

Market Research in the Clean Cooking Sector:

TOOLS & TIPS



ABOUT THIS GUIDE:

This guide is an initiative of the Global Alliance for Clean Cookstoves, a public-private partnership with a mission to save lives, improve livelihoods, empower women, and protect the environment by creating a thriving global market for clean and efficient household cooking solutions. The Alliance is committed to providing resources that advance the work of its partners and created this guide as part of a series of toolkits, guides and other resources aimed at capturing the learnings of the Alliance and its partners and making them available as a resource for the clean cooking sector.

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“[A] holistic approach to design takes inspiration from real people, works within market and technological constraints, and considers every product touch-point as an opportunity to surprise, delight and deliver benefits to users.”

—
FORMER PRODUCT DESIGNER AT IDEO

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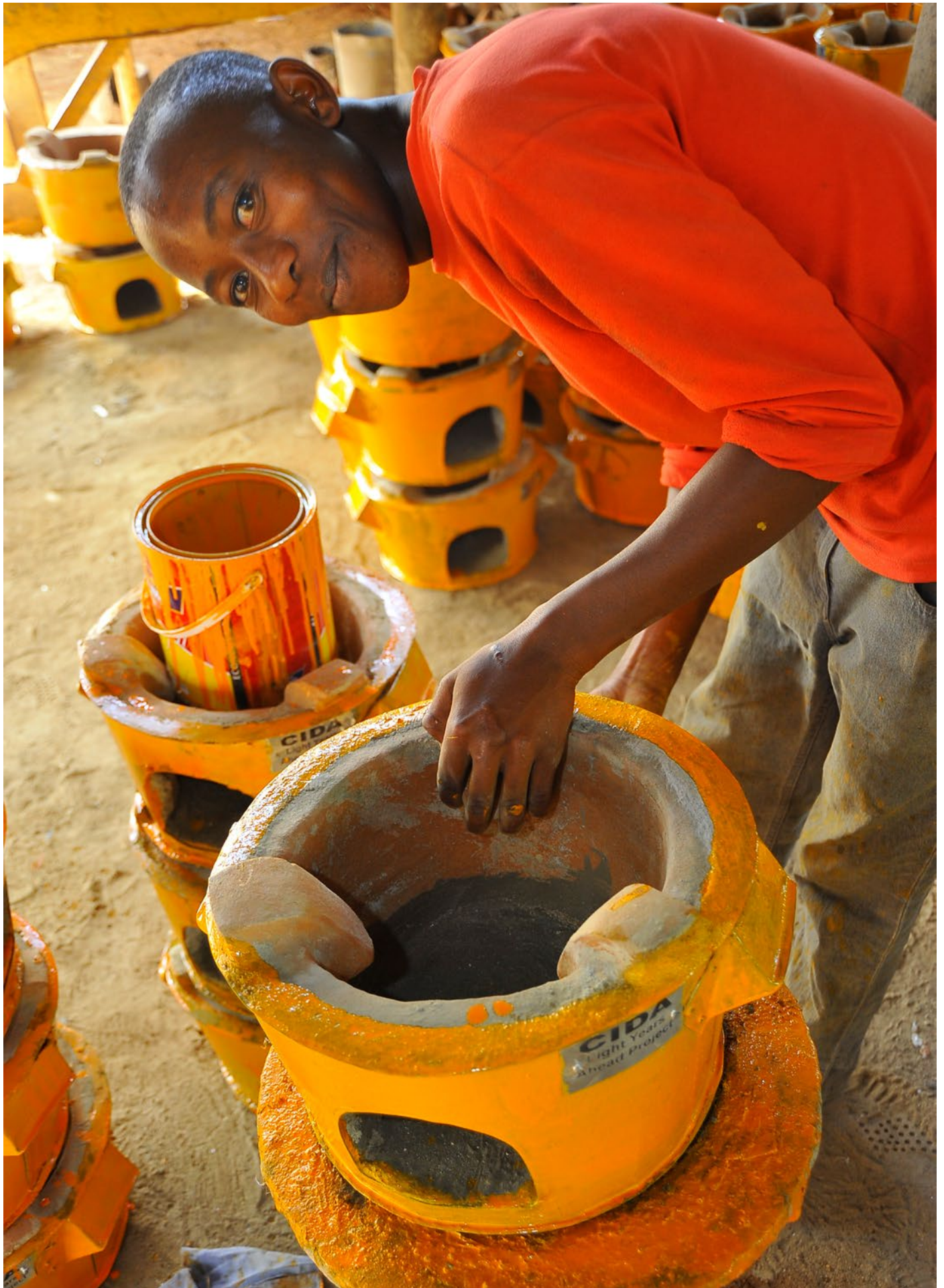
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The Case for Market Research in the Clean Cooking Sector

