raw Material Supplier
106.	Emmanuel Asante	0547123964	Ashanti Region, Woraso, Opposite Roman Catholic Church	Fuel Distributors
107.	Osei Kwadwo	0247-931275	Ashanti Region, Yonso	Fuel Producer
108.	Boateng Samuel	0242-3228562	Ashanti Region, Yonso	Fuel Producer
109.	Seidu Salifu	0247300492	Ashanti Region, Yonso	Fuel Producer
110.	Sulemana Sampana	0542162572	Ashanti Region, Yonso	Fuel Producer
111.	Charity Pokuaa	0242328562	Ashanti Region, Yonso/Mampong Municipal	Fuel Distributors
112.	Rose Blago	0546386559	Ashanti, Opposite Kumawu Rural Market	Fuel Distributors
113.	Faustina Asanti	0208095008	B/A Sunyani	Stove Retailer
114.	Gimiya Trading Ent	Stephen Kwarteng, 0208114705, 0244511475	B/A Techiman	Stove Distributor/Retailer
115.	Augustine Yeboah	0208410413	B/A, Berekum	Stove Distributor/Retailer
116.	Nyame Adom Ent	Samuel Kyere, 0208204494	B/A, Berekum	Stove Distributor/Retailer
117.	Rose Danso	0245944147	B/A, Sunyani	Stove Retailer
118.	Prince Addai	0246535103	B/A, Sunyani	Stove Retailer
119.	Bernice Yeboah	0205222466	B/A, Sunyani	Stove Retailer
120.	Antwi Commercial	Akwasi Boadi, 0246780440	B/A, Sunyani Near Ark FM	Stove Distributor/Retailer
121.	Dangbor David	0242237758	B/A, Techiman	Stove Retailer
122.	Rose Enterprise	Terchi Rose, 0206504625	B/A, Wenchi	Stove Retailer
123.	Adwoa Nuvi		BA, Abesem	Fuel Producer
124.	Isatu		BA, Abesem	Fuel Producer
125.	Ankomah Ernest	0546134478	BA, Kintampo South	Fuel Producer

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126.	Multi Credit Savings And Loans	Rudolf Ofori Appiah 0501257535	BA, Sunyani	Finance
127.	Elder Anane	0273035587	BA, Sunyani Market	Stove Retailer
128.	Golden Trust Finance Ltd.	0352093884	BA, Techiman	Finance
129.	Big Joe Enterprise,	Joseph Kyeremeh, 0244070379	BA, Techiman	Stove Retailer
130.	Yesu Ne Adwumawura Ent	0245809986	Brong Ahafo	Stove Retailer
131.	AbenaDufie	NONE	Brong Ahafo, Nkoranza	Fuel Distributors
132.	Golden Trust Finance Limited	Winston Kuthin 0352093884	Brong Ahafo	Finance
133.	Multi Credit Saving And Loans	Rudolf Ofori Appiah 0501257535	Brong Ahafo	Finance
134.	Opportunity International Savings And Laons	Dominic Anim Kessi 0352091186	Brong Ahafo	Finance
135.	IC Bank	Rexford Sam 0352522684	Brong Ahafo	Finance
136.	Branah Selamamu	0207983853	Brong Ahafo	Fuel Producer
137.	Dramani Adamahilla	0209728754 0263602632	Brong Ahafo	Fuel Producer
138.	Ernest Ankomah	0546134478	Brong Ahafo	Fuel Producer
139.	Ibrahim Nuhu	0243176094	Brong Ahafo	Fuel Producer
140.	Kwame Appiah	0244742201 0549970355	Brong Ahafo	Fuel Producer
141.	Richard Takyi	0248651325	Brong Ahafo	Fuel Producer
142.	Samson Adjei	0241845346 0243682488	Brong Ahafo	Fuel Producer
143.	University Of Energy And Natural Resources	Mawufemo Modjinou 035223461	Brong Ahafo	Researcher, Trainer
144.	Ojugu Manufacturing Company	Beniako Ankomah 0545487779	Brong Ahafo	Stove Manufacturer
145.	Koffas Metal Work	Fosu Ameyaw 0274296786 0508613439	Brong Ahafo	Stove Manufacturer
146.	Asedu Welding/Straightening Shop	Opoku Yaw Frank	Brong Ahafo	Stove

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		0243986946		Manufacturer
147.	Florence A. Badu	0244091320	Brong Ahafo	Stove Retailer
148.	Linfah Enterprise	0244774709	Brong Ahafo	Stove Retailer
149.	Samcharyent	None	Brong Ahafo	Stove Retailer
150.	Cad Gas	0243184794	Brong Ahafo	Stove Retailer
151.	It Is Written	0279456552	Brong Ahafo	Stove Retailer
152.	The Best Electrical	0202212264	Brong Ahafo	Stove Retailer
153.	Belgium Hardware	0208200049	Brong Ahafo	Stove Retailer
154.	Grace Anterprise	0275058817	Brong Ahafo	Stove Retailer
155.	Juliana Serwaah	0247980195	Brong Ahafo	Stove Retailer
156.	Next Gate Gas	0244165416	Brong Ahafo	Stove Retailer
157.	Associated Consortium	Eghan Mensah 0208433311 0275632622 0202580435	C/R, Cape Coast	Stove Distributor/Retailer
158.	Mpaebotsefo Ltd	Kojoobeng, 0203170008	C/R, Foso	Stove Manufacturer
159.	Esiahema		C/R, Mankessim	Stove Retailer
160.	Progress Enterprise	Fuseine Keita, 0543781939	C/R, Tarkwanaboso	Stove Manufacturer
161.	Kojoobeng	0203170008	Cape Cost	Stove Manufacturer
162.	Mary Mensah	0541709307	Central Region	Fuel Producer
163.	Raymond Ajaname	0574527049	Central Region	Fuel Producer

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164.	Efuaowuayem	0544851534	Central Region	Fuel Retailer
165.	Ernestina Sofia Kwarteng	0242967991	Central Region	Stove Distributor And Retailer
166.	Dotse	0249510207	Central Region	Stove Manufacturer
167.	Kojoobeng	0203170008	Central Region	Stove Manufacturer
168.	Kowquansah	0245880194	Central Region	Stove Manufacturer
169.	Kwesianyensi	0241931491	Central Region	Stove Manufacturer
170.	Nicholas Oraydadzie	0549900370	Central Region	Stove Manufacturer
171.	Richard Ekem	0244795459	Central Region	Stove Manufacturer Raw Materials Supplier
172.	Sule	0543865015	Central Region	Stove Manufacturer
173.	Kwesi Anyesi	0241931491	Central Region	Stove Manufacturer
174.	Diana	0245935654	Central Region	Stove Retailer
175.	Omari Trading Ent	Grace Benti , 0249164684 0205720653	Central Region	Stove Retailer
176.	James Kotey	0242671669	Central Region, Abura Dunkwa	Stove Distributor And Retailer
177.	Maameesi	0206674015	Central Region, Abura Dunkwa	Stove Retailer
178.	Diana	0245935664	Central Region, Asikuma	Fuel Distributor
179.	Ato	0275205604	Central Region, Assin-foso	Stove Retailer
180.	Rukiya	0208695337 0572630921	Central Region, Cape Coast	Stove Retailer
181.	Victoria Quansah	0249050279	Central Region, Cape Coast	Stove Retailer
182.	Capecoast Technical Institute	Alfred Davis, Head Of Department, 0332132203	Central Region, Cape Coast	Educational Institution- Government
183.	Asa Initiative	Veronica Akitti, Asainitiative@Yahoo.Com	Central Region, Cape Coast	Finance

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184.	Sebastian	0244629866	Central Region, Capecoast	Stove Retailer
185.	Erasmus	0244580868	Central Region, Damang	Stove Retailer
186.	Kwame	0547973589	Central Region, Efutu	Fuel Producer
187.	Foster	0245188135	Central Region, Elimina	Fuel Producer
188.	Master Ekow	0233280431	Central Region, Elimina	Stove Retailer
189.	Maame Wonye		CENTRAL REGION, ELMINA	Fuel Producer
190.	Esther Anhwiwaa	0244032521	Central Region, Foso	Stove Retailer
191.	Veronica Dadebo	0546770117	Central Region, Kasoa	Stove Retailer
192.	Nana Yaw	0244596922	Central Region, Kasoa	Stove Retailer
193.	Regina Fumador	0278319106	Central Region, Kasoa	Stove Retailer
194.	Gyenyame Welding Workshop	Master Ackon, 0246535457	Central Region, Swedru	Stove Manufacturer
195.	I.W. Enterprise	Rebecca Buaku, 0244750124	Central Region, Swedru	Stove Retailer
196.	Paulina Denkyi	0209015172	Central Region, Swedru	Stove Retailer
197.	Awuradekae Me Ent	Sandra Yeboah, 0249980316	Central Region, Swedru	Stove Retailer
198.	Adwoa 10-10	0541935367	Central Region, Twifo Heman	Stove Retailer
199.	Nyameakwan	Ernestina Sofia Kwarteng, 0242967991	Central Region, Twifo Praso	Stove Retailer
200.	Elisabeth Appiah	0275272108	Central Region, Twifo Praso, Opposite Police Station	Stove Distributor And Retailer
201.	Ekem Arts Pottery Limited	Ekem, 0244795459	Central Region, Winneba	Raw Material Supplier
202.	Ekem Arts Pottery Ltd	Richard Ekem, 0244795459	Central Region, Winneba	Stove Manufacturer
203.	Gladys Koho		Central Region. Asikuma	Fuel Distributor
204.	Maxi B Enterprise	Mensa Lassy Emmanuel, 0208125346	E/R, New Juaben / Koforidua	Stove Retailer
205.	Amoako Desmond		E/R, New Juaben, Koforidua	Stove Manufacturer
206.	Wilson Metal Works	Wilson Kofi Sarpong, 0278954380	E/R, New Juaben, Koforidua	Stove Manufacturer
207.	Kwesi Amankwah	0249537270	E/R, New Juaben, Koforidua Effiduase	Stove Manufacturer

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208.	Edivine Kpetii	0242786743	E/R, New Juaben, Koforidua Magazine	Stove Manufacturer
209.	Might Light Ltd	0243610511	E/R, Nima, Koforidua	Stove Retailer
210.	Kofi	0244880177	E/R, NJ, Ada	Stove Manufacturer
211.	Yaw	0244538590	E/R, NJ, Ada	Stove Manufacturer
212.	All Is Good Ltd	0244897549	E/R, NJ, Koforidua	Stove Manufacturer
213.	Yaw Owusu	0204245687	E/R, NJMA, Magazine	Stove Manufacturer
214.	Nyame Tease Enterprise	0244735720	Eastern	Stove Retailer
215.	HweneaAwurade Aye	0509184742	Eastern	Stove Retailer
216.	Sister Corner	None	Eastern	Stove Retailer
217.	Bismark Sonny Azuma	0545709391	Eastern Region, Afram Plains	Fuel Producer
218.	Ntiamoah Desmond		Eastern Region, Afram Plains	Fuel Producer
219.	Maame Krobo		Eastern Region, Afram Plains	Fuel Producer
220.	Simon Addae	0248269347	Eastern Region, Afram Plains	Fuel Producer
221.	Azaglo Gideon		Eastern Region, Afram Plains	Fuel Producer
222.	Enyonam Mamutor	0249537270	Eastern Region, Afram Plains	Fuel Producer
223.	Kporsu Benjamin		Eastern Region, Afram Plains	Fuel Producer
224.	Kweku Ntiamoah	0241572107	Eastern Region, Afram Plains	Fuel Producer

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225.	Simon Abanam	0542941357	Eastern Region, Afram Plains	Fuel Producer
226.	Kwame Tortine	0542115262	Eastern Region, Afram Plains	Fuel Producer
227.	Stephen Azaglo		Eastern Region, Akenteng	Fuel Producer
228.	Akos		Eastern Region, Koforidua	Raw Supplier Material Supplier
229.	Comfort Boadi		Eastern Region, Koforidua	Raw Supplier Material Supplier
230.	Owusu Boateng	0574957157	Eastern Region, Koforidua	Raw Supplier Material Supplier
231.	Yaw Mintah	0249075302	Eastern Region, New Juaben	Raw Supplier Material Supplier
232.	Kofi Mantey		Eastern Region, New Juaben	Raw Supplier Material Supplier
233.	Salomey Gbemu		Eastern Region, Suhum	Raw Supplier Material Supplier
234.	Abena		Eastern Region, Suhum	Raw Supplier Material Supplier
235.	Amos Kofi		Eastern Region, Suhum	Raw Supplier Material Supplier
236.	Wisdom Noamesi	0264669766	Eastern Region, Suhum	Raw Supplier Material Supplier
237.	Abellon Cleanenergy Ghana Ltd	Pragnesh Mishrah, 020222385 / 0542965206	G/A [A/R], Plot No. 10, Asaago, Kumasi, Ashanti	Stove Manufacturer
238.	Madam Esi		G/A, Accra	Stove Retailer
239.	Omensa Ventures		G/A, Agbobloshi	Stove Retailer
240.	Kwaku Gyasi	0570571775	G/A, Dansoman	Stove Retailer
241.	Albert		G/A, Nungua Barrier	Stove Retailer
242.	Cynthia	0240186203	G/A, Nungua Market	Stove Retailer
243.	Master Issah Welding Shop	0246676457	Gumbinini ,Tamale Lat: 9.42167 – Log: 0.84722	Stove Manufacturer

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244.	Abellon Clean Energy Gh. Ltd	Country Head 020222385/0542965206 Alullonghana@Alulloncleanenergy.Com	Kumasi, Ahanti Region	Fuel Producer
245.	Niipaabatubuga		Lat: 10.44167 – Log: 0.87972	Fuel Producer
246.	Sikenaabrahaman		Lat: 9.30888 – Log: 0.96056	Fuel Producer
247.	Mmasanatu	0204034369	N.R, Aboabo Market, Tamale Lat: 9.403883 – Log: 0.84278	Stove Retailer
248.	Kakpagyilli Doo Sani	IdrisuSeidu, 024125446	N/R, Bulpelatuugbeni, Tamale, Lat: 9.39889 – Log: 0.83833	Stove Manufacturer
249.	Issahaku Sowed	0546368504	N/R, Bulpelatuugbeni, Tamale, Lat: 9.39889 – Log: 0.83833	Stove Manufacturer
250.	Raikia Sayati	0570952179	N/R, Tama, Tamale	Stove Retailer
251.	Raikia	0264380192	N/R, Tama, Tamale, Aboabo Market	Stove Retailer
252.	Kusumi Sani	0262645125	N/R, Tama, Tamale, Aboabo Market	Stove Retailer
253.	Meri Sasana	0540445769	N/R, Tama, Tamale, Aboabo Market	Stove Retailer
254.	Salamatu Issifu	0240994083	N/R, Tama, Tamale, Aboabo Market	Stove Retailer
255.	Suraya Kadiri	0260635205	N/R, Tama, Tamale, Aboabo Market	Stove Retailer
256.	Lawal Andaratu		N/R, Tama, Tamale, Aboabo Market - Stove Lane	Stove Retailer
257.	Zuyena Baaba	0203266631	N/R, Tamale	Stove Manufacturer
258.	Salamatu Issahaku	0263362419	N/R, Tamale	Stove Retailer
259.	Sanatu Ibrahim	0540475198	N/R, Tamale	Stove Retailer
260.	Sikina Lukman	0541623191	N/R, Tamale	Stove Retailer
261.	Wasila Yahaya	0268418142	N/R, Tamale	Stove Retailer
262.	Baraka Salmudween	0241553610	N/R, Tamale	Stove Retailer
263.	Amshawa Zakari	0506230576	N/R, Tamale	Stove Retailer
264.	Mari Minu	0243914689	N/R, Tamale	Stove Retailer
265.	Bentu Abdallah	0248566575	N/R, Tamale	Stove Retailer
266.	Fatahya Moro		N/R, Tamale	Stove Retailer
267.	Wudada Yakubu	0269043479	N/R, Tamale	Stove Retailer
268.	Meri Majeed	0540475198	N/R, Tamale	Stove Retailer
269.	Zaliyatu Abdullah		N/R, Tamale, Aboabo Market	Stove Manufacturer

