

## Market Assessment Context

This document summarizes the Bangladeshi Cookstove and Fuels Market Assessment conducted by Accenture Development Partnerships (ADP) on behalf of the Global Alliance for Clean Cookstoves. Sixteen assessments were conducted across the world as part of a broader effort by the Alliance to enhance sector market intelligence and knowledge. They are intended to provide a high level snapshot of the sector (based on mid 2012). Further detail on these assessments can be found at the end of this document.

This Market Assessment is unique amongst others completed by the Alliance in that it was developed working in close collaboration with USAID, an Alliance founding partner. USAID completed a detailed Bangladesh Cookstoves Market Assessment in January 2012, so to avoid duplicating work the two organizations agreed to integrate their market assessments and ensure they emphasized different areas of interest. This executive summary contains a holistic set of hypotheses and recommendations based on both assessments. The analysis behind these can be found in the USAID and Alliance Market Assessments.

## The Bangladesh Cookstove Market

The Bangladesh cookstove market had its beginnings in the 1970s, through the research of the Bangladesh Council of Scientific and Industrial Research (BCSIR). This government organization started to develop biogas and improved cooking stove (ICS) designs to protect the environment from the threat of deforestation. Over time, the focus moved from environment to health as organizations looked to protect communities from Indoor Air Pollution (IAP). This saw the first broad dissemination of the Chulha stove model by BCSIR and the Local Government Engineering Department (LGED). These Chulha stove designs provided the blueprint for almost all biomass ICS models in the decades to follow. In recent times, the government has taken a step back as larger NGOs have pushed the sector forward. The larger players in the sector such as GIZ, Grameen Shakti and VERC are all promoting designs that have evolved from the original BCSIR designs. So far, international producers have not yet entered the market but carbon developers have helped the larger NGOs access carbon finance.

Looking at the sector from a national perspective, an estimated 30 million households are exposed to IAP due to the dominance of biomass throughout the country<sup>i</sup>. This exposure is reported to cause 46,000 deaths and 1,316,400 DALYs each year<sup>ii</sup>. The rapidly expanding population and heavy reliance on biomass has put pressure on Bangladesh's limited forest resources, with 50% of the forest cover lost since 1970<sup>iii</sup>. However, recent efforts by the government and its international partners have helped to reverse this decrease but concerns remain over localized effects in certain parts of the country.

Fuelwood is becoming increasingly scarce and more expensive, which has pushed many consumers towards other, free forms of biomass such as crop residues, rice husk briquettes and cow dung. For the estimated 67% of rural segments that do buy fuel<sup>iv</sup>, the payback period for ICS can be as little as 3-4 months<sup>v</sup>. Looking at other fuels, natural gas and LPG have presence in urban areas but the unreliability of supply (for the former) and high costs (for the latter) make these an unfavorable option for many. All of these factors suggest that biomass will continue to be the dominant fuel in both urban and rural settings for many years to come.

Against this background, all stove programs in Bangladesh appear to disseminate biomass designs. Whilst the stove markets in many other countries focus heavily on urban areas to the detriment of rural communities, Bangladesh has a much more balanced sector. The vast reach of NGOs and high population density make rural communities far more accessible than is normally the case. Many development programs, stoves included, have capitalized on this unprecedented reach to drive behavioral change, promote innovative renewable energy products and achieve impressive results. Two recent examples include the 'Total Sanitation Campaign' and Solar Home Systems (SHS) program. Both of these programs are held up as examples of what coordinated market based approaches can achieve in Bangladesh when given the right enabling environment around policy, funding and access to finance.

The main conclusions of the Market Assessment are shown in the table below:

	Situation	Hypothesis
<i>Market Intelligence</i>	Some market knowledge exists but it is limited to only a few districts and is now somewhat dated. There is little robust research into the precise market demand, effectiveness of social marketing or the different needs & behaviors for various consumer segments.	Developing a stronger understanding of the consumer base will allow stove programs to tailor their sales, marketing and distribution to target specific segments. Such research could also help identify whether there are opportunities for the introduction of alternative stove designs.
<i>Consumer Education</i>	Although research is limited, anecdotal evidence suggests that consumer awareness and general marketing is one of the largest challenges facing stove programs and businesses. This is often a resource intensive exercise despite the strong economic case around the use of ICS.	A broader, coordinated consumer awareness campaign could help stimulate demand and support the growth of stove programs and businesses. Greater measurement of social marketing effectiveness and sharing of best practice would improve return on investment across the sector.
<i>Technical Standards, Testing and Certification</i>	There are currently no stove or fuel standards in place. BCSIR has basic testing capabilities but no mandate to monitor the sector. Other testing capabilities exist within various NGOs but a reliable technical baseline of the sector does not appear to exist.	Supporting the capacity building of (a) local testing center(s) and providing a mandate to monitor the sector will create greater transparency around the performance and durability of stoves in the market. Improving access to stove testing will allow organizations to improve their products on the basis of robust, scientific data.
<i>Product Development</i>	The Chulha model is the dominant improved stove in the market. Data on stove performance is inconsistent while questions remain around the quality and durability of certain models. Portable or imported stoves are	Developing the Chulha model to improve efficiency and durability will help drive up quality across a vast swathe of the market. Opening up the market to different stove designs should help stimulate competition and provide the consumer with greater