For many years, a common response to the negative health, environmental, and socio-economic impacts of cooking on traditional stoves with solid fuel was to focus on technological solutions: designing stoves to optimize combustion and efficiency.

User needs and preferences were often secondary considerations. Potential users of clean and efficient stoves were seen as beneficiaries instead of consumers, especially in cases where stoves were heavily subsidized or given away, rather than selected by consumers to suit their needs.

Many programs attempted to motivate purchase and use of clean and efficient stoves and fuels by “educating” the poor about the negative impacts of traditional stove use. They emphasized the benefits of new technologies that aligned with development community values, such as reduced health and environmental impacts. Yet the evidence rarely showed that these benefits aligned with consumer values and led to increased demand and sustained use of better technologies.

Understanding user needs and wants is now understood as critical to success in the clean cooking sector. It has become increasingly clear that the benefits of clean cooking cannot be realized unless consumers see technologies as desirable products that deliver an improved cooking experience and add value to their lives. In addition, there is increasing evidence that fully realizing the health benefits of clean cookstoves and fuels requires nearly complete displacement of traditional stoves by households. This evidence makes the development of products that fully meet consumer needs even more critical.

There is also increased acknowledgment that base of the pyramid (BoP) consumers do not represent a homogeneous market, but instead consist of distinct market segments with diverse needs and motivations. Market research can be used to identify and better understand these segments, uncovering insights from consumers that will lead to marketing strategies that better respond to their needs and preferences and are therefore more effective.

The sector report “Igniting Change,” as well as Country Action Plans developed for each of the Alliance’s focus countries¹, outlined research on consumer needs and preferences as key to enhancing demand for clean and efficient cookstoves and fuels. In response to these recommendations, the Alliance has commissioned market research studies that provide detailed consumer insights on cooking habits, purchasing trends, financing needs, fuel costs, cultural barriers and communication strategies. These studies serve as an open resource for partners in planning and enhancing their activities and for the Alliance in its own efforts to support demand generation in the sector. WASHplus, USAID’s global environmental health project, also collaborates closely with the Alliance and other partners on research and other activities to strengthen behavior change approaches that reach BoP consumers and others in the clean cooking value chain.

Market research can uncover insights from consumers that will lead to marketing strategies that better respond to their needs and preferences and are therefore more effective.

Final reports for market research studies commissioned by the Alliance in Ghana, Kenya, Bangladesh, Guatemala and India can be found on the Alliance website at cleancookstoves.org/marketresearch.

This guide serves as a tool for cookstove and fuel manufacturers, distributors, entrepreneurs, donors, NGOs and other organizations in designing and managing their own market research in the clean cooking sector.

Final reports for studies commissioned by the Alliance or conducted by WASHplus and other partners are available on the Alliance website and serve as a useful starting point for many partners. They cannot meet all market research needs, however, and are limited in geography and scope. The Alliance, committed to providing resources that advance the work of its partners, created this guide in collaboration with WASHplus. The guide serves as a tool for cookstove and fuel manufacturers, distributors, entrepreneurs, donors, NGOs and other organizations in designing and managing their own market research in the clean cooking sector.

HOW TO USE THIS GUIDE

This guide introduces the basic concepts and tools of market research and provides readers with best practices and tips in the design and management of market research in the clean cooking sector; its purpose is not to provide detailed instructions on executing market research. Many innovative methods being tested in the sector combine elements of the basic tools introduced in this guide with more complex techniques for eliciting information about consumers. The Alliance is working to collect information on these methods and techniques as they evolve and to make them available to partners through the Alliance website and future resources.