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270.	Zania Safianu	0245940263	N/R, Tamale, Aboabo Market	Stove Retailer
271.	Mujana Yakubu	0262909217	N/R, Tamale, Aboabo Market	Stove Retailer
272.	Azaratu Sayuti	0545195353	N/R, Tamale, Aboabo Market	Stove Retailer
273.		0245952702	N/R, Tamale, Aboabo Market	Stove Retailer
274.	Nafisa Ibrahim	0543384414	N/R, Tamale, Aboabo Market	Stove Retailer
275.	Sumaya Mussah	0205460426	N/R, Tamale, Aboabo Market – Near Royal Motors	Stove Retailer
276.	Rabi Sayuti	0264380192	N/R, Tamale, Aboabo Market – Stove Lane	Stove Retailer
277.	Ikimaiddrisu	0248961866	Northern	Stove Retailer
278.	Hamza Abida	0202728005	Northern Region, Aboabu-Uganda Station, Tamale Lat: 9.403889 – Log: 0.84528	Stove Retailer
279.	Northern Reg. Association Of Blacksmith	Numanusaynti (Secretary) 0244862043	Northern Region, Near Central Mosque, Tamale Lat: 9.40083– Log: 0.84056	Stove Manufacturer
280.	Sanatumusah		NR/Central Gonja/ Changyilli Lat: 9.3140 – Log: 0.96000	Fuel Producer
281.	Rabi Lansa		NR/Central Gonja/ Changyilli	Fuel Producer
282.	Rackia Baba		NR/Central Gonja/ Changyilli Lat: 9.31528 – Log: 0.95972	Fuel Producer
283.	Adisa Issahaku		NR/Central Gonja/ Changyilli	Fuel Producer
284.	Saflatu Sulemana		NR/Central Gonja/ Changyilli	Fuel Producer
285.	Memunatuissahaku		NR/Central Gonja/ Changyilli	Fuel Producer
286.	Tamale Polytechnic	Dr. Clifford Braimah 0205975820/0244210612	NR/Tamale	Researcher, Trainer,
287.	Zara (Hajia)		NR/Tamale / Tugu	Fuel Producer
288.	Fuseina Alhassan		NR/Tamale / Tugu	Fuel Producer
289.	Zuleiha		NR/Tamale / Tugu	Fuel Producer
290.	Sana		NR/Tamale / Tugu	Fuel Producer
291.	Ayishatu		NR/Tamale / Tugu	Fuel Producer
292.	Hajia Kusumi	0244720088	NR/Tamale/ Aboabo Market	Stove Retailer
293.	Hajia kusumi		NR/Tamale/ Aboabumarket	Stove Retailer
294.	Amisha Wagazah	0207581386	NR/Tamale/ Aboabu-Uganda Station Lat: 9.40389 – Log: 0.84333	Stove Retailer

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295.	Kakpagyilli Doo Sani	0243811911	NR/Tamale/ Bulpela, Near Baobab Tree	Stove Manufacturer
296.	Abdul-Manan Metal Workshop	0203171106	NR/Tamale/ Dagbandabifong, Near SGSSB In Tamale	Stove Manufacturer
297.	Sanatu		NR/Tamale/ Tugu Lat: 9.403889 – Log: 0.84528	Fuel Producer
298.	Fati Nagantabri		NR/West Maprusi/ Nabari	Fuel Producer
299.	Abiba Adable	0506219504	NR/West Maprusi/ Nabari	Fuel Producer
300.	Samari Joseph	0245228496	NR/West Maprusi/ Nabari Near CHPS (Hospital)	Fuel Producer
301.	Hamna Sandow	0541629873	NR/West Maprusi/ Nabari	Fuel Producer
302.	Saali Sandow	0541629873	NR/West Maprusi/ Nabari	Fuel Producer
303.	Cecilia Sandow	0541629873	NR/West Maprusi/ Nabari	Fuel Producer
304.	Justice	0543188423	Opposite Pentecost Church Ashaiman, Right Before The Unibank Building	Stove Retailer
305.	Sariata Adam	0244113251	U/W, Wa Municipal Government Residential Area	Stove Retailer
306.	Ajua Enterprise	Ajua, 0248273187	UER	Stove Retailer
307.	New Era Enterprise	Mr. Nyaaba, 0200333669	UER /Bolgatanga	Stove Manufacturer
308.	Adongo Albert	0545503255	UER /Bolgatanga	Stove Manufacturer
309.	No Hurry In Life Enterprise	Atubgaazore 0201848324	UER /Bolgatanga	Stove Retailer
310.	Suallah Yussif	0240396562	UER /Bolgatanga	Stove Retailer
311.	Mary		UER /Bolgatanga	Stove Retailer
312.	Samuel Ababila	0208489744	UER /Bolgatanga	Stove Retailer
313.	Melcom Ghana Ltd.	Mustapha Adam, 0244214741	UER /Bolgatanga	Stove Retailer
314.	Apukomah Enterprise	Apukomahadanduba, 0200957690	UER /Bolgatanga	Stove Retailer
315.	Emarno Enterprise		UER /Bolgatanga	Stove Retailer
316.	Anita		UER /Bolgatanga	Stove Retailer
317.	Abodeem Enterprise	0549353431/02079004368	UER /Bolgatanga	Stove Retailer
318.	Ajarawahabu		UER /Bolgatanga	Stove Retailer

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319.	Madam Charity Enterprise	0203142898	UER /Bolgatanga	Stove Retailer
320.	His Grace Enterprise	0248610759/0200643996	UER /Bolgatanga	Stove Retailer
321.	Ajua Alhasan	0248277187	UER /Bolgatanga	Stove Retailer
322.	Ahamed Ibrahim	0507193973	UER /Bolgatanga	Stove Retailer
323.	Mauex Ventures	Akumpule Emmanuel, 0244606368	UER /Bolgatanga, P. O. Box 786	Stove Retailer
324.	Charcoal Sellers Association	Ajuaalhasan	UER /Bolgatanga, Bolga Market	Fuel Retailer
325.	Mr. Ankrah	0208294467	UER /Bolgatanga, Near Metro Mass Station	Stove Retailer
326.	Maxcom Enterprise	0243553238	UER /Bolgatanga, Santé Boys	Stove Retailer
327.	Adumpola		UER/Bongo/Akayonga, Near Akayonga Market	Stove Manufacturer
328.	Dayure Enterprise	Adayure Charity, 0203142898	Upper East	Stove Retailer
329.	Castro Linda		UWR/ Gbankor Nadoli District	Stove Retailer
330.	Ben Masah		UWR/ Nadoh District /Gbanko	Stove Retailer
331.	Yussif Osman	0209717290	UWR/ Wa Municipal	Stove Manufacturer
332.	Abdulai Workshop	0546906913	UWR/ Wa Municipal	Stove Manufacturer
333.	Abdul Basiiru Mohammed	0209656134	UWR/ Wa Municipal	Stove Retailer
334.	Nuhu Co. Ltd.	0205899112	UWR/ Wa Municipal/	Stove Manufacturer
335.	Alhasan Siltu		UWR/ Wa Municipal/	Stove Retailer
336.	Less is More Metals	Muniru Sumaila	UWR/ Wa Municipal/ Dzuiegu, Kabanye	Stove Manufacturer
337.	Sariata Adam	0244113351	UWR/ Wa Municipal/ Government Residential Area	Stove Retailer
338.	Garbire Memuna		UWR/ Wa Municipal/Sakera	Stove Retailer
339.	Yusif Hawawu	0247806920	UWR/ Wa West District/	Stove Retailer
340.	Duramanu Alijatu	0507193973	UWR/ Wa West District/ Chogsia	Stove Manufacturer
341.	Lanchina Metals Work		UWR/ Wa West District/ Chogsia, Along In-Service Wall Wa	Stove Manufacturer
342.	Lansini Abdu		UWR/ Wa West District/Chogsia	Stove Manufacturer
343.	Nuurideen Isshaku	0540458390	UWR/ Wa West District/Chogsia	Stove

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				Manufacturer
344.	Majid Fatuma		UWR/ Wa West District/Gorgu	Stove Retailer
345.	Karim Mariam		UWR/ Wa West District/Gydaayire	Stove Retailer
346.	Klent	0508407767	Volta Region	Stove Retailer
347.	White Dove Ent	0546645671	Volta Region	Stove Retailer
348.	Dazka Esther	0246146096	Volta Region	Stove Retailer
349.	Nyatah Ivy	0249141496	Volta Region	Stove Retailer
350.	Mrs Gloria Agyapong	0540775821	Volta Region	Stove Retailer
351.	Kofi Oduma	0246161630	Volta Region	Stove Retailer
352.	Yellow Man	0548988583	Volta Region	Stove Retailer
353.	Juana Adziuda	0249493405	Volta Region	Stove Retailer
354.	Amazing Grace Enterprise	0246188598	Volta Region	Stove Retailer
355.	Nyamekye Victoria	None	Volta Region	Stove Retailer
356.	James	0542368842	Volta Region	Stove Retailer
357.	Yaayaw Co Ltd	None	Volta Region	Stove Retailer
358.	Persistent Energy Partners Ghana Limited	Michael Larbi 0302776507 Michael.Larbi@Persistentenergypartner.Com	Accra, Silver star building, Airport	Finance
359.	Stella Adebé	0245590255	Volta Region	Stove

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				Manufacturer
360.	Shape Lives Foundation	Alexander Kedje 0244313929	Volta Region	Stove Retailer
361.	Joseph	0506086028	Volta Region, Adidome	Stove Producer And Distributor
362.	Lovina Teiko	0242585877	Volta Region, Aflao	Stove Retailer
363.	Margaret Oyelowo	0231059307	Volta Region, Aflao Main Market	Stove Retailer
364.	House Of Cylinder (Maxwell Iwhua)	0247749622/0540879639	Volta Region, Aflao Main Road	Stove Retailer
365.	Abubakar Mahmudu	0240476095	Volta Region, Anloga Main Market	Stove Retailer
366.	Enyonam Agbozo	0547744872	Volta Region, Anloga Main Market	Stove Retailer
367.	Insha Allahu Ent.	0245263324/0267785079	Volta Region, Anloga Main Market	Stove Retailer
368.	Janet Afanu	0249565726	Volta Region, Denu	Stove Retailer
369.	HO Polytechnic	Louis Atsu	Volta Region, Ho	Researcher, Capacity Builder, Trainer
370.	Alice Coffie	0200246619	Volta Region, Ho (ARSUD)	Institutional Stoves (Gari Manufacturers)
371.	Eba	0208183772	Volta Region, Hohoe Near The Main Market	Stove Retailer
372.	Justice Agblor	0243821653/0209416222	Volta Region, Hohoe, Near The Main Market Close To CRAN (Christian Rural Aid Network) Office	Stove Manufacturers
373.	Gagrapah Tech.Works (Ashmiu Ibn-Adam)	0243365021	Volta Region, Jasikan	Stove Producer
374.	Dzigbordi Agbosu	0243637602	Volta Region, Keta-Dzelukope	Stove Retailer
375.	Senyo	0204196409	Volta Region, Kpando	Stove Producer
376.	Mawusi Amar	0508797473	Volta Region, Kpando Main Station	Stove Producer
377.	Nmunian Bigman		Volta Region, Nkwanta South	Fuel Producer
378.	Macham Kikiya Nakor		Volta Region, Nkwanta South	Fuel Producer
379.	Tiyangmache Mbagnen		Volta Region, Nkwanta South	Fuel Producer

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380.	Bitabim Balaugnen	0542843253	Volta Region, Nkwanta South	Fuel Producer
381.	Tason Bindakpe	0543007385	Volta Region, Nkwanta South	Fuel Producer
382.	Tinatue Konja	0249356429	Volta Region, Nkwanta South	Fuel Producer
383.	Ndammayi Nsanban	0548976682	Volta Region, Nkwanta South	Fuel Producer
384.	Nlagmela Binfortt	0543007385	Volta Region, Nkwanta South	Fuel Producer
385.	Nyegmabo Kpajah		Volta Region, Nkwanta South	Fuel Producer
386.	Balaugnin Adbowa	0245452396	Volta Region, Nkwanta South	Fuel Producer
387.	Tiyanbidor Ajo	0245721530	Volta Region, Nkwanta South	Fuel Producer
388.	Comfort Njochala	0249054543	Volta Region, Nkwanta South	Fuel Producer
389.	Makante Bidaba Esther	0540944750	Volta Region, Nkwanta South	Fuel Producer
390.	Kpasi Wapoh	0247740641	Volta Region, Nkwanta South	Fuel Producer
391.	Paka Ndati		Volta Region, Nkwanta South	Fuel Producer
392.	Sabiya Binibdo		Volta Region, Nkwanta South	Fuel Producer
393.	Nyamafeh Limolla	0540513523	Volta Region, Nkwanta South	Fuel Producer
394.	Gulondo Akosia	0542839000	Volta Region, Nkwanta South	Fuel Producer
395.	Njogmayan Ntimbi	0543016801	Volta Region, Nkwanta South	Fuel Producer

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396.	Abotsi Musah	0202937526	Volta Region, Nkwanta South	Fuel Producer
397.	U-Yangnaba Abukari	0245740850	Volta Region, Nkwanta South	Fuel Producer
398.	Nsikila Thomas	0204536262	Volta Region, Nkwanta South	Fuel Producer
399.	Sando Enoch	0204526262	Volta Region, Nkwanta South	Fuel Producer
400.	Nena Nsikila	0204536262	Volta Region, Nkwanta South	Fuel Producer
401.	Soyeni Naja	0543016801	Volta Region, Nkwanta South	Fuel Producer
402.	Nyame Ntimbe	0243258104	Volta Region, Nkwanta South	Fuel Producer
403.	Beguar Donkor		Volta Region, Nkwanta South	Fuel Producer
404.	Nborikye Tapome		Volta Region, Nkwanta South	Fuel Producer
405.	Kozolina Salomey	0548949388	Volta Region, Nkwanta South	Fuel Producer
406.	Kpetab Bikpa	0548988585	Volta Region, Nkwanta South	Fuel Producer
407.	Mawan Jagba	0540513523	Volta Region, Nkwanta South	Fuel Producer
408.	Buwue Janet	0245474422	Volta Region, Nkwanta South	Fuel Producer
409.	Denteh Yaw	0547564814	Volta Region, Nkwanta South	Fuel Producer
410.	Ntembi Gnananti	0243258104	Volta Region, Nkwanta South	Fuel Producer
411.	Jemory Mborlar	0243258104	Volta Region, Nkwanta South	Fuel Producer

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412.	Benye Dora	0246482485	Volta Region, Nkwanta South	Fuel Producer
413.	Chiyabisi Tandam	0243258104	Volta Region, Nkwanta South	Fuel Producer
414.	Njembi Nignak	0202937526	Volta Region, Nkwanta South	Fuel Producer
415.	Quasco Metal Works (Michael Kugblenu)	0243145956	Volta Region, Opposite Kpando District Assembly Office by the Old RC Cemetery	Stove Producer
416.	Abbah Welding And Fabrication	0247703097	Volta, Ho	Stove Manufacturer
417.	Vakiss Metal Works	Stephen Akolatse 0243-852468	Volta, Ho, Opposite SIC	Stove Manufacturer
418.	World Market	None	Western	Stove Retailer
419.	Asadul Enterprise	0312027190	Western	Stove Retailer
420.	Appliance World	None	Western	Stove Retailer
421.	Alhaji		Western Region, Ayiem	Fuel Producer
422.	Osumanu		Western Region, Ayiem	Fuel Producer
423.	Kodjo Nketsiah		Western Region, Ayiem	Fuel Producer
424.	Sofu Ayiteh		Western Region, Ayiem	Fuel Producer
425.	Akua Koko		Western Region, Ayiem	Fuel Producer
426.	Dickson Seth Kwabena Ofosu		Western Region, Ayiem	Fuel Producer
427.	Daniel		Western Region, Ayiem	Fuel Producer