	practically non-existent.	choice.
<i>Policy &amp; Regulation</i>	The Government has developed a Renewable Energy Policy that looks to promote greater use of energy efficient technologies. The implementing body for this policy, SEDA, is not expected to be mobilized for another 12 – 18months.	Working with the government to designate one central body for ICS market development will provide focus for the sector and create a conduit to channel resources and coordinate activities. Working to place ICS high up on SEDA's agenda will ensure greater support across all levels of government for consumer awareness raising and promoting ICS adoption.
<i>Business Development Support</i>	Many stove organizations lack the expertise to stimulate consumer demand and expand their businesses effectively. M&E is a particular burden that has the potential to slow down the growth of larger programs.	Capacity building the sector at both large scale NGO and small scale producer will create a strong supportive environment for producers whilst also providing hands on, low cost support services.
<i>Access to Finance</i>	Access to reliable and affordable sources of finance appears one of the largest challenges for stove producers in Bangladesh. In particular, small manufacturers suffer more than most due to working capital requirements and the marketing investments necessary to stimulate consumer demand.	Providing small stove businesses with a reliable, low cost source of finance will allow these companies to invest with confidence in growing the market. Setting up a large scale financial body will help to channel greater resources into the sector and support market development similar to the SHS sector.

### **Summary of Illustrative Priority Intervention Options**

The Bangladesh cookstove sector shows great promise as evidenced by the rapidly expanding sales from both the GIZ and Grameen Shakti programs. However, these programs and others could achieve far more if a more coordinated approach was taken to stimulating consumer demand, supporting SME & large NGO development whilst also enhancing access to finance for stove producers. The sanitation and solar home programs show the potential results that can be achieved when the right conditions are fostered in Bangladesh. Based on this, the recommended intervention options can be summarized as:

- Work with the government to ensure that the dissemination of cookstoves features high on SEDA's agenda. Expand the range of government bodies actively promoting ICS to important ministries such as Local Government and Women and Children Affairs.
- Commission detailed consumer research to size the potential market and identify the characteristics of different consumer segments in the country. Share this research and use it as the basis to pilot new social marketing messages and assess their effectiveness in driving

further adoption of ICS. This research could also be used to identify potential opportunities for introducing further ICS models to the market.

- Work with the sector and/or government to identify or form a central body to develop stove standards and monitor performance. Support the capacity building of this organization so that it has the testing capabilities to holistically test stoves.
- Partner producers with research bodies and international technical experts to investigate the durability and performance questions raised around certain Chulha stoves. Work with producers to improve designs and test acceptance amongst consumers.
- Identify a central body that could catalyze the development of the ICS market by providing improved access to funding. Provide specific small scale commercial loans to stove producers to help them invest in marketing and manage working capital requirements.
- Once the market foundations are in place, build a broader coalition for cookstoves that works cross sector by including various NGOs, community organizations and all levels of government. Develop a national campaign and vision around cookstove adoption that can help provide focus to the sector and raise consumer awareness across the country.

### **Market Assessment Approach**

- This is one of sixteen such assessments completed by the Alliance to:
  - Enhance sector market intelligence and knowledge; and
  - Contribute to a process leading to the Alliance deciding which regions/countries it will prioritize.
- Full slate of market assessments include studies in: Bangladesh, Brazil, Colombia, East Timor, Ethiopia, Ghana, Indonesia, Kenya, Mexico, Nigeria, Peru, Rwanda, South Africa, Tanzania, Uganda and Vietnam.
- Each assessment has two parts:
  - Sector Mapping – an objective mapping of the sector; and
  - Intervention Options – suggestions for removing the many barriers that currently prevent the creation of a thriving market for clean cooking solutions.
- In each Alliance study a combination of ADP and local consultants spent 4-6 weeks in country conducting a combination of primary (in-depth interviews) and secondary research. They used the same Market Assessment ‘Toolkit’ for each country so that comparisons can be made. The Toolkit is available free of charge to all organizations wishing to use it in other countries.

### **Acknowledgements**

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## References

- <sup>i</sup> Sector Mapping Analysis, Market Assessment, 2012
- <sup>ii</sup> WHO Indoor Air Pollution, National Burden of Disease Estimates, 2007
- <sup>iii</sup> Government of Bangladesh, Forest Department 2005
- <sup>iv</sup> BRAC, Promotion of Improved Cookstove in Rural Bangladesh, 2011
- <sup>v</sup> Sector Mapping Analysis, Market Assessment, 2012