This guide is split into three parts:

PART 1 provides an overview of the market research process and introduces the “4Ps” of marketing (Product, Price, Placement, and Promotion) as a framework for informing market research questions.

PART 2 is organized around the 4Ps and provides an in-depth look at key market research topics and questions to be explored for cookstoves and fuels. It provides tips and examples of how different research tools can be used to gather this information.

PART 3 concludes with recommendations for sourcing and working with research partners and a brief note on ethics in market research.





Market Research Overview

*“I love it when
my family eats the
food I cooked”*

FOCUS GROUP: IMPROVED
COOKSTOVES
Accra, Ghana

MARKET RESEARCH PROCESS

Market Research is the process used to generate consumer insights that improve decision making:

Market research is “the systematic design, collection, analysis, and reporting of data and findings relevant to a specific marketing situation facing the organization.”²

Consumer insights are “a deep understanding of a consumer’s needs and behaviors – both known needs that the consumer can identify, and the latent needs that they cannot.”³

Companies working in developed markets spend billions each year on market research because they are convinced it is necessary and pays off. In developing market contexts, in particular among small and medium enterprises with limited funding, market research is often considered too time consuming and costly and is short-changed or not conducted at all.⁴ Yet, incorporating the consumer perspective into product design and marketing strategies is crucial to success in any market, including the BoP. In addition to increasing demand and product acceptance, market research can lead to longer-term efficiency by providing evidence up front to inform decisions about product design, pricing and messaging, instead of through a long trial-and-error process.

Market research can lead to longer-term efficiency by providing evidence up front to inform decisions, instead of through a long trial-and-error process.

If planned properly, even basic research on a limited budget can lead to rich insights that will greatly strengthen a cookstove and/or fuel enterprise’s marketing strategies or an NGO’s program design. Planning is key, however, and forgoing research that might be nice to have but does not aid decision-making will help organizations gather meaningful data in the most cost-effective way. Organizations should start by determining what information is needed to make decisions, verify that the information is not already available, confirm that it is worth the investment in research, and develop research objectives.

Many models exist for guiding market research planning, and a number of resources are available online. Most rely on the basic premise that planning should start with defining the purpose of the research, from which all other planning decisions should flow; this “backward research” approach holds that each stage of research should be designed based on what comes after it, not before.⁵

Once key research objectives and questions are defined, the next step is to compile existing secondary data that can support the objectives. A review of existing data ensures that resources are not wasted on duplicative studies and can be the basis for refining research questions and determining remaining research gaps and needs. Questions unanswered through secondary data will likely require primary research, the gathering of first-hand information directly from participants, which makes up the majority of market research.

FIGURE 1: SAMPLE MARKET RESEARCH PROCESS

PHASE:	STEP	GOALS	ACTIONS
DEFINE RESEARCH OBJECTIVES	1. Define the purpose of the research	Determine what decisions research will inform	Define the questions to be answered Confirm that the decisions are worth investment in research
	2. Establish the knowledge base	Collect existing facts and available data Learn what information is not already available	Compile and review existing data and research Identify gaps in data for decision-making to be filled by research
DEVELOP RESEARCH PLAN AND COLLECT DATA	3. Determine what data is needed and how it will be collected	Formulate research plan and use it as basis for hiring research help, if needed	Outline the data needed Create terms of reference and select partner (if applicable) Identify target respondents Select the research tool(s) Define sample size and location Develop the survey questionnaire, interview guide, or additional tools needed to collect data Outline data analysis plan Pretest tools and finalize
	4. Implement research plan	Collect the right data from the right people	Properly screen respondents and monitor data being collected Supervise field team Identify potential biases and field context to help with data interpretation
	5. Analyze results	Extract consumer insights	Compile findings and describe verbally and/or graphically Articulate what is learned Create a plan for incorporating new information into strategy
ACT ON FINDINGS	6. Act on findings	Increase sales and adoption	Apply insights to develop strategies that respond to consumer wants and needs
	7. Follow-up	Ensure continued monitoring and adjustment	Continue monitoring and evaluating and make adjustments as appropriate

Most primary market research methods stem from a few basic tools that may seem simple on the surface but require specialized skills. If a cookstove or fuel organization's staff do not have the skills to execute a study, hiring an outside research consultant is the best approach. More detailed suggestions for sourcing and working with outside research partners can be found in Part 3. If the budget does not allow for external support, staff who conduct the research should first receive basic training. Primary research may also require ethical clearances that require preparation months in advance; more detailed information is provided in Part 3.