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428.	Ntiamoah		Western Region, Ayiem	Fuel Producer
429.	Edward		Western Region, Ayiem	Fuel Producer
430.	Boye		Western Region, Ayiem	Fuel Producer
431.	Kwamina		Western Region, Ayiem	Fuel Producer
432.	Dominic		Western Region, Ayiem	Fuel Producer
433.	Bruce		Western Region, Ayiem	Fuel Producer
434.	Animguasi		Western Region, Bokoro	Fuel Producer
435.	Kwabena Awotwi		Western Region, Bokoro	Fuel Producer
436.	Atta Banyin		Western Region, Bokoro	Fuel Producer
437.	Kwasi Awul		Western Region, Bokoro	Fuel Producer
438.	Joseph Baidoo	0545903131	Western Region, Bokoro	Fuel Producer
439.	Albert Arthur		Western Region, Bokoro	Fuel Producer
440.	Yaakwa		Western Region, Bokoro	Fuel Producer
441.	Kodjo Blackman		Western Region, Bokoro	Fuel Producer
442.	Kwesi Daade		Western Region, Bokoro	Fuel Producer
443.	Kwame Aboi		Western Region, Bokoro	Fuel Producer

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444.	Kojo Enyiwa		Western Region, Bokoro	Fuel Producer
445.	Gyan		Western Region, Miawoani	Fuel Producer
446.	Kudjoe		Western Region, Miawoani	Fuel Producer
447.	Kofi Alhassan		Western Region, Mpohor	Fuel Producer
448.	Adjoa Gruma		Western Region, Mpohor	Fuel Producer
449.	Ebo		Western Region, Mpohor	Fuel Producer
450.	Sansa		Western Region, Mpohor	Fuel Producer
451.	Adjoa Bromah		Western Region, Mpohor	Fuel Producer
452.	Alex Tawiah		Western Region, Mpohor	Fuel Producer
453.	Asana		Western Region, Mpohor	Fuel Producer
454.	Akua Akoh		Western Region, Mpohor	Fuel Producer
455.	Patrick Mensah		Western Region, Mpohor	Fuel Producer
456.	Adjoa Dagati		Western Region, Mpohor	Fuel Producer
457.	Kodjo		Western Region, Mpohor	Fuel Producer
458.	Adwoa Otwima		Western Region, Mpohor	Fuel Producer
459.	Yaa Kosua		Western Region, Mpohor	Fuel Producer
460.	Odoom Stephen		Western Region, Mpohor	Fuel Producer
461.	Daasgift Foundation	Gifty Baaba Asmah	Western Region, Takoradi	Finance
462.	Kwadwo Kofi	0544514415		Fuel Producer
463.	Richard Vifa	0547774638		Fuel Producer
464.	Oboade Bedjibe	0241592232		Fuel Producer
465.	Emmanuel Nano	0248988287		Fuel Producer
466.	Good God Metal Works	Asuako Richard, 0204296668		Stove Manufacturer
467.	All Shall Pass Metal Works	Antwi Boasiako Emmanuel, 0241549832		Stove Manufacturer
468.	Lygeo Enterprise	02444998091		Stove Retailer
469.	Joesams Company	0244790145		Stove Retailer

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Appendix B: Factsheet on Stove Producers and Dealers

Questionnaire No. 367

General factual information		
Name of Organisation	Center for Energy Environment and Sustainable Development (CEESD)	
Region/District/Town	Head Office: Kumasi, Ashanti Region Factory: The Cabin, Kumasi, Ashanti Region	
Name of Contact Person	Julius Ahiekpor	
Position of contact person	Executive Director	
Company Postal Address	P.O.Box FN793 Asafo, Kumasi, Ghana.	
Contact	Tel.: +233 51 42270 +233 24 4529589 + 233 20 8250357	
Company email address	Email: info@ceesdghana.org ceesdghana@gmail.com	
Company website address	www.ceesdghana.org	
Physical address of business	Asafo, Tech Road, Fahocha house (second floor), near SSNIT, Asafo, Kumasi	
BUSINESS INFORMATION		
Type of Organisation	Not for Profit Environmental Organisation	
Major role in cookstove industry	Envirofit Stoves Distributor (Main), Researchers and Civil society advocate	
Registration of Company	Registrar Generals Department	2009
	Ghana alliance for Clean cookstoves	2013

Mapping of stakeholders in the cookstove sector of Ghana

PRODUCT INFORMATION		
Name of Stove	Envirofit Stove	
Type of Stoves Produced	Charcoal and Firewood Cookstoves	
	Envirofit Charcoal stove	
	Envirofit woodstove	
Price of Product	Envirofit charcoal stove	GHC45 (CH2300) GHC80 (CH5200)
	Envirofit Woodstove	GHC70 (Just a few available for piloting)
Mode of Production	Imported from USA	
Used by	Households	
Amount sold till date and per year	17,000	

Mapping of stakeholders in the cookstove sector of Ghana

Characteristics	Aluminium cast metal
DISTRIBUTION CHANNELS & MARKETING STRATEGY	
Intended Customers	Urban and Periurban households
Export intended	No – rather imported
Market Segmentation (regions)	Ashanti Region
Level of Distributorship	15 distributors
No of Distributors	
Mode of Payment	Cash / Credit
Financing	
Source of Finances	Carbon financing and equity
Sponsors	 ENVIROFIT making the world fit for humanity
Level of Investment in stove Business	USD 50,000

Questionnaire No.: 234

General factual information	
Name of Organisation	Man and man enterprise limited
Region/District/Town	Ashanti region
Name of Contact Person	Micheal yaw agyei
Position of contact person	Ceo
Company Postal Address	Box ry 367-kumasi

Mapping of stakeholders in the cookstove sector of Ghana

Contact	Tel.: +233 243473642
Company email address	Manandman.ent@gmail.com
Company website address	Manandmanenterpriselimited.com
Physical address of business	Not provided
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Partnership
Major role in cookstove industry	Manufacturer

Registration of Company	Registrar Generals Department	2013
PRODUCT INFORMATION		
Name of Stove	Holy cook	
Type of Stoves Produced	Improved charcoal stoves	
Price of Product	Improved charcoal stoves	GHC13
Mode of Production	locally fabricated	

Mapping of stakeholders in the cookstove sector of Ghana

Used by	Households and institutions
Amount sold till date and per year /month	28000
Characteristics of stove / raw material used	Raw clay, mild steel, paint, irons rods, scrap metals, saw dust, cement, sand
Product lifespan	3-5 years
Product testing	Yes
Testing agency	Self
DISTRIBUTION CHANNELS & MARKETING STRATEGY	
Intended Customers	Urban and rural households
Export intended	Yes
Average Profit	Yes and amount GHC 28000
Market Segmentation (regions)	Ashanti
Level of Distributorship	Man- retailer – end user
No of Distributors	Man- end user
Mode of Payment	Cash and Credit
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	Above GHC 50000

Questionnaire No.: 409

General factual information

Mapping of stakeholders in the cookstove sector of Ghana

Name of Organization	Abellon Clean Energy Gh Ltd
Region/District/Town	Ashanti, Asaago, Kumasi
Name of Contact Person	Pnagmush Nishua
Position of contact person	Country head
Company Postal Address	P.O gp 18983,accra
Contact	Tel.: +233 20223851/542965206
Company email address	Ahellon.ghana@abelloncleanenergy.com
Company website address	Alelloncleanenergy.com
Physical address of business	Plt 10,asaago. Kumasi
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Manufacturer
Major role in cookstove industry	Manufacturer

Registration of Company	Registrar Generals Department	2010
	District Assembly	2010
	EC	2010
	GFZB	2010
PRODUCT INFORMATION		
Name of Stove	Eco stove	
Type of Stoves Produced	Pellet based stove	

Mapping of stakeholders in the cookstove sector of Ghana

Price of Product	Eco -stove delux	GHC 670 – 720
	Eco-stove mini	GHC 580- 630
	Ec-stove dom	GHC 190- 230
Mode of Production	Not provided	
Used by	Households and institutions	
Amount sold till date and per year /month	Not provided	
Characteristics of stove / raw material used	Not provided	
Product lifespan	Not provided	
Product testing	Not provided	
Testing agency		
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban and rural households	
Export intended	Not provided	
Average Profit	Not provided	
Market Segmentation (regions)	Not provided	
Level of Distributorship	Not provided	
No of Distributors		

Mapping of stakeholders in the cookstove sector of Ghana

Mode of Payment	Cash and Credit
Financing	
Source of Finances	Self, partnership , loan
Sponsors	
Level of Investment in stove Business	Above GHC 50000

Questionnaire No.: 222

General factual information	
Name of Organisation	Emodie engineering
Region/District/Town	Suame Zone 6
Name of Contact Person	Mr adu kofi murphy
Position of contact person	Not provided
Company Postal Address	Not provided
Contact	Tel.: +233 244991144
Company email address	Not provided
Company website address	Not provided
Physical address of business	Not provided
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship
Major role in cookstove industry	Manufactures

Registration of		
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Mapping of stakeholders in the cookstove sector of Ghana

Company		
<u>PRODUCT INFORMATION</u>		
Name of Stove	Not provided	
Type of Stoves Produced	LPG stoves, improved charcoal stoves, improved firewood stoves, traditional charcoal stoves	
Price of Product	LPG	GHC 500/800/1600
	Improved charcoal	GHC 15/20
	Improved firewood	GHC 15/20
	Traditional charcoal	GHC 22/30/56
Mode of Production	locally fabricate	
Used by	Households and institutions	
Amount sold till date and per year /month	4800	
Characteristics of stove / raw material used	galvanised Mild steel	
Product lifespan	6-10 years	
Product testing	No	
Testing agency		

Mapping of stakeholders in the cookstove sector of Ghana

DISTRIBUTION CHANNELS & MARKETING STRATEGY	
Intended Customers	Urban
Export intended	No
Average Profit	Yes and amount not provided
Market Segmentation (regions)	Ashanti
Level of Distributorship	Man-distributor/ wholesaler-retailer-end user
No of Distributors	Man-distributors/ wholesaler and retailer end user
Mode of Payment	Cash and Credit
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	GHC 1-5000

Questionnaire No.: 292

General factual information	
Name of Organisation	Kakpag Yilli Doo Sani
Region/District/Town	Head Office: Northern Region, Tama, Bulpela Factory: Northern Region, Tama, Bulpela
Name of Contact Person	Amadu Mananu
Position of contact person	Owner (CEO)
Company Postal Address	
Contact	Tel.: +233 24 3811911
Company email address	Not Provided

Mapping of stakeholders in the cookstove sector of Ghana

Company website address	Not Provided	
Physical address of business	Near Baobab Tree	
GPS coordinates of location of business	9.39889; -0.83833	
BUSINESS INFORMATION		
Type of Organisation	Sole Proprietorship	
Major role in cookstove industry	Traditional Charcoal Stoves Manufacturer	
PRODUCT INFORMATION		
Name of Stove	Traditional Charcoal Stoves (Coalpot)	
Type of Stoves Produced	Traditional Charcoal Stove	
Price of Product	Traditional Charcoal Stoves(Scrap metal)	GHC 2.50
Mode of Production	Locally fabricated	
Used by	Households	
Amount sold till date and per year / month	6300	
Characteristics of stove / raw material used	Scrap metals	
Product lifespan	3 – 5 years	
Product testing	No (No need)	
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban and rural households	
Export intended	Not provided	
Average Profit	Yes (GHC 3120)	

Mapping of stakeholders in the cookstove sector of Ghana

Market Segmentation (regions)	Northern Region
Level of Distributorship	Man – Distributor / Wholesaler – Retailer – end-user
No of Distributors	
Mode of Payment	Cash / Credit
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	GHC 400.00

Questionnaire No.: 291

General factual information	
Name of Organisation	Abdul – Manan Metal Workshop
Region/District/Town	Head Office: Northern Region, Tama, Dagban Dabi Fong Factory: Northern Region, Tama, Dagban Dabi Fong
Name of Contact Person	Abdul Manan
Position of contact person	Owner (CEO)
Company Postal Address	
Contact	Tel.: +233 20 3171106
Company email address	Not Provided
Company website address	Not Provided
Physical address of business	Near SGSSB in Tamale
GPS coordinates of location of business	9.40083; -0.83861
BUSINESS INFORMATION	

Mapping of stakeholders in the cookstove sector of Ghana

Type of Organisation	Sole Proprietorship
Major role in cookstove industry	LPG Stoves Manufacturer Improved Charcoal Stove Manufacturer Traditional Charcoal Stoves Manufacturer

Registration of Company	No	
<u>PRODUCT INFORMATION</u>		
Name of Stove	LPG Stove Improved Charcoal Stove Traditional Charcoal Stove	
Type of Stoves Produced	LPG Stove Improved Charcoal Stove Traditional Charcoal Stove	
Price of Product	LPG Stove	GHC 150.00
	Improved Charcoal Stove	GHC 40 – 100
	Traditional Charcoal Stove	GHC 40
Mode of Production	Locally fabricated	
Used by	Households / institutions	
Amount sold 2013/per week	Unknown	
Characteristics of stove / raw material used	Cast iron, mild steel, paints, tyre rims, iron rods and scrap metals	

Mapping of stakeholders in the cookstove sector of Ghana

Product lifespan	3 – 5 years
Product testing	No (quality assured)
DISTRIBUTION CHANNELS & MARKETING STRATEGY	
Intended Customers	Urban and rural households
Export intended	Not provided
Average Profit	Not provided
Market Segmentation (regions)	Northern Region
Level of Distributorship	Man – Distributor / Wholesaler – Retailer – end-user
No of Distributors	
Mode of Payment	Cash
Financing	
Source of Finances	Loan
Level of Investment in stove Business	GHC 1 – 5000

Questionnaire No.: 287

General factual information	
Name of Organisation	Master Issah Welding Shop
Region/District/Town	Head Office: Northern Region, Tama, Gumbinini Factory: Northern Region, Tama, Gumbinini
Name of Contact Person	Mr. Issah
Position of contact person	Owner
Company Postal Address	
Contact	Tel.: +233 24 6676457
Company email address	Not Provided
Company website address	Not Provided

Mapping of stakeholders in the cookstove sector of Ghana

Physical address of business	Opposite Ambariya Junction – 500m along the road, near the Chief Palace	
GPS coordinates of location of business	9.42167, -0.84722	
BUSINESS INFORMATION		
Type of Organisation	Sole Proprietorship	
Major role in cookstove industry	Firewood Stoves Manufacturer Traditional (Institutional) Charcoal Stoves Manufacturer Saw Dust Stove Manufacturer (Chop bar operators)	

Registration of Company	No	
PRODUCT INFORMATION		
Name of Stove	Improved Firewood Stoves Manufacturer Traditional Charcoal Stoves Manufacturer Saw Dust Stove Manufacturer	
Type of Stoves Produced	Improved Firewood Stoves Manufacturer Traditional Charcoal Stoves Manufacturer Saw Dust Stove Manufacturer	
Price of Product	Firewood Stoves	GHC 10.00
	Traditional Charcoal	GHC 80.00