No tool is perfect by itself, and often multiple tools are used to answer a market research question. Tools can be used simultaneously or in sequence. More details on tools and suggestions for using them in the clean cooking sector are provided in Part 2 of this guide. It may be necessary to work with research experts to determine the most appropriate tool, or mix of tools, for gathering the information needed, as well as the proper approach for analysis for a specific study.

Once the tools have been determined, the next step is to develop the research instruments (surveys, discussion guides, etc.) and to implement them. Data gathered will then need to be organized and analyzed. Lastly, findings should be applied to the decisions set out at the beginning of the research.

THE 4PS MARKETING MIX AS A FRAMEWORK FOR MARKET RESEARCH QUESTIONS

As discussed, formulating the research questions for a given study should be based on the decisions that need to be made. That said, **most marketing decisions relate to the “4Ps” of Product, Price, Place, and Promotion.** This is a common framework used by marketers and forms the basis for how businesses and other organizations engage with consumers. This framework involves putting the right product, at the right price, in the right place, in the right way, in front of the right consumer.

An overview follows of specific questions relevant to the stoves and fuels sector for each of the 4Ps. Depending on the objectives of the study, not all questions will be relevant. However, given that a holistic approach is necessary for success in marketing a product, it's useful to examine the questions when formulating a marketing strategy. The questions will be discussed in more detail in Part 2.

This 4Ps framework involves putting the right product, at the right price, in the right place, in the right way, in front of the right consumer.

FIGURE 2: 4PS MARKET RESEARCH QUESTIONS FOR THE CLEAN COOKING SECTOR





FIGURE 3: QUICK GUIDE TO MARKET RESEARCH TOOLS

TOOL	DESCRIPTION	USES
SECONDARY RESEARCH	Review and analysis of research collected by others for another purpose.	Develop research design and identify target consumers: <ul style="list-style-type: none"> · Determine remaining research gaps · Market segmentation
OBSERVATION	Systematic observation of a variable of interest in the setting in which it occurs.	Observe consumer behavior: <ul style="list-style-type: none"> · Types of stoves and fuels used · Typical food preparation and requirements of common dishes · Purchasing habits · Social dynamics within household
SURVEY	A data-collection form used to gather information on multiple variables of interest, generally from a sample of the population.	Gather data that can be use to conduct quantitative analysis on key variables: <ul style="list-style-type: none"> · Income levels · Amount spent on fuels · Time spent gathering fuels · Key features and benefits sought by consumers · Channels reaching the target consumers
FOCUS GROUP DISCUSSION (FGD)	Guided discussion with small group of participants who meet set screening criteria in which a facilitator guides the discussion and explores comments made on topics of interest.	Capture diverse insights that may not be uncovered in individual surveys: <ul style="list-style-type: none"> · Current practices and perceptions · Attitudes around cooking and broader aspirations · Responses to marketing materials · Willingness to pay for products
IN-DEPTH INTERVIEW	One-on-one interview with individual.	Gain insight into “how” or “why” certain actions take place.
– CONSUMER INTERVIEW	In-depth interview with consumer.	Collect detailed information directly from consumers: <ul style="list-style-type: none"> · Who makes purchasing decisions · Financing needs · Level of access and perceptions of purchasing and promotional channels
– KEY-INFORMANT INTERVIEW	In-depth interview with an expert with first hand knowledge about target consumers, the product market, or specific value-chain activities.	Gain a better understanding of value-chain activities and consumer behavior: <ul style="list-style-type: none"> · Info on the market in a given location · Successful launch of other products among target population · Cultural considerations for target market
TRIALS	Direct testing of product or activity with target consumer. Trials can range from short trials during focus group setting to weeks to months long trials within the consumer’s home.	Test products or communication materials with consumers: <ul style="list-style-type: none"> · New product features · Communications material · Pricing/financing strategies

TIPS

Check for existing survey data from national statistics bureaus, WHO, UNICEF, World Bank, etc.