Mapping of stakeholders in the cookstove sector of Ghana

	Stoves(Institutional) Saw Dust Stove(Institutional)	GHC 30.00
Mode of Production	Locally fabricated	
Used by	Households/ Institutions	
Amount sold till date and per year /month	Improved Firewood Stoves (69) Traditional Charcoal Stoves (22) Saw Dust Stove (on demand)	
Characteristics of stove / raw material used	Mild steel, tyre rims, iron rods, paints, scrap metals	
Product lifespan	6 – 10 years	
Product testing	No testing facility	
Testing agency		
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban and rural households	
Export intended	Not provided	
Average Profit	Yes but no amount provided	
Market Segmentation (regions)	Northern Region	
Level of Distributorship	Man – Distributor / Wholesaler – Retailer – end-user	
No of Distributors		
Mode of Payment	Cash	
Financing		
Source of Finances	Self	
Sponsors		
Level of Investment in stove Business	Not provided	

Mapping of stakeholders in the cookstove sector of Ghana

Questionnaire No.: 288

General factual information		
Name of Organisation	Northern Region Association of Blacksmiths	
Region/District/Town	Head Office: Northern Region, Tama, Dabi Fong Factory: Northern Region, Tama, Dabi Fong	
Name of Contact Person	Numanu Sayuti	
Position of contact person	Secretary	
Contact	Tel.: +233 24 4862043	
Company email address	Not Provided	
Company website address	Not Provided	
Physical address of business	Near Central Mosque (Machelni)	
GPS coordinates of location of business	Lat: 9.40083; Long: -0.84056	
BUSINESS INFORMATION		
Type of Organisation	Partnership	
Major role in cookstove industry	LPG Stoves Manufacturer Improved Charcoal Stoves Manufacturer Improved Firewood Stoves Manufacturer Traditional Charcoal Stoves Manufacturer	
Registration of Company	Registrar General	2012

Mapping of stakeholders in the cookstove sector of Ghana

PRODUCT INFORMATION		
Name of Stove	LPG Stove Improved Charcoal Stove (Gyapa, rim type) Improved Firewood Stove Traditional Charcoal Stove	
Type of Stoves Produced	LPG Stove Improved Charcoal Stove Improved Firewood Stove Traditional Charcoal Stove	
Price of Product	LPG Stoves Improved Charcoal Stoves Improved Firewood Stoves Traditional Charcoal Stoves	Not provided
Mode of Production	Locally fabricated	
Used by	Households/ Institutions	
Amount sold IN 2013	950	
Characteristics of stove / raw material used	Mild steel, tyre rims, iron rods, paints, scrap metals	
Product lifespan	1 – 2 years	
Product testing	No testing facility	
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban and rural households	
Export intended	Not provided	
Average Profit	Yes but no amount provided	

Mapping of stakeholders in the cookstove sector of Ghana

Market Segmentation (regions)	Northern Region
Level of Distributorship	Man – Distributor / Wholesaler – Retailer – end-user
No of Distributors	
Mode of Payment	Cash and Credit
Financing	
Source of Finances	Self and Loan
Sponsors	MFI
Level of Investment in stove Business	Not provided

Questionnaire No.: 289

General factual information	
Name of Organisation	Kakpag Yilli Doo Sani
Region/District/Town	Head Office: Northern Region, Tama, Bulpela Factory: Northern Region, Tama, Bulpela
Name of Contact Person	Idrisu Seidu
Position of contact person	Owner
Company Postal Address	
Contact	Tel.: +233 24 125446
Company email address	Not Provided
Company website address	Not Provided
Physical address of business	Bulpela Tuugbini
GPS coordinates of location of business	9.39889; -0.83833
BUSINESS INFORMATION	
Type of Organisation	Sole Proprietorship

Mapping of stakeholders in the cookstove sector of Ghana

Major role in cookstove industry	Traditional Charcoal Stoves Manufacturer	
Registration of Company	No	
<u>PRODUCT INFORMATION</u>		
Name of Stove	Traditional Charcoal Stoves (Coalpot)	
Type of Stoves Produced	Traditional Charcoal Stoves	
Price of Product	Traditional Charcoal Stoves	GHC 2.50
Mode of Production	Locally fabricated	
Used by	Households/ Institutions	
Volume in 2013	3900	
Characteristics of stove / raw material used	Scrap metals	
Product lifespan	3 – 5 years	
Product testing	No (trust of quality)	
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban and rural households	
Export intended	Not provided	
Average Profit	Yes (GHC 1300)	
Market Segmentation (regions)	Northern Region	

Mapping of stakeholders in the cookstove sector of Ghana

Level of Distributorship	Man – Distributor / Wholesaler – Retailer – end-user
No of Distributors	
Mode of Payment	Cash / Credit
Financing	
Source of Finances	Self
Level of Investment in stove Business	GHC 500.00

Questionnaire No.: 290

General factual information	
Name of Organisation	Issahaku Sowud
Region/District/Town	Head Office: Northern Region Factory: Northern Region
Name of Contact Person	Issahaku Sowud
Position of contact person	Owner
Company Postal Address	
Contact	Tel.: +233 54 6368504
Company email address	Not Provided
Company website address	Not Provided
Physical address of business	Tuugbini – Bulpela
GPS coordinates of location of business	9.39889; -0.83833
BUSINESS INFORMATION	
Type of Organisation	Sole Proprietorship
Major role in cookstove industry	Traditional Charcoal Stoves Manufacturer

Mapping of stakeholders in the cookstove sector of Ghana

Registration of Company	No	
<u>PRODUCT INFORMATION</u>		
Name of Stove	Traditional Charcoal Stoves (Coalpot)	
Type of Stoves Produced	Traditional Charcoal Stoves	
Price of Product	Traditional Charcoal Stoves	GHC 2.5
Mode of Production	Locally fabricated	
Used by	Households	
Amount sold till date and per year /month	540	
Characteristics of stove / raw material used	Mild steel and scrap metals	
Product lifespan	3 – 5 years	
Product testing	No (quality assured)	
Testing agency		
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban and rural households	
Export intended	Not provided	
Average Profit	Yes (GHC 150)	
Market Segmentation (regions)	Northern Region	
Level of Distributorship	Man – Distributor / Wholesaler – Retailer – end-user	
No of Distributors		

Mapping of stakeholders in the cookstove sector of Ghana

Mode of Payment	Cash
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	GHC 200.00

Questionnaire No.: 221

General factual information	
Name of Organisation	Master Efo Coal Pot Shop
Region/District/Town	Head Office: Kumasi, Ashanti Region Factory: Suame zone 6 and 7,, Kumasi, Ashanti Region
Name of Contact Person	Benard Agleby
Position of contact person	Not provided
Company Postal Address	Not provided
Contact	Tel.: +233 247529010
Company email address	Not provided
Company website address	Not provided
Physical address of business	Master efo coal pot shop
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship

Mapping of stakeholders in the cookstove sector of Ghana

Major role in cookstove industry	Manufacture	
<u>PRODUCT INFORMATION</u>		
Name of Stove	Traditional charcoal stove	
Type of Stoves Produced	Charcoal Cookstoves	
Price of Product	Small	GHC15
	Medium	GHC25
	large	GHC30
Mode of Production	locally fabricated	
Used by	Households and institutions	
Amount sold till date and per year /month	Not provided	
Characteristics of stove / raw material used	Mild steel, paint, scrap metals.	
Product lifespan	3-5 years	
Product testing	Yes	
Testing agency		
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban	
Export intended	No	
Average Profit	Yes and amount not indicated	

Mapping of stakeholders in the cookstove sector of Ghana

Market Segmentation (regions)	Ashanti
Level of Distributorship	Man-distributer/ wholesaler –retailer –end user
No of Distributors	Man-distributer /wholesaler and retailer –end user
Mode of Payment	Cash
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	GHC 1-5000
Interest in Philips Stoves distribution partners	Not provided

Questionnaire No.: 239

General factual information	
Name of Organisation	Alfred metal works
Region/District/Town	Head Office: Mampong, Ashanti Region Factory: mampong, Ashanti Region
Name of Contact Person	Alfred Afedomento
Position of contact person	Master/manager
Company Postal Address	Not provide
Contact	0244065709/0204147931
Company email address	Not provided
Company website address	Not provided
Physical address of business	Not provided
GPS coordinates of location of	

Mapping of stakeholders in the cookstove sector of Ghana

business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship
Major role in cookstove industry	Manufacturer
PRODUCT INFORMATION	
Name of Stove	Not provided
Type of Stoves Produced	LPG Stoves, Improved firewood stoves, traditional charcoal stoves
Price of Product	GHC 35 – GHC50
Mode of Production	locally fabricated
Used by	Households and institutions
Amount sold till date and per year / month	50
Characteristics of stove / raw material used	Mild steel, paint, iron rods, aluminium, tyre rims.
Product lifespan	6-10 years
-Product testing	Yes
Testing agency	Self
DISTRIBUTION CHANNELS & MARKETING STRATEGY	
Intended Customers	Urban
Export intended	No
Average Profit	Yes and amount GHC 10

Mapping of stakeholders in the cookstove sector of Ghana

Market Segmentation (regions)	Ashanti
Level of Distributorship	Man-end user
No of Distributors	
Mode of Payment	Cash and Credit
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	GHC 1-5000

Questionnaire No.: 240

General factual information	
Name of Organisation	Awals black smith work.
Region/District/Town	Head Office: ejura, Ashanti Region
Name of Contact Person	Awal mohammed
Position of contact person	Not provided
Company Postal Address	Not provided
Contact	Tel.: +233 266084178
Company email address	Not provided
Company website address	Not provided
Physical address of business	Not provided
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship

Mapping of stakeholders in the cookstove sector of Ghana

Major role in cookstove industry	Manufacturer	
PRODUCT INFORMATION		
Name of Stove	Not provided	
Type of Stoves Produced	Improved fire stoves Traditional charcoal stoves	
Price of Product		Not provided
Mode of Production	locally fabricated	
Used by	Households	
Amount sold till date and per year /month	Not provided	
Characteristics of stove / raw material used	Mild steel, aluminium ,iron rods, tyre rims	
Product lifespan	3-5 years	
Product testing	No	
Testing agency		
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban and rural households	
Export intended	No	
Average Profit	Not provided	
Market Segmentation (regions)	Ashanti Brong ahafo	
Level of Distributorship	Man-retailer-end user.	

Mapping of stakeholders in the cookstove sector of Ghana

No of Distributors	
Mode of Payment	Cash and Credit
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	GHC 1-5000

Questionnaire No.: 241

General factual information	
Name of Organisation	Good God metal works
Region/District/Town	Mampong municipal
Name of Contact Person	Asuako richard
Position of contact person	Chief apprentice
Company Postal Address	Not provided
Contact	Tel.: +233 204296668
Company email address	Not provided
Company website address	Not provided
Physical address of business	Not provided
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship
Major role in cookstove industry	Manufacturer

Mapping of stakeholders in the cookstove sector of Ghana

Registration of Company		
PRODUCT INFORMATION		
Name of Stove	Not provided	
Type of Stoves Produced	Traditional charcoal stoves	
Price of Product		Not provided
Mode of Production	locally fabricated	
Used by	Households and institutions	
Amount sold till date and per year /month	110	
Characteristics of stove / raw material used	Mild steel, iron rods, scrap metal, tyre rims	
Product lifespan	6-10 years	
Product testing	No	
Testing agency		
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban	
Export intended	No	
Average Profit	Yes and amount GHC 200	
Market Segmentation (regions)	Ashanti	
Level of Distributorship	Man- end user	
No of Distributors		
Mode of Payment	Cash	
Financing		
Source of Finances	Self	

Mapping of stakeholders in the cookstove sector of Ghana

Sponsors	
Level of Investment in stove Business	GHC 1-5000

Questionnaire No.: 242

General factual information	
Name of Organisation	All shall pass metal works
Region/District/Town	Ashanti –mampong municipal
Name of Contact Person	Antwi boasiako emmanuel
Position of contact person	Chief apprentice
Company Postal Address	Box 8 Mampong municipal
Contact	Tel.: +233 241549832
Company email address	Not provided
Company website address	Not provided
Physical address of business	Not provided
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship
Major role in cookstove industry	Manufacturer
Registration of Company	
	District Assembly
	2008
PRODUCT INFORMATION	

Mapping of stakeholders in the cookstove sector of Ghana

Name of Stove	Not provided	
Type of Stoves Produced	Improved firewood stoves and traditional charcoal stoves	
Price of Product	Traditional charcoal stoves	GHC25
	Improved firewood stoves	GHC 35
Mode of Production	locally fabricated	
Used by	Households and institutions	
Amount sold till date and per year /month	130	
Characteristics of stove / raw material used	Mild steel, iron rods, tyre rims	
Product lifespan	6-10 years	
Product testing	Yes / no	
Testing agency		
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban	
Export intended	No	
Average Profit	Yes and amount GHC 650 -700	
Market Segmentation (regions)	Ashanti	
Level of Distributorship	Man-end user	
No of Distributors		

Mapping of stakeholders in the cookstove sector of Ghana

Mode of Payment	Cash
Financing	
Source of Finances	The customer will make half payment of the size of the stove he/she wants before production
Sponsors	
Level of Investment in stove Business	GHC 1-5000

Questionnaire No.: 230

General factual information	
Name of Organisation	Azaa man metals works and fabrication
Region/District/Town	Ashanti/obuasi metro/ bogonbri
Name of Contact Person	Isaac quansah
Position of contact person	Owner
Company Postal Address	Not provided
Contact	Tel.: +233 242723918
Company email address	Not provided
Company website address	Not provided
Physical address of business	Not provided
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship
Major role in cookstove industry	Manufacturer
Registration of Company	

Mapping of stakeholders in the cookstove sector of Ghana

	District Assembly	2002
PRODUCT INFORMATION		
Name of Stove	Not provided	
Type of Stoves Produced	Improved firewood stoves, traditional charcoal stoves	
Price of Product	Traditional	GHC 15
	Car tyre rim	GHC 30-50
Mode of Production	locally fabricated	
Used by	Institutional	
Amount sold till date and per year /month	Not provided	
Characteristics of stove / raw material used	Mild steel, irons rod, car tyre	
Product lifespan	3-5 years	
Product testing	No	
Testing agency		
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban and rural households	
Export intended	No	
Average Profit	Yes and amount not provided	

Mapping of stakeholders in the cookstove sector of Ghana

Market Segmentation (regions)	Ashanti
Level of Distributorship	Man-retailer-end user
No of Distributors	Man- end user
Mode of Payment	Cash
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	GHC 1-5000

Questionnaire No.: 225

General factual information	
Name of Organisation	More more welding and fabrication
Region/District/Town	Ashanti/obuasi/kunka newton
Name of Contact Person	Mohammed salifu
Position of contact person	Owner
Company Postal Address	Not provided
Contact	Tel.: +233 268013520
Company email address	Not provided
Company website address	Not provided
Physical address of business	Not provided
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship

Mapping of stakeholders in the cookstove sector of Ghana

Major role in cookstove industry	Manufacturer	
Registration of Company		
	District Assembly	2012
<u>PRODUCT INFORMATION</u>		
Name of Stove	Not provided	
Type of Stoves Produced	Improved firewood stoves, traditional charcoal stoves	
Price of Product	Traditional	GHC 15
	Car tyre	GHC 50
Mode of Production	locally fabricated	
Used by	Households and institutions	
Amount sold till date and per year /month	2880	
Characteristics of stove / raw material used	Mild steel , iron rods	
Product lifespan	3-5 year	
Product testing	No	
Testing agency		
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban and rural households	

Mapping of stakeholders in the cookstove sector of Ghana

Export intended	No
Average Profit	Not provided
Market Segmentation (regions)	Ashanti
Level of Distributorship	Man-retailer- end user
No of Distributors	Man –end user
Mode of Payment	Cash and Credit
Financing	
Source of Finances	Self
Sponsors	

Questionnaire No.: 111

General factual information	
Name of Organisation	Ojugu manufacturing company
Region/District/Town	Sunyani magazine
Name of Contact Person	Beniako ankomah
Position of contact person	Not provided
Company Postal Address	Not provided
Contact	Tel.: +233 454487779
Company email address	Not provided
Company website address	Not provided
Physical address of business	1 gate ask for mr.ojugu
GPS coordinates of location of business	
BUSINESS INFORMATION	

Mapping of stakeholders in the cookstove sector of Ghana

Type of Organisation	Sole proprietorship
Major role in cookstove industry	Manufacturer

Registration of Company		
<u>PRODUCT INFORMATION</u>		
Name of Stove	Not provided	
Type of Stoves Produced	Traditional charcoal pot	
Price of Product		Not provided
Mode of Production	locally fabricated	
Used by	Households and institutions	
Amount sold till date and per year / month	1200- 2400	
Characteristics of stove / raw material used	Ordinary mild steel, electrode, sheet metal	
Product lifespan	3-5 years	
Product testing	No	
Testing agency		

Mapping of stakeholders in the cookstove sector of Ghana

DISTRIBUTION CHANNELS & MARKETING STRATEGY	
Intended Customers	Urban
Export intended	No
Average Profit	Yes and amount not provided
Market Segmentation (regions)	Brongahafo
Level of Distributorship	Man-retailer-end user
No of Distributors	
Mode of Payment	Cash
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	GHC 1-5000

Questionnaire No.: 112

General factual information	
Name of Organisation	Koffas metal work
Region/District/Town	Sunyani number 3
Name of Contact Person	Fosu ameyaw
Position of contact person	Not provided
Company Postal Address	Not provided
Contact	Tel.: +233 274296786
Company email address	Not provided

Mapping of stakeholders in the cookstove sector of Ghana

Company website address	Not provided
Physical address of business	Pentecost church central
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship
Major role in cookstove industry	Manufacturer

<u>PRODUCT INFORMATION</u>	
Name of Stove	Gyapa
Type of Stoves Produced	Traditional charcoal stove
Price of Product	Traditional Size 200 – GHC 12 Size 300 – GHC 13
Mode of Production	locally fabricated
Used by	Households
Amount sold till date and per year /month	2400
Characteristics of stove / raw material used	Raw clay, sheet metal, galvanised metal,wasted roofing sheet
Product lifespan	3-5 years
Product testing	No
Testing agency	
DISTRIBUTION CHANNELS & MARKETING STRATEGY	
Intended Customers	Urban
Export intended	No
Average Profit	Yes and amount GHC not provided

Mapping of stakeholders in the cookstove sector of Ghana

Market Segmentation (regions)	Brongahafo
Level of Distributorship No of Distributors	15 distributors
Mode of Payment	Cash and Credit
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	GHC 1-5000

Questionnaire No.: 113

General factual information	
Name of Organisation	Asedu welding / straighting shop
Region/District/Town	Techimanwangala line
Name of Contact Person	Opoku yaw frank
Position of contact person	Owner
Company Postal Address	Box 2 twabodompresby
Contact	Tel.: +233 243986946
Company email address	Not provided
Company website address	Not provided
Physical address of business	Magazine /wangala line
GPS coordinates of location of business	
BUSINESS INFORMATION	

Mapping of stakeholders in the cookstove sector of Ghana

Type of Organisation	Sole proprietorship
Major role in cookstove industry	Manufacturer

Registration of Company		
	District Assembly	2012
<u>PRODUCT INFORMATION</u>		
Name of Stove	Not provided	
Type of Stoves Produced	Traditional charcoal pot, saw dust coal port	
Price of Product	Traditional	Small - GHC 15 Medium - GHC 20 Large- GHC 25
Mode of Production	locally fabricated	
Used by	Households	
Amount sold till date and per year /month	Depends on the season	
Characteristics of stove / raw material used	Mild steel	
Product lifespan	3-5 years	
Product testing	No	

Mapping of stakeholders in the cookstove sector of Ghana

Testing agency	
DISTRIBUTION CHANNELS & MARKETING STRATEGY	
Intended Customers	rural households
Export intended	No
Average Profit	Not provided
Market Segmentation (regions)	Brongahafo
Level of Distributorship	Man- end user
No of Distributors	
Mode of Payment	Cash
Financing	
Source of Finances	loans
Sponsors	
Level of Investment in stove Business	GHC 1-5000

Questionnaire No.: 30

General factual information	
Name of Organisation	Not provided
Region/District/Town	KEEa
Name of Contact Person	Mr sule
Position of contact person	Owner

Mapping of stakeholders in the cookstove sector of Ghana

Company Postal Address	Not provided	
Contact	Tel.: +233 543865015	
Company email address	Not provided	
Company website address	Not provided	
Physical address of business	Tatarmu (behind market)	
GPS coordinates of location of business		
BUSINESS INFORMATION		
Type of Organisation	Sole proprietorship	
Major role in cookstove industry	Manufacturer	
PRODUCT INFORMATION		
Name of Stove	Not provided	
Type of Stoves Produced	LPG stoves	
Price of Product	LPG stove	GHC 25.60
Mode of Production	locally fabricated	
Used by	Households	
Amount sold till date and per year /month	Not provided	
Characteristics of stove / raw material used	Aluminium , galvanised steel plate	
Product lifespan	6-10 years	
Product testing	Yes	
Testing agency	Not provided	
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	rural households	

Mapping of stakeholders in the cookstove sector of Ghana

Export intended	No
Average Profit	Not provided
Market Segmentation (regions)	Central
Level of Distributorship	Man-end user
No of Distributors	
Mode of Payment	Cash and Credit
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	GHC 1-5000

Questionnaire No.: 22

General factual information	
Name of Organisation	Not provided
Region/District/Town	Apam, central region
Name of Contact Person	Kwesi anyesi
Position of contact person	Owner
Company Postal Address	Not provided
Contact	Tel.: +233 0241931491
Company email address	Not provided
Company website address	Not provided
Physical address of business	Not provided

Mapping of stakeholders in the cookstove sector of Ghana

GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship
Major role in cookstove industry	Manufacturer

Registration of Company		
	District/Assembly	2006
PRODUCT INFORMATION		
Name of Stove	Not provided	
Type of Stoves Produced	Traditional charcoal stove	
Price of Product		Not provided
Mode of Production	locally fabricated	
Used by	Households	
Amount sold till date and per year /month	Not provided	
Characteristics of stove / raw material used	Aluminium , raw clay ,sand,	
Product lifespan	3-5 years	
Product testing	No	
Testing agency		

Mapping of stakeholders in the cookstove sector of Ghana

DISTRIBUTION CHANNELS & MARKETING STRATEGY	
Intended Customers	Urban and rural households
Export intended	No
Average Profit	Not provided
Market Segmentation (regions)	Centra
Level of Distributorship	Man –distributor/wholesaler-retailer –end user
No of Distributors	
Mode of Payment	Cash
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	GHC 1-5000

Questionnaire No.: 4

General factual information	
Name of Organisation	Not provided
Region/District/Town	Mankessim
Name of Contact Person	Nicholas Oray dadzie
Position of contact person	Owner
Company Postal Address	Not provided
Contact	Tel.: +233 549900370
Company email address	Not provided
Company website address	Not provided

Mapping of stakeholders in the cookstove sector of Ghana

Physical address of business	Edunadze, zongo	
GPS coordinates of location of business		
BUSINESS INFORMATION		
Type of Organisation	Sole proprietorship	
Major role in cookstove industry	Manufacturer	
<u>PRODUCT INFORMATION</u>		
Name of Stove	Not provided	
Type of Stoves Produced	Traditional charcoal stoves	
Price of Product		
Mode of Production	locally fabricated	
Used by	Households	
Amount sold in 2013	600	
Characteristics of stove / raw material used	Scrap metals	
Product lifespan	1-2 years	
Product testing	Yes	
Testing agency	Not provided	
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban	
Export intended	No	
Average Profit	Not provided	
Market Segmentation	Central	

Mapping of stakeholders in the cookstove sector of Ghana

(regions)	
Level of Distributorship	Man-distributor/wholesaler –retailer –end user
No of Distributors	Man-distributor and wholesaler –retailer –end user Man – retailer –end user Man- end user
Mode of Payment	Cash and Credit
Financing	
Source of Finances	Self
Level of Investment in stove Business	GHC 1-5000

Questionnaire No.: 157

General factual information	
Name of Organisation	Gratis foundation
Region/District/Town	Volta region
Name of Contact Person	Eric kwame anim
Position of contact person	Production officer
Company Postal Address	p.o. box 748 ho
Contact	Tel.: +233 362027157
Company email address	Not provided
Company website address	www.gratisfoundation.com
Physical address of business	Opposite police regional office
BUSINESS INFORMATION	
Type of Organisation	Government institution

Mapping of stakeholders in the cookstove sector of Ghana

Major role in cookstove industry	Manufacturer
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Registration of Company	Registrar Generals Department	2006

PRODUCT INFORMATION

Name of Stove	Not provided	
Type of Stoves Produced	LPG stoves	
Price of Product	LPG	GHC 700
Mode of Production	locally fabricated	
Used by	Households and institutions	
Amount sold till date and per year /month	Not provided	
Characteristics of stove / raw material used	Mild steel	
Product lifespan	6-10 years	
Product testing	Yes	
Testing agency	Not provided	

DISTRIBUTION CHANNELS & MARKETING STRATEGY

Intended Customers	Urban
Export intended	No
Average Profit	Break even
Market Segmentation	Volta

Mapping of stakeholders in the cookstove sector of Ghana

(regions)	
Level of Distributorship	Man-end user
No of Distributors	
Mode of Payment	Cash
Financing	
Source of Finances	Self
Level of Investment in stove Business	GHC 1-5000

Questionnaire No.: 158

General factual information	
Name of Organisation	Vakiss metal works
Region/District/Town	Ho- benkoe
Name of Contact Person	Mr stephen akolatse
Position of contact person	Master
Company Postal Address	P.O.Box ma 105 , ho
Contact	Tel.: +233 243852469
Company email address	Not provided
Company website address	Not provided
Physical address of business	Opposite sic
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship
Major role in cookstove industry	Manufacturer

Mapping of stakeholders in the cookstove sector of Ghana

Registration of Company	Registrar Generals Department	2012
<u>PRODUCT INFORMATION</u>		
Name of Stove	Not provided	
Type of Stoves Produced	LPG stoves	
Price of Product	LPG stoves	GHC 45
Mode of Production	locally fabricated	
Used by	Households and institutions	
Amount sold till date and per year /month	480	
Characteristics of stove / raw material used	Aluminium ,mild steel,paint ,iron rods, tyre rims	
Product lifespan	6-10 years	
Product testing	Yes	
Testing agency	Not provided	
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban and rural households	

Mapping of stakeholders in the cookstove sector of Ghana

Export intended	No
Average Profit	Yes and amount GHC 5
Market Segmentation (regions)	Volta
Level of Distributorship	Man-end user
No of Distributors	
Mode of Payment	Cash and Credit
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	GHC 1-5000

Questionnaire No.: 560

General factual information	
Name of Organisation	Shop of Christ metal works
Region/District/Town	Keta/ volta region
Name of Contact Person	Daniel Gbemu
Position of contact person	Owner
Company Postal Address	P.O.Box 106, keta.
Contact	Tel.: +233 245770463/208208955
Company email address	Not provided
Company website address	Not provided
Physical address of business	Not provided
GPS coordinates of location of	

Mapping of stakeholders in the cookstove sector of Ghana

business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship
Major role in cookstove industry	Manufacturer

Registration of Company		
PRODUCT INFORMATION		
Name of Stove	Not provided	
Type of Stoves Produced	LPG stoves	
Price of Product	Domestic (double burner)	GHC 47
	Commercial single	GH 65
	double	GHC 80 – GHC 130
Mode of Production	locally fabricated	
Used by	Households and institutions	
Amount sold till date	Not provided	

Mapping of stakeholders in the cookstove sector of Ghana

and per year /month	
Characteristics of stove / raw material used	Mild steel, paint, iron rods, galvanised steel
Product lifespan	6-10 years
Product testing	No
Testing agency	
DISTRIBUTION CHANNELS & MARKETING STRATEGY	
Intended Customers	Urban and rural households
Export intended	No
Average Profit	Yes and amount GHC 7
Market Segmentation (regions)	Volta and eastern
Level of Distributorship	Man-end user
No of Distributors	
Mode of Payment	Cash and Credit
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	GHC 10001-20000

Questionnaire No.: 561

General factual information

Mapping of stakeholders in the cookstove sector of Ghana

Name of Organisation	Tam Daniel welding and fabrication
Region/District/Town	Ho/housing junction
Name of Contact Person	Mr daniel damali
Position of contact person	Boss
Company Postal Address	P.O.Box 33 ho.
Contact	Tel.: +233 244875986
Company email address	Not provided
Company website address	Not provided
Physical address of business	Opposite job 33 laptop specialist
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship
Major role in cookstove industry	Manufacturer

Registration of Company	Registrar Generals Department	1995
PRODUCT INFORMATION		
Name of Stove	Not provided	
Type of Stoves Produced	LPG stoves	

Mapping of stakeholders in the cookstove sector of Ghana

Price of Product	LPG	GHC 150
Mode of Production	locally fabricated	
Used by	Households	
Amount sold till date and per year /month	Not provided	
Characteristics of stove / raw material used	Mild steel, paint, iron rods, scrap metals, Tyre rims	
Product lifespan	6-10 years	
Product testing	Not provided	
Testing agency		
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban and rural households	
Export intended	No	
Average Profit	Yes and amount GHC 50	
Market Segmentation (regions)	Volta	
Level of Distributorship	Man- end user	
No of Distributors	By order of customers	
Mode of Payment	Cash	
Financing		
Source of Finances	Self	
Sponsors		
Level of Investment in stove Business	GHC 1-5000	

Mapping of stakeholders in the cookstove sector of Ghana

Questionnaire No.: 410

General factual information	
Name of Organisation	Gas equipments and engineering center
Region/District/Town	Ho-Bankoe
Name of Contact Person	Mr Diaba simon
Position of contact person	Sole owner
Company Postal Address	Not provided
Contact	Tel.: +233 209493564
Company email address	Not provided
Company website address	Not provided
Physical address of business	Opposite azumah enterprise, behind kingdom press
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship
Major role in cookstove industry	Manufacturer
Registration of Company	
PRODUCT INFORMATION	
Name of Stove	Not provided

Mapping of stakeholders in the cookstove sector of Ghana

Type of Stoves Produced	LPG stoves	
Price of Product	Small rim	GHC 15 -30
Mode of Production	locally fabricated	
Used by	Households and institutions	
Amount sold till date and per year /month	Not provided	
Characteristics of stove / raw material used	Cast iron , aluminium, paint, iron rods, scrap metal, tyre rims, angle bar, stainless steel	
Product lifespan	More than 10 years	
Product testing	No	
Testing agency		
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban and rural households	
Export intended	No	
Average Profit	No profit	
Market Segmentation (regions)	Volta	
Level of Distributorship	Man-retailer- end user	
No of Distributors	Man -end user	
Mode of Payment	Credit	
Financing		
Source of Finances	Self /loan	
Level of Investment in	GHC 1-5000	

Mapping of stakeholders in the cookstove sector of Ghana

stove Business	
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Questionnaire No.: 562

General factual information	
Name of Organisation	Abbah welding and fabrication
Region/District/Town	Ho, Market Area
Name of Contact Person	Mr Abbah
Position of contact person	Co-manager
Company Postal Address	Not provided
Contact	Tel.: +233 247703097
Company email address	Not provided
Company website address	Not provided
Physical address of business	Close to zeal money lending
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Partnership
Major role in cookstove industry	Manufacturer