Search knowledge and resource hubs maintained by Alliance and partners, join listservs.

Formalize what is being observed in a checklist.

Be aware that observer presence can cause those being observed to modify their behavior to ideal, rather than routine practice.

Take photos to complement notes.

Keep it short; the longer a survey goes, the less accurate the information gathered will be.

Pretest the survey with a small number of typical respondents before fielding among a large sample.

Consider how to structure questions, e.g. prompted response categories, open ended questions with “blank” response categories or open-ended with predetermined codes.

Ensure enumerators are properly trained and understand whether they should read possible answers aloud to the respondent or assign spontaneous responses to a best fit.

Make sure the facilitator has clear understanding of topics of interest.

Make accommodations (e.g. child care) to ensure participants are comfortable and undistracted.

Begin discussion with a warm up to make participants comfortable with the facilitator, as well as others in the group.

Do not let one or two participants dominate discussion. Have facilitator invite all participants to speak.

Develop an interview guide to ensure all topics of interest are covered.

Interview a range of consumers to ensure that data collected is not biased towards one opinion.

Be aware of interviewee's biases.

Probe for challenges interviewee had in applying their own research findings, including differences between research and practice (if applicable).

Control for variations like type of food being cooked in short trials by providing all participants with a standard amount of ingredients and asking them to prepare the same recipe.

Consider complementing trial with methods (e.g. SUMs monitors) that objectively measure usage to compare against self reported data.

No tool is perfect by itself, and often multiple tools are used to answer a market research question. Tools can be used simultaneously or in sequence.

Use of multiple tools to examine the same topic helps to cross check or triangulate data to create a richer understanding of the question at hand.



PART 2

Designing Market Research in the Clean Cooking Sector

This section recommends key research topics and questions that are particularly relevant to the clean cooking sector. It also provides tips and examples for using different market research tools to gather information on these topics.

As mentioned in Part 1, organizations often make decisions about how to bring their product or service to market around the 4Ps of marketing: Product, Price, Place and Promotion. This makes the 4Ps of marketing a useful framework for structuring research questions around decision-oriented topics. The following section will provide examples of cookstove and fuel topics relevant for each “P.” Many of the insights gathered under the questions in each “P” may also have implications for other “Ps”.

Additionally, the topics and questions highlighted in this section focus on one research tool per section (observation, focus group discussion, etc.). The highlighted tools are meant to serve as examples and pertain to other topics as well. The research tools can be used to gather relevant information on a variety of topics to develop insights about consumers. In many situations, use of multiple methods to examine the same topic helps to cross check or triangulate data to create a richer understanding of the question at hand. **In this guide, we have attempted to provide only limited examples for each topic area to serve as a starting point for designing research in the clean cooking sector.** Full templates and additional examples are available on the Alliance website.

Gender-neutral terms are used throughout the guide (e.g. consumer, user) for ease of reading, but market research should always utilize gender-specific terms, such as women users or male customers, to demonstrate gender differences and encourage sex-disaggregated data.

TARGET CONSUMER SEGMENTS

Questions asked in a market research study should be informed not only by the research objectives and decisions to be made, as previously mentioned, but also by the types of consumers to be targeted. Division of the potential market into sub-groups of consumers with similar needs and characteristics can be used to evaluate and identify target segments. **Identification of target segments is important as it allows an organization to structure its marketing strategy around the wants and needs of those particular segments, instead of trying to reach everyone with a “one size fits all” approach.** Many approaches exist for segmenting consumers; some common segmentation variables are demographic (age, income, family size), geographic (country, region), psychographic (lifestyle, values) and behavioral (knowledge, attitudes, and behaviors relevant to the product).

The “Diffusion of Innovation” model can also be used in segmentation and is based on the idea that different types of adopters accept innovation at different points in time.⁶ This model places priority on “early adopters” or those most likely to use new technologies before others. Early adopters are important as they may influence the purchasing behavior of other consumer segments. Some consumers follow earlier adopters after they’ve observed the early adopter’s experience and are more confident that the product is a safe and “good buy.” The early adopter concept is especially relevant in the clean cooking sector because the offered products are often unknown to consumers.

TIP: When conducting primary research, participants should be properly screened to ensure they match the target segments identified.



TIP: The Alliance compiles research conducted by partners and makes research it commissions public and available on its website. Joining listservs is also a great way to stay up to date on research for the sector. Alliance partners also maintain knowledge and resource hubs.

In most cases, multiple variables are used in segmentation. **Most importantly, the variables chosen should reflect differences in how consumers would respond to the offering, and identified segments should be distinct from each other.** Segments may need to be refined after initial research is conducted.

TOOL EXAMPLE: SECONDARY RESEARCH

Data from secondary research can be used to guide market segmentation and develop preliminary segments. Several surveys already exist that routinely report on information relevant to the clean cooking sector, including information on living standards, fuel use, and cooking habits. This data can usually be disaggregated by geographic or administrative units, gender, income, and other variables that can be used to develop segments. The following sources provide basic information on national living standards and fuel use:

- National statistical bureaus' Demographic and Health Surveys (DHS),
- UNICEF's Multiple Indicator Cluster Surveys (MICS),
- The World Health Organization's World Health Survey (WHS),
- The World Bank's Living Standards Measurement Survey (LSMS),
- National Census and Living Standards Surveys

The Alliance has been an advocate for increasing the number of questions directly related to cooking in these surveys, as well as standardizing questions across national surveys to increase the amount of national level data available on cooking practices. Standardized questions recommended for surveys can be found on the Alliance website and are a starting point for anyone conducting surveys in the sector.

Key areas covered in these surveys include:

- **Primary cooking fuel** (including processed and unprocessed biomass)
- **Secondary/other fuels and technologies used for cooking** (rank or check all that apply)
- **Primary heating and lighting fuels** (same as cooking fuel or check all others that apply)
- **Type of cookstove** (manufactured vs. self-made vs. artisanal)
- **Characteristics of main cookstove** (check all that apply of portable, fixed, fixed with chimney, number of pots)

A significant amount of cooking-related information also exists in other secondary research. Potential sources of information include national ministries dedicated to energy and environmental issues and fuel specific associations and initiatives, as well as reports published by NGOs, universities and other research institutions.

Again, these resources provide a starting point for identifying target consumer segments and more broadly structuring research, but additional research may be necessary to refine segments, in particular around psychographic and behavioral variables.





1. PRODUCT

Determining the right product for targeted consumers is arguably the most important step of any marketing plan. In the clean cooking sector, identifying a product that meets user wants and needs and delivers high quality performance at the same time can be a challenge. **Despite the important relationship between product performance and the benefits delivered to households from clean and efficient stoves and fuels, usability and attractiveness to consumers should not be sacrificed; these considerations can significantly impact sales and the correct and sustained use of the product.**

Market research can inform designers and manufacturers of key attributes sought by consumers. For example, understanding factors such as the type of meals to be cooked and seasonality in cooking patterns and fuel use are critical to determining product needs and design. Other factors like the range of cooking pot sizes can also greatly affect design of burner and pot-hole size, as well as stability needs.

Inputs from consumers can reveal important preferences about product aesthetics, including type of materials used, color, shape and size.

Inputs from consumers can also reveal important preferences about product aesthetics, including type of materials used, color, shape and size. In fact, these types of attributes can often drive purchasing decisions and make one product stand out from another. In addition, consumers at the base of the pyramid are often money savvy and risk averse and look for products that are durable, versatile, and deliver additional convenience. That said, market research and purchase data also show that **the poor want more than function; they will invest in 'aspirational' products that are somewhat above their reach because the products convey values and characteristics to which they aspire.**

Lastly, consumers may articulate a preference for product attributes that are impossible to deliver, perhaps because of energy principles or other design considerations; although these attributes cannot be delivered and stoves cannot be modified to fit all preferences, they give key insights into promotional focus. An example would be consumer preference for leaping flames and/or a large fuel chamber; these features cannot always be worked into an efficient stove design, but consumers' expectations can be tempered (and education provided, for example, that the stove is able to cook quickly without leaping flames) so that they are satisfied with clean cooking products. This can create a virtuous circle between consistent use and 'word of mouth' promotion within their networks.





- ▶ What stoves and fuels are consumers currently using?
- ▶