Registration of Company		
PRODUCT INFORMATION		

Mapping of stakeholders in the cookstove sector of Ghana

Name of Stove	Not provided	
Type of Stoves Produced	LPG stoves, improved charcoal stoves, improved firewood stoves	
Price of Product		GHC 45
Mode of Production	locally fabricated	
Used by	Households	
Amount sold till date and per year /month	1200	
Characteristics of stove / raw material used	Iron rods, paint, scrap metals,tyre rims	
Product lifespan	6-10 years	
Product testing	No	
Testing agency		
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	rural households	
Export intended	No	
Average Profit	Yes and amount GHC 10- 15	
Market Segmentation (regions)	Volta	
Level of Distributorship	Man- end user	
No of Distributors		
Mode of Payment	Cash	
Financing		
Source of Finances	Self and partnership	
Sponsors		
Level of Investment in stove Business	GHC 1-5000	

Mapping of stakeholders in the cookstove sector of Ghana

Questionnaire No.: 245

General factual information	
Name of Organisation	Might light ltd
Region/District/Town	Eastern/new juabeng/koforidua
Name of Contact Person	Not provided
Position of contact person	Manager
Company Postal Address	Not provided
Contact	Tel.: +233 243610511
Company email address	Not provided
Company website address	Not provided
Physical address of business	Not provided
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship
Major role in cookstove industry	Retailer

Registration of Company	Registrar Generals Department	2000
PRODUCT INFORMATION		
Name of Stove	Sigma, sunfan , elbee, owen, binaton	

Mapping of stakeholders in the cookstove sector of Ghana

Type of Stoves Produced	LPG stoves	
Price of Product		Not provided
Mode of Production	Imported from USA / locally fabricated	
Used by	Households / institutions	
Amount sold till date and per year / month	Not provided	
Characteristics of stove / raw material used	Not provided	
Product lifespan	1-2 years	
Product testing	Not provide	
Testing agency		
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban and rural households	
Export intended	No – rather imported	
Average Profit	Yes and amount GHC	
Market Segmentation (regions)		
Level of Distributorship		
No of Distributors		
Mode of Payment	Cash / Credit	
Financing		
Source of Finances	Self	

Mapping of stakeholders in the cookstove sector of Ghana

Sponsors	
Level of Investment in stove Business	Not provided

Questionnaire No.: 244

General factual information	
Name of Organisation	Nyame Tease Enterprise
Region/District/Town	Eastern/new juabeng/koforidua
Name of Contact Person	Emelia darkwa
Position of contact person	Not provided
Company Postal Address	Not provided
Contact	Tel.: +233 244735720
Company email address	Not provided
Company website address	Not provided
Physical address of business	Freedom stove
GPS coordinates of location of business	
BUSINESS INFORMATION	
Type of Organisation	Sole proprietorship
Major role in cookstove industry	Retailer

Registration of Company	Registrar general	2001

Mapping of stakeholders in the cookstove sector of Ghana

<u>PRODUCT INFORMATION</u>		
Name of Stove	Champion ,sigma, queen , derlon, binaton	
Type of Stoves Produced	LPG stoves	
Price of Product		Not provided
Mode of Production	Imported from USA / locally fabricated	
Used by	Households / institutions	
Amount sold till date and per year / month	Not provided	
Characteristics of stove / raw material used	Not provided	
Product lifespan	1-2 years	
Product testing	Not provide	
Testing agency		
DISTRIBUTION CHANNELS & MARKETING STRATEGY		
Intended Customers	Urban and rural households	
Export intended	No – rather imported	
Average Profit	Yes and amount GHC	
Market Segmentation (regions)		

Mapping of stakeholders in the cookstove sector of Ghana

Level of Distributorship	
No of Distributors	
Mode of Payment	Cash / Credit
Financing	
Source of Finances	Self
Sponsors	
Level of Investment in stove Business	Not provided

Mapping of stakeholders in the cookstove sector of Ghana

Appendix C: Final Questionnaire

C1-Manufacturers of Stove

Nationwide Mapping of Stakeholders in the Cookstove Sector

Netherlands Development Organisation / Energy Commission

Questionnaire for STOVE MANUFACTURERS

Consultant: CEESD

Interviewer profile

Name	
E-Mail:	
Phone number:	
Date of interview	
Duration of interview	
Questionnaire no.	#NMACSS

General Information / Profile of Organisation		
1.	Name of Organisation	
2.	Region/District/Town(rdt)	
3.	Company Postal address (if any)	
4.	Company telephone number(s)	
5.	Company Email address (if any)	
6.	Company website address (if any)	www.
7.	Physical address of business	
8.	GPS coordinates of location of business	
9.	Name of respondent	
10.	Position of respondent in the company(prc)	
	Gender of owner of business genderofbiz	[1] Male [2] Female
Business Information		
11.	What is the nature of your organisation? Nato	[1] Sole proprietorship [2] Partnership [3] Franchise [4] NGO [5] Other, please specify:

Mapping of stakeholders in the cookstove sector of Ghana

12.	Is your organisation registered?reg	[1] Yes [2] No (if no, skip to Q15)
13.	If yes, which body is your organisation registered with? Regbody	[1] Registrar General [2] COTVET [3] District assembly [4] GHACCO [5] Others, please specify
14.	If yes, when was it registered?yreg	
15.	If no, can you tell us why your organisation is not registered?noreg	[1] I don't know how to register my business [2] Registration is too difficult and cumbersome [3] I don't have money for registration [4] Registration is unnecessary [5] Other, please specify
16.	How many years have you been in business?	yrbiz
17.	Type of stove manufactured and their brand names	
	Type of stove(stovetype)	Brand name
	[1] LPG Stoves [2] Improved charcoal stoves [3] Improved firewood stoves [4] Biogas Stoves [5] Traditionalcharcoal stoves [6] Ethanol Stoves [7] Kerosene Stoves [8] Electricity Stoves [9] Other, please specify	
18.	What is the nature of stoves you manufacture? Natofstove	[1] Domestic [2] Institutional [3] Both [4] Other, please specify
19.	How many workers do you have? Nofworkers	No. of males: No. of females: Total
20.	Major equipment used for manufacture Equipmentused	[1] [2] [3] [4] [5]
Product Quality		
21.	Do you have warranty on your stoves?	[1] Yes [2] No (if no, skip to Q24)warranty
22.	If yes, what is the warranty period?warrantytime	
	Type of stove	Warranty period
	[1] LPG Stoves [2] Improved charcoal stoves [3] Improved firewood stoves [4] Biogas Stoves [5] Traditionalcharcoal stoves [6] Ethanol Stoves [7] Kerosene Stoves [8] Electricity Stoves [9] Other, please specify	

Mapping of stakeholders in the cookstove sector of Ghana

23.	If yes, what is the nature of warranty? Nwarranty	[1] Money back [2]Replacement [3]Repair [4]Other, please specify		
24.	If yes, do customers take advantage of the warranty? customeradvantage	[1] Yes [2] No		
25.	If no, why? ncustomeradvantage			
26.	What is the estimated lifespan of your products? lifespanpee	[1] 1 -2 yrs [2] 3 - 5 yrs [3] 6 - 10		
27.	Do you test your stoves? dytest	[1] Yes [2] No (if no, skip to Q31)		
28.	If yes, how often do you test your stoves? Testoften	[1] Once at inception [2] Monthly [3] Yearly [4] Never [5] Every batch [6] Other, please specify		
29.	If yes, what kind of test(s) do you run on your stoves			
	Name of testing agency Testagency	Nature of test Typeoftest	Cost of test (per stove - GHC)	
		[1] Water boiling test		
		[2] Controlled cooking test		
		[3] Kitchen performance test		
		[4] Emission test		
		[5] Safety test		
		[6] Durability test		
		[7] Other, please specify		
30.	How much are you willing to pay to test your stoves? Wpftest	[1] Water boiling test: GHC [2] Controlled cooking test: GHC [3] Kitchen performance test: GHC [4] Emission test: GHC [5] Safety test: GHC [6] Durability test: GHC [7] Other, please specify:		
31.	If no, why are you not testing your stoves? Whynotesting	[1] No testing facility [2] High testing fees [3] High cost of transport to testing facility [4] Other, please specify		
Production information				
32.	What raw materials do you use to manufacture your stoves? Rawmaterial	[1]Raw Clay [2] Clay mould (liner) [3] Cast iron [4] Aluminium [5] Mild steel [6] Paint [7] Iron rods [8] Scrap metals [9] Tyre rims [10] Saw dust [11] Cement [12] Quarry dust [13] Laterite [14] Sand [15] Bricks [16]Others (specify)		
33. Raw material supply information				
	Material supplied	Name of supplier	Location of supplier (region / country) rawsupplierorigin	Mode of supply rawmodeofsupply

Mapping of stakeholders in the cookstove sector of Ghana

		/ localregion	
34.	How do you pay for the product? Respondentspayment	[1] Cash [2] Credit/hire purchase [3] both [4] other, please specify	
35.	Can you please indicate your production and sales volumes from 2011 till date?		
Year	No. of stoves produced / brand	No. of stoves sold	Selling price per stove
36.	On the average how much material do you use annually?	Year	Material use
		2011	
		2012	
		2013	
37.	How do you determine the selling price of your stove?finalpricedee		
38.	How many stoves do you sell in a day?	salesperday	
39.	Can you please estimate your average profit per year?avgprofit	[1] No profit [2] Break-even [3] Profit (amount):GHC profitamt	
40.	What fuel(s) / energy source(s) do you use in your manufacturing process? Fuelsources	[1] Electricity [2] Firewood [3] Charcoal [4] Diesel [5]Palm kernel shells [6] Other, please specify Major source of fuel:majfuelsource	
Financing of business operations			
41.	How do you finance your operations? Financeofops	[1] Self [2] Loan [3] Grant [4] Partnership [5]Carbon financing [6] Equity [7] Others, please specify	
	Can you please estimate how much money (GHC) you have invested into the cookstove business? Amtinvested	[1] 1-5000 [2] 5001 – 10000 [3] 10001 – 20000 [4] 20001 – 30000 [5] 30001 – 50000	

Mapping of stakeholders in the cookstove sector of Ghana

		[6] Above 50000
42.	If carbon financed, what is the nature of the programme?	[1] Voluntary market [2] CDM
43.	If loan [2], which organisation granted you the loan? Loan	[1] Friends / Family [2] Bank [3] NGO [4] Money Lender [5] Venture Capitalist [6] MFI [7] Other, please specify
44.	If it is a grant [3], which organisation gave you the grant? Grant	[1] Friends / Family [2] Bank [3] NGO [4] Money Lender [5] Venture Capitalist [6] MFI [7] Other, please specify
45.	If partnership [4], what is its nature?	[1] Local [2] Foreign Name of partner / organisation: nameofpartner
46.	Do you know about carbon financing / CDM?knowcarbfin	[1] Yes [2] No (yes for respondent who is carbon financed)
Distribution Channels and Marketing strategy		
47.	What is your target market?targetmarket	[1] Rural [2] urban [3] both [4] Other, please specify
48.	Can you please tell us which regions (area) your stoves are mostly sold?regoperation	[1] Ashanti [6] Northern [2] BrongAhafo [7] Upper East [3] Eastern [8] Upper West [4] Central [9] Volta [5] Greater Accra [10] Western
49.	How do you reach your target market?mktreach	[1] Radio Advertisement [2] Word of mouth [3] Mobile marketing [4] handbills [5] TV [6] print media [7] online [8] Community fm [9] Other, please specify
50.	What nature of distributorship do you have? Sellstove	[1] Man - Distributor / wholesaler - Retailer - end-user [2] Man - Distributor / wholesaler and Retailer - end-user [3] Man - Retailer - end-user [4] Man - end-user [5] Other, please specify
51.	What is the mode of payment by customers? Customerpayment	[1] Cash [2] Credit [3] both [4] Others, please specify
52.	If on credit basis do you work in collaboration with any financial institution to recover your money?creditcollabo	[1] Yes [2] No
53.	If no, why? whynocollabo	
54.	If on credit, how long does it take to	[1] 1-3 months [2] 4-6 months [3] 6-12

Mapping of stakeholders in the cookstove sector of Ghana

	recover your money?credittime	months [4] Other, please specify
55.	What are the main barriers affecting your business in order of importance (1=highest on the list) Challtype	Item
		Rank
		1 2 3
		Access to finance
		Awareness
		Marketing
Government policy		
Other, please specify		
Institutional framework		
56.	In your opinion, what <u>major</u> activity should be done to improve development of the cookstove sector? (Select only one) improvactivities	[1] Financing of businesses in the sector (loans, grants) [2] Tax removal on materials imported [3] Stove labelling and standardisation [4]Subsidisation of local materials [5] Providing tax holidays [6] Awareness creation [7] Implement Public – private partnership [8] Build capacity of local stakeholders [9] Subsidise stoves for the poor [10] Leave cookstove sector in the hands of the private sector [11] Others, please specify
57.	Are there any specific technical needs your company requires? capabuildingactivities	[1] book keeping [2] ceramics [3] metal fabrication [4] financial management [5] welding [6] spraying [7] others
59.	Have you heard of GHACCO?hghacco	[1] Yes [2]No (if No, skip to Q69)
60.	Do you know what they do?hghacco	[1]Yes [2]No
61.	Are you member?hghacco	[1]Yes [2]No
62.	Would you want to be a member?wghacco	[1]Yes [2]No
Final Comments: Expectations and Opportunities		
63.	What are your expectations (in order of priority)?	[1] [2] [3] [4] [5]
64.	Can you share some opportunities you have identified during your operations (in order of priority)?	[1] [2] [3]

Mapping of stakeholders in the cookstove sector of Ghana

		[4]
		[5]

C2 – Fuel Producers

Interviewer profile

Name	
E-Mail:	
Phone number:	
Date of interview	
Duration of interview	

General Information / Profile of Organisation		
1.	Name of Organisation	
2.	Region/District/Town	
3.	Company Postal Address	
4.	Company telephone number	
5.	Company email address	
6.	Company website address (if any)	www.
7.	Physical address of business	
8.	GPS coordinates of location of business	
9.	Name of respondent	
10.	Position of respondent in the company	
Business information		
11.	What is the nature of your organisation?	[1] Sole proprietorship [2] Partnership [3] Franchise [4] NGO [5] Other, please specify:
12.	Is your business registered?	[1] Yes [2] No (if no, skip to Q15)
13.	If yes, which body is your company registered with?	[1] Registrar General [2] COTVET [3] district assembly [4] GHACCO [5] others
14.	When was it registered?	
15.	If no, can you tell us why your business is not registered?	[1] I don't know how to register my business [2] Registration is too difficult and cumbersome [3] I don't have money for registration [4] Registration is unnecessary [5] Other, please specify
16.	For how many years have you been in business?	
Production information		
17.	Which of the following fuels do you produce?	[1] Wood Charcoal [2] Firewood [3] Bamboo Charcoal [4] Briquette

Mapping of stakeholders in the cookstove sector of Ghana

		[5] Biogas [6] ethanol [7] Other, please specify
18.	What fuel(s) do use in the manufacturing process?	[1] electricity [2] firewood [3] charcoal [4] diesel [5] palm kernel shells [6] Other, please specify
19.	Where do you get your raw materials from?	
	Raw material	Source
20.	How do you pay for the raw material(s)	[1] Cash [2] Credit/hire purchase [3] other, please specify
21.	Equipment used	
22.	Can you please indicate your production for the following years below?	
	Year	Number of units produced
	2011	
	2012	
	2013	
23.	On the average how much material do you use annually?	
	Year	Raw materials used
	2011	
	2012	
	2013	
24.	What is the selling price per unit?	
25.	How do you determine your selling price?	
26.	How many products do you sell in a day?	
27.	Can you please estimate your average profit per year?	[1] no profit [2] break-even [3] Profit (amount in GHC)
Financing of business operations		
28.	How do you finance your operations?	[1] self [2] loan [3] grant [4] partnership [5] carbon financing [6] others, please specify
29.	Can you please estimate how much money (in GHC) you have invested into the cook stove business?	[1] 1-5000 [2] 5001 – 10000 [3] 10001 – 20000 [4] 20001 – 30000 [5] 30001 – 50000 [6] Above 50000
30.	If [5], what is the nature of carbon	[1] Voluntary market [2] CDM

Mapping of stakeholders in the cookstove sector of Ghana

	financing?			
31.	If loan [2], which bank granted you the loan?	[1] Friends / Family [2] Bank [3] NGO [4] Money Lender [5] Venture Capitalist [6] MFI [7] Other, please specify		
32.	If it is a grant [3], which organisation gave you the grant?	[1] Friends / Family [2] Bank [3] NGO [4] Money Lender [5] Venture Capitalist [6] MFI [7] Other, please specify		
33.	If partnership [4], what is its nature?	[1] local [2] foreign name of partner / organisation:		
34.	Do you know about carbon financing / CDM?	[1] Yes [2] No (yes for respondent who is carbon financed)		
Distribution channels and Marketing strategy				
35.	What is your target market?	[1] Rural [2] urban [3] both		
36.	How do you get to your target market?	[1] Radio Advertisement [2] Word of mouth [3] Mobile marketing [4] handbills [5] TV [6] print media [7] online [8] Other, please specify		
37.	Can you please tell us which regions (area) your fuelis mostly sold?	[1] Ashanti [2] BrongAhafo [3] Eastern [4] Central [5] Greater Accra	[6] Northern [7] Upper East [8] Upper West [9] Volta [10] Western	
38.	What level of distributorship do you have?	[1] Man - Distributor / wholesaler - Retailer - end-user [2] Man - Distributor / wholesaler and Retailer - end-user [3] Man - Retailer - end-user [4] Man - end-user [5] Other, please specify		
39.	What is the mode of payment by customers?	[1] Cash [2] Credit [4] both [3] Other, please specify		
40.	If on credit basis do you work in collaboration with any financial institution to recover your money?	[1] Yes [2] No		
41.	If no, why?			
42.	If on credit, how long does it take to recover your money?	[1] 1-3 months [2] 4-6 months [3] 6-12 months [4] Other, please specify		
43.	What are the main barriers affecting the business in order of importance (1=highest on the list)	Item	Rank	
			1	2
		Access to finance		

Mapping of stakeholders in the cookstove sector of Ghana

		Awareness			
		Marketing			
		Government policy			
		Other, please specify			
Institutional framework					
44..	In your opinion, what <u>major</u> activity should be done to improve development of the cookstove sector? (Select only one)	[1] Financing of businesses in the sector (loans, grants) [2] Tax removal on materials imported [3] Stove labelling and standardisation [4] Subsidisation of local materials [5] Providing tax holidays [6] Awareness creation [7] Implement Public – private partnership [8] Build capacity of local stakeholders [9] Subsidise stoves for the poor [10] Leave cookstove sector in the hands of the private sector [11] Others, please specify			
45.	Among the following capacity building activities which ones do you think are priorities in the cook stove sector?	[1] Technical/Vocational Training [2] Continuing education [3] E-learning through ICT [4] Other, please specify			
46.	Are there any specific technical needs your company requires	[1] book keeping [2] ceramics [3] metal fabrication [4] financial management [5] welding [7] other, please specify			
47.	Have you heard of GHACCO?	[1] Yes	[2] No (if No, skip to Q69)		
48.	Do you know what they do?	[1] Yes	[2] No		
49.	Are you member?	[1] Yes	[2] No		
50.	Would you want to be a member?	[1] Yes	[2] No		
Final comments: Challenges, Expectations and Opportunities					
51.	What are some of the challenges you face in your business (in order of priority)?	[1] [2] [3] [4] [5]			
52.	What are your expectations (in order of priority)?	[1] [2] [3] [4] [5]			
53.	Can you share some opportunities you have identified during your operations (in order of priority)?	[1] [2] [3] [4] [5]			

Mapping of stakeholders in the cookstove sector of Ghana

C3 – Financial Institutions

Interviewer profile

Name	
E-Mail:	
Phone number:	
Date of interview	
Duration of interview	

General Information / profile of organisation		
1	Name of organisation	
2	Location: Region /District/Town	
3	Regions of operation	
	[1] Ashanti [2]BrongAhafo [3] Eastern [4] Central [5] Greater Accra	[6] Northern [7] Upper East [8] Upper West [9] Volta [10] Western
4.	Company postal address	
5.	Company telephone number	
6.	Company email address	
7.	Company website address (if any)	www.
8.	Physical address of business	
9.	GPS coordinates of location of business	
10	Name of respondent	
11.	Position of respondent in the company	
Business information		
12.	What is the nature of your organisation?	A [1] Government [2] Public [3] Private B [1] Sole proprietorship [2] Partnership [3] Franchise [4] NGO [5] Other, please specify:
13.	What is the nature of your financial service?	[1] Commercial bank [2] Venture capitalist [3] Disbursement of grants [4] Micro-finance (credit union, S&L, etc) [5] Other, please specify

Mapping of stakeholders in the cookstove sector of Ghana

14.	How long have you been in business?	[1] 1-5 yrs [2] 5-10 yrs [3] 10-20 yrs																		
15.	Has your institution funded any projects in the cookstove sector?	[1] Yes (if yes, jump to Q17) [2] No																		
16.	If no, why?																			
17.	If yes, which item in the clean cookstove sector has your institution previously financed	[1] Research [2] Training/capacity building [3] Raw material supply [4] Manufacturing [5] Distribution [6] Retailing [7] Other, please specify																		
18.	If yes, what was the nature of funding provided?	[1] Grants [2] Loans [3] Equity [4] Others, specify																		
19.	If yes, why did your institution provide funding?	[1] Fits into companies strategic goals [2] Corporate social responsibility [3] Purely business [4] Other, please specify																		
20.	If yes, can you please indicate the amount of funds your institution has committed to the cook stove sector?	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Project</th> <th style="width: 33%;">Amount</th> <th style="width: 33%;">Year</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Project	Amount	Year															
Project	Amount	Year																		
21.	Will your institution finance / continue to finance the above areas in the future?	[1]Yes [2] No [3] I don't know																		
22.	If no, why?	[1]We have tried but did not succeed [2] We are changing our focus [3] Other, please specify																		
23.	Among the following themes, can you indicate the major priorities for your institution for potential financing? You can choose up to two answers.	[1] Improved firewood stoves dissemination [2]Improved charcoal production [3]Improved charcoal stove dissemination [4] Promotion of LPG [5]Promotion of Biogas as cooking fuel [6]Briquettes production and dissemination [7] Others, please specify																		
24.	Through which medium do your customers in the cookstove sector reach you?	[1] Radio [2] Word of mouth [3] TV [4] Mobile marketing [5]Print media [6]Internet [7] Communityfm[8] Other, please specify																		

Mapping of stakeholders in the cookstove sector of Ghana

Institutional framework		
25.	In your opinion, what major activity should be done to improve development of the cookstove sector?	[1] Financing of businesses in the sector (loans, grants) [2] Tax removal on materials imported [3] Stove labelling and standardisation [4] Subsidisation of local materials [5] Providing tax holidays [6] Awareness creation [7] Implement Public - private partnership [8] Build capacity of local stakeholders [9] Subsidise stoves for the poor [10] Leave cookstove sector in the hands of the private sector [11] Others, please specify
28.	Which of the following capacity building activities do you think are priorities to your outfit?	[1] Technical/Vocational Training [2] Provision of equipment [3] Continuing education [4] E-learning through ICT [5] Development of e-commerce [6] Seminars and workshops [7] Other, please specify
29.	Have you heard of GHACCO	[1] Yes [2] No
30.	Do you know what they do	[1] Yes [2] No
31.	Would you want to be a member?	[1] Yes [2] No
Final Comments: Challenges , expectations and Opportunities		
32.	What are some of the challenges you face in providing services to consumers in the cook stove sector? (in order of priority)	[1] [2] [3] [4] [5]
33.	What are your expectations for the future in the cook stove sector?	[1] [2] [3] [4] [5]
34.	What opportunities have you identified within the clean cookstovesector?	[1] [2] [3] [4] [5]

C4 – Raw Material Suppliers

Nationwide Mapping of Actors in the Cook Stove Sector

Mapping of stakeholders in the cookstove sector of Ghana

Netherlands Development Organisation / Energy Commission

Questionnaire for RAW MATERIAL SUPPLIERS

Consultant: CEESD

Interviewer profile

Name	
E-Mail:	
Phone number:	
Date of interview	
Duration of interview	

General Information / Profile of Organisation		
1	Name of Organisation	
2	Region/District/Town	
3	Company Postal address (if any)	
4	Company telephone number(s)	
5.	Company Email address (if any)	
6.	Company website address (if any)	www.
7.	Physical address of business	
8.	GPS coordinates of location of business	
9.	Name of respondent	
10.	Position of respondent in the company	
Business information		
11.	What is the nature of your organisation?	[1] Sole proprietorship [2] LLC [3] Not-for-profit [4]PPP [5] Partnership [5] Other, please specify:
12.	Is your organisation registered?	[1] Yes [2] No (if no, skip to Q15)
13.	If yes, which body is your organisation registered with?	[1] Registrar General [2] COTVET [3] district assembly [4] GHACCO [5] others, please specify
14.	If yes, when was it registered?	
15.	If no, can you tell us why your organisation is not registered?	[1] I don't know how to register my business [2] Registration is too difficult and cumbersome [3] I don't have money for registration [4] Business is going on well without registration [5] Other, please specify
16.	How many years have you been in business?	

Mapping of stakeholders in the cookstove sector of Ghana

Production information				
17.	Type of raw materials supplied	[1]Raw Clay [2] clay mould (liner) [3] cast iron [4] aluminium [5] mild steel [6] paint [7] iron rods [9] scrap metals [10] tyre rims [11] saw dust [12] charcoal [13] cement [14] bricks [15] laterite [16] sand [17] quarry dust [18] Other, please specify:		
18.	How many workers do you have?	Male:	Female:	
19.	How much raw material do you supply per year	Year	Material	Quantity supplied
		2011		
		2012		
		2013		
Financing of business				
20.	How do you finance your operations?	[1] self [2] bank loan [3] grant [4] partnership [5]carbon financing [6] equity [7] others, please specify		
21.	If carbon financed, what is the nature of the programme?	[1]Voluntary market [2] CDM		
22.	If loan [2], which bank granted you the loan?	[1] friends / family [2] bank [3] money lender [4] venture capitalist [5] NGO [6] MFI [7] Other, please specify		
23.	If it is a grant [3], which organisation gave you the grant?	[1] friends / family [2] bank [3] money lender [4] venture capitalist [5] NGO [6] MFI [7] Other, please specify		
24.	If partnership [4], what is its nature?	[1] local [2] foreign Name of partner / organisation:		
25.	How many products do you sell in a day?			
26.	What is the nature of your profit at the end of the year?	[1] make loss [2] break-even [3] make profit		
27.	Can you please estimate how much money (GHC) you have invested into the cookstove business?	[1] 1-5000 [2] 5001 – 10000 [3] 10001 – 20000 [4] 20001 – 30000 [5] 30001 – 50000 [6] Above 50000 [7] Other, please specify		
Distribution channels and Marketing strategy				
28.	What is your target market?			

Mapping of stakeholders in the cookstove sector of Ghana

29.	How do you reach your target market?	[1] Radio [2] Word of mouth [3] Mobile marketing [4] TV [5] Print media [6] Internet [7] Community fm [8] other, specify			
30.	How do you distribute your product?	[1] Distributors [2] Retailers [3] Both [4] Self [5] Other, specify			
31.	If self, how do you sell your product?	[1] In a shop/factory [2] Produce base on order [3] others, specify			
32.	What is the mode of payment by customers?	[1] Cash [2] Credit [3] both [4] others			
33.	If on credit basis do you work in collaboration with any financial institution to recover your money?	[1] Yes [2] No			
34.	If no, why?				
35.	If on credit, how long does it take to recover your money?	[1] 1-3 months [2] 4-6 months [3] 6-12 months [4] other:			
36.	What are the main barriers affecting the business in order of importance (1=highest on the list)	Item	Rank		
			1	2	3
		Access to finance			
		Awareness			
		Marketing			
		Government policy			
	Other, please specify				
Institutional framework					
37.	Do you think regulations / policies in place in Ghana allow for fast development of the cookstove sector?	[1] Yes [2] No [3] I do not know [4] I do not know of any regulations in place			
38.	In your opinion, what major activity should be done to improve development of the cookstove sector?	[1] Financing of businesses in the sector (loans, grants) [2] Tax removal on materials imported [3] Stove labelling and standardisation [4] Subsidisation of local materials [5] Providing tax holidays [6] Awareness creation [7] Public – private partnership [8] Others, please specify			
40.	Have you heard of GHACCO	[1] Yes 2. No			
41.	Do you know what they do	[1] Yes [2] No			
42.	Are you a member?	[1] Yes [2] No			
43.	Would you like to be a member?	[1] Yes [2] No			
Challenges, Expectations and Opportunities					
44.	What are some of the challenges you face in your business (in order of	[1] [2] [3]			

Mapping of stakeholders in the cookstove sector of Ghana

	priority)?	[4] [5]
45.	What are your expectations (in order of priority)?	[1] [2] [3] [4] [5]
46.	Can you share some opportunities you have identified during your operations (in order of priority)?	[1] [2] [3] [4] [5]

C5 – Distributors and Retailers of stoves

Interviewer profile

Name	
E-Mail:	
Phone number:	
Date of interview	
Duration of interview	
Questionnaire no.	#NMACSS

General Information / Profile of Organisation		
1.	Name of Organisation	
2.	Region/District/Townrdt	
3.	Postal address (if any)	
4.	Company telephone number(s)	
5.	Company email address	
6.	Company website address (if any)	www.
7.	Physical address of business	
8.	GPS coordinates of location of business	
9.	Name of respondent	
10	Position of respondent in the company prc	
	Gender of business ownergenderofbiz	[1] Male [2] Female
Business information		
11	What is the nature of your business?Resptype / nato	A [1] Distributor [2] Retailer [3] Both B [1] Sole proprietorship [2] Partnership

Mapping of stakeholders in the cookstove sector of Ghana

		[3] Franchise [4] NGO [5] Other, please specify:
12	Is your business registered?reg	[1] Yes [2] No (if no, skip to Q15)
13	If yes, which body is your organisation registered with? regbody	[1] Registrar General [2] COTVET [3] District Assembly [4] GHACCO [5] Other, please specify
14	If yes, when was it registered? yrreg	
15	If no, can you tell us why your business is not registered?noreg	[1] I don't know how to register my business [2] Registration is too difficult and cumbersome [3] I don't have money for registration [4] Registration is unnecessary [5] Other, please specify
16	How many years have you been in business?yrbiz	
	What is the nature of stoves you sell? natofstove	[1] Domestic [2] Institutional [3] Both [4] Other, please specify
17	What are the types and brand names of the stoves you sell?	
	Type of stove (stovetype)	Brand name(s)
	[1] LPG stoves [2] Improved charcoal stoves [3] Improved firewood stoves [4] Biogas stoves [5] Traditional charcoal stoves [6] Ethanol stove [7] Kerosene stoves [8] Electric stoves [9] Other, please specify	
Product quality		
18	Do you have warranty on your stove(s)? (warranty)	[1] Yes [2] No (if no, skip to Q22)
19	If yes, what is the warranty period on your stoves?warrantytime	
	Brand name	Warranty period
	1.	
	2.	

Mapping of stakeholders in the cookstove sector of Ghana

3.					
4.					
5.					
6.					
20	What is the nature of warranty? (nwarranty)	[1] Money back [2]Replacement [3]Repair [4]Other, please specify			
21	If yes, do customers take advantage of the warranty?customeradvantage	[1] Yes [2] No			
22	If no why?ncustomeradvantage				
23	What is the estimated lifespan of your products? (lifespanpee)	[1] 1 -2 yrs [2] 3 – 5 yrs [3] 6 – 10yrs [4] Other, please specify			
Sales information					
24	Stove and supplier information				
	Name of supplier	Stove type /Brand supplied	Location of supplier (region / country) Stoveupplierorigin/ localregion	Mode of supply rawmodeofstove	
1.					
2.					
3.					
4.					
5.					
6.					
7.					
25	How is the stove delivered to your outfit? (stovedelivery)	[1] By supplier [2] Self [3] Agent [4] Other, please specify			
26	How do you pay for the product? (paymentproduct)	[1] Cash [2] Credit/hire purchase [3] other, please specify			
27	Can you please indicate your sales volume for the following years below				
	Year	Stove type / brand	Number of units sold		
			per Day	per Month	per Year
	2011				
	2012				
	2013				

Mapping of stakeholders in the cookstove sector of Ghana

28	What is the selling price per unit?	
	Stove type / brand	Selling price - GHC (2012) / profit per stove Selling price - GHC (2013) / profit per stove
1.		
2.		
3.		
4.		
5.		
29	What is your average profit per year? (avgprofit)	[1] No profit [2] Break-even [3] Profit (amount):GHC (profitant)
30	How is the final price of stove determined?finalpricedee	[1]My own margins [2] Fixed by supplier [3] Other, please specify
31	Do you know about carbon financing / CDM? (knowcdm)	[1] Yes [2] No
Financing of business operations		
32	How do you finance your operations? financeofops	[1] Self [2] Loan [3] Grant [4] Partnership [5]Carbon Financing [6] Others, please specify
33	What is the average amount invested per year (in GHC)? (amtinvested)	[1] 1 – 5000 [2] 5001 – 10000 [3] 10001 – 20000 [4] 20001 – 30000 [5] 30001 – 50000 [6] Above 50000
34	If loan [2], which organisation granted you the loan?loan	[1] Friends / Family [2] Bank [3] NGO [4] Money Lender [5] Venture Capitalist [6] MFI [7] Other, please specify
35	If it is a grant [3], which organisation gave you the grant? grant	[1] Friends / Family [2] Bank [3] NGO [4] Money Lender [5] Venture Capitalist [6] MFI [7] Other, please specify
36	If partnership [4], what is its nature? natofpartner	[1] Local [2] Foreign Name of partner / organisation:
37	If [5], what is the nature of carbon	[1]Voluntary market [2] CDM

Mapping of stakeholders in the cookstove sector of Ghana

.	financing?				
38	Do you know about carbon financing / CDM?	[1] Yes [2] No (yes for respondent who is carbon financed)			
Distribution channels and Marketing strategy					
39	How do you get to your target market?mktreach	[1] Radio Advertisement [2] Word of mouth [3] Mobile marketing [4] handbills [5] TV[6] print media [7] online [8] Other, please specify			
40	How do you sell your stove?sellstove	[1] In a shop [2] Door to door [3] In a van/vehicle [4] Other, please specify			
41	What is the mode of payment by customers? Paymentproduct2	[1] Cash [2]Credit [3] Both [4] Other, please specify			
42	If on credit basis do you work in collaboration with any financial institution to recover your money?	[1] Yes [2] No creditcollabo			
43	If no, why?				
44	If on credit, how long does it take to recover your money?credittime	[1] 1-3 mths [2] 4-6 mths [3] 6-12 mths [4] Other, please specify			
45	What are the main barriers affecting your business in order of importance (1=highest on the list) challtype	Item	Rank		
			1	2	3
		Access to finance			
		Awareness			
		Marketing			
	Government policy				
	Other, please specify				
Institutional framework					
46	In your opinion, what <u>major</u> activity should be done to improve development of the cookstove sector? (Select only one)improvactivities	[1] Financing of businesses in the sector (loans, grants) [2] Tax removal on materials imported [3] Stove labelling and standardisation [4]Subsidisation of local materials [5] Providing tax holidays [6] Awareness creation [7] Implement Public - private partnership [8] Build capacity of local stakeholders [9] Subsidise stoves for the poor [10] Leave cookstove sector in the hands of the private sector [11] Others, please specify			

Mapping of stakeholders in the cookstove sector of Ghana

47	Are there any specific technical needs your company requires?capabuildingactivities	[1] Book keeping [2] Financial management [3] E-commerce [4] other, please specify
48	Have you heard of GHACCO?hghacco	[1] Yes [2]No
49	Do you know what they do? knowghacco	[1]Yes [2]No
50	Would you like to be a member?mghacco	[1]Yes [2]No
Final Comments / Challenges, Expectations and Opportunities		
51	What are some of the challenges you face in your business (in order of priority)	
52	What are your expectations in the cookstove sector?	
53	What are the opportunities you have identified in the cookstove sector?	

C6 – Training and Research Institutions

Interviewer profile

Name	
E-Mail:	
Phone number:	
Date of interview	
Duration of interview	

General Information / Profile of Organisation	
1.Name of Organisation	
2. Region /District/ Town	
3. Postal address (if any)	

Mapping of stakeholders in the cookstove sector of Ghana

4. Company telephone number(s)		
5. Company email address (if any)		
6. Company website address (if any)		www.
7. Physical address of business		
8. GPS coordinates of location of business		
9. Name of respondent		
10. Position of respondent in company		
Business Information		
11. What is the nature of your organisation?		<p>A [1] Private [2] Government</p> <p>B[1] Sole proprietorship [2] Partnership [3] Franchise</p> <p>C [1] NGO [2] Educational Institution [3] Purely research institution [4] Other, please specify:</p>
12. Is your organisation registered?		[1] Yes [2] No (if no, skip to Q15)
13. If yes, which body is your organisation registered with?		[1] Registrar General [2] COTVET [3] District Assembly [4] GHACCO [5] Other, please specify
14. If yes, when was it registered?		
15. If no, can you tell us why your organisation is not registered?		[1] I don't know how to register my business [2] Registration is too difficult and cumbersome [3] I don't have money for registration [4] Registration is unnecessary [5] Other, please specify
16. How many years have you been in business?		
17. What is the nature of your activity / activities?		[1] Trainer [2] Researcher [3] Advocate / advocacy group
18. Number of workers	Male	Total

Mapping of stakeholders in the cookstove sector of Ghana

	Female	
FOR TRAINING INSTITUTIONS		
19. Area of specialization	<ul style="list-style-type: none"> • Indoor air pollution and maternal health • Protection of forest resources • Air pollution and climate change • Fuel consumption and household income management • Sustainable fuel production <ul style="list-style-type: none"> [1] Charcoal [2] Biogas [3] Gel ethanol [4] Briquettes (state raw material): [5] Other, please specify • Stove design and manufacture <ul style="list-style-type: none"> [1] Conventional coal pots [2] Improved charcoal cook stove [3] Improved firewood cook stove [4] LPG stoves [5] Biogas stoves [6] Gel ethanol stoves [7] Other, please specify: • Scale <ul style="list-style-type: none"> [1] Household [2] Institutional/commercial [3] Other, please specify • CDM and Carbon Finance <ul style="list-style-type: none"> [1] Project development [2] Project monitoring [3] Awareness creation • Other, please specify 	
20. Focus of activity	[1] Rural [2] Urban [3] Peri-urban [4] Other, please specify	
21. Region(s) of operation	[1] Ashanti [2] BrongAhafo	[6] Northern [7] Upper East

Mapping of stakeholders in the cookstove sector of Ghana

	[3] Eastern [4] Central [5] Greater Accra	[8] Upper West [9] Volta [10] Western	
22. Who are the target institutions/individuals?	[1] Educational institutions [2] Women's Groups / Associations – SMEs [3] General groups / associations – SMEs [4] Other, please specify		
23. How do you finance your training programmes?	[1] Grants [2] Commercial activities [3] Internally generated funds [4] Payment by interested parties [4] Other, please specify		
24. information on last 5 enterprises/people that received training			
Name of project / year of training	Name of persons / group	No. of trainees	Avg. cost per trainee (GHC)
1.			
2.			
3.			
4.			
5.			
25. Training challenges faced by your organization (in order of priority)	[1] [2] [3] [4] [5] [6]		
26. Have you accessed any funding from the COTVET/SDF programmes?	[1] Yes [2] No		
27. If yes, could you please elaborate?			
28. Do you have any collaboration / agreement with another institution/ other institutions?	[1] Yes [2] No		

Mapping of stakeholders in the cookstove sector of Ghana

29. If yes, what is the nature of the collaboration?	[1] short term [2] medium term [3] long term
30. If yes, could you provide their names?	[1] [2] [3] [4] [5] [6]
31. What was your income from sale of services and training courses last year? (continue with questions from "A" on page 7)	[1] no income [2] 1-5000 [3] 5001-10000 [4] Other, please specify
FOR RESEARCH INSTITUTIONS	
19. Area of specialization	<ul style="list-style-type: none"> • Indoor air pollution and maternal health • Protection of forest resources • Air pollution and climate change • Fuel consumption and household income management • Sustainable fuel production <ul style="list-style-type: none"> [1] Charcoal [2] Biogas [3] Gel ethanol [4] Briquettes (state raw material): [5] Other, please specify • Stove design and manufacture <ul style="list-style-type: none"> [1] Conventional coal pots [2] Improved charcoal cook stove [3] Improved firewood cook stove [4] LPG stoves [5] Biogas stoves [6] Gel ethanol stoves [7] Other, please specify: • Scale <ul style="list-style-type: none"> [1] Household [2] Institutional/commercial

Mapping of stakeholders in the cookstove sector of Ghana

	<p>[3] Other, please specify</p> <ul style="list-style-type: none"> • CDM and Carbon Finance <p>[1] Project development [2] Project monitoring [3] Awareness creation [4] Other, please specify</p> <ul style="list-style-type: none"> • Other, please specify 										
20. Focus of activity	[1] Rural [2] Urban [3] Peri-urban [4] Other, please specify										
21. Region(s) of operation	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">[1] Ashanti</td> <td style="width: 50%;">[6] Northern</td> </tr> <tr> <td>[2] BrongAhafo</td> <td>[7] Upper East</td> </tr> <tr> <td>[3] Eastern</td> <td>[8] Upper West</td> </tr> <tr> <td>[4] Central</td> <td>[9] Volta</td> </tr> <tr> <td>[5] Greater Accra</td> <td>[10] Western</td> </tr> </table>	[1] Ashanti	[6] Northern	[2] BrongAhafo	[7] Upper East	[3] Eastern	[8] Upper West	[4] Central	[9] Volta	[5] Greater Accra	[10] Western
[1] Ashanti	[6] Northern										
[2] BrongAhafo	[7] Upper East										
[3] Eastern	[8] Upper West										
[4] Central	[9] Volta										
[5] Greater Accra	[10] Western										
22. Number of products developed in 2012 and 2013											
23. Details of products developed											
24. Do you have any patented product?	[1] Yes [2] No (if no, skip to Q25)										
If yes, provide details											
25. Do you have any collaboration / agreement with other institutions?	[1] Yes [2] No										
26. If yes, what is the nature of the collaboration / agreement?	[1] Short term [2] Medium Term [3] Long Term [4] Other, please specify:										
27. If yes, could you provide their names?	[1] [2] [3] [4] [5] [6]										
28. Names of last 5 enterprises/people that received research data/technical support and year received	[1] [2] [3] [4] [5]										

Mapping of stakeholders in the cookstove sector of Ghana

29. How is research financed?	[1] Grants [2] Commercial activities [3] Internally generated funds [4] Payment by interested parties [4] Other, please specify
30. What are the research challenges faced by organization (in order of priority)	[1] [2] [3] [4] [5]
31. What was your income from sale of services and research outputs last year? (continue with questions from "A" on page 7)	[1] no income [2] 1-5000 [3]5001-10000 [4] Other, please specify
ADVOCACY INSTITUTIONS	
19. Area of focus/specialization	<ul style="list-style-type: none"> ○ Indoor air pollution and maternal health ○ Protection of forest resources ○ Air pollution and climate change ○ Fuel consumption and household income management ○ Sustainable fuel production [1] Charcoal [2] Biogas [3] Gel ethanol [4] Briquettes (state raw material): [5] Other, please specify ○ Stove design and manufacture [1] Conventional coal pots [2] Improved charcoal cook stove [3] Improved firewood cook stove [4] LPG stoves [5] Biogas stoves [6] Gel ethanol stoves [7] Other, please specify: ○ Scale [1] Household [2]

Mapping of stakeholders in the cookstove sector of Ghana

	<p>Institutional/commercial [3] Other, please specify</p> <ul style="list-style-type: none"> ○ CDM and Carbon Finance <p>[1] Project development [2] Project monitoring [3] Awareness creation</p> <ul style="list-style-type: none"> • Other, please specify 										
20. Focus of activities	[1] Rural [2] Urban [3] Peri-urban [4] Other, please specify										
21. Region(s) of operation	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">[1] Ashanti</td> <td style="width: 50%;">[6] Northern</td> </tr> <tr> <td>[2] Brong Ahafo</td> <td>[7] Upper East</td> </tr> <tr> <td>[3] Eastern</td> <td>[8] Upper West</td> </tr> <tr> <td>[4] Central</td> <td>[9] Volta</td> </tr> <tr> <td>[5] Greater Accra</td> <td>[10] Western</td> </tr> </table>	[1] Ashanti	[6] Northern	[2] Brong Ahafo	[7] Upper East	[3] Eastern	[8] Upper West	[4] Central	[9] Volta	[5] Greater Accra	[10] Western
[1] Ashanti	[6] Northern										
[2] Brong Ahafo	[7] Upper East										
[3] Eastern	[8] Upper West										
[4] Central	[9] Volta										
[5] Greater Accra	[10] Western										
22. Do you have any collaboration / agreement with other institutions?	[1] Yes [2] No										
23. If yes, what is the nature of the collaboration / agreement?	[1] Short term [2] Medium Term [3] Long Term [4] Other, please specify:										
24. If yes, could you provide their names?	[1] [2] [3] [4] [5]										
25. Names of last 5 enterprises/people that received research/technical support from your outfit last and year of programmes	[1] [2] [3] [4] [5] [6]										
26. How are your activities financed?	[1] Grants [2] Commercial activities [3] Internally generated funds [4] Payment by interested parties [4] Other, please specify										
27. What are the Advocacy Challenges faced by organization (in order of priority)?	[1] [2]										

Mapping of stakeholders in the cookstove sector of Ghana

	[3] [4] [5] [6]
28. Who are the target institutions/individuals of or for your advocacy activities? (continue with "A" below)	[1] Educational institutions [2] Women's Groups / Associations – SMEs [3] General groups / associations – SMEs [4] Other, please specify
(A) Institutional And Regulatory Framework	
General questions for respondent	
1. In your opinion, what major activity should be done to improve development of the cookstove sector?	[1] Financing of businesses in the sector (loans, grants) [2] Tax removal on materials imported [3] Stove labelling and standardisation [4] Subsidisation of local materials [5] Providing tax holidays [6] Awareness creation [7] Implement good public – private partnership [8] Building capacity of stakeholders in sector [9] Subsidising cost of stoves for the poor [10] Leave cookstove sector in the hands of the private sector [11] Others, please specify
2. Among the following capacity building activities which ones do you think are priorities to your outfit?	[1] Technical/Vocational Training [2] Workshops and seminars [3] Continuing education [4] E-learning through ICT [5] Other, please specify
6. Have you heard of GHACCO?	[1] Yes [2] No
7. Do you know what they do	[1] Yes [2] No
8. Would you like to be a member?	[1] Yes [2] No
Final comments / Expectation and Opportunities	
What are your expectations in the cookstove sector?	

Mapping of stakeholders in the cookstove sector of Ghana

What the opportunities your outfit has identified in the cookstove sector?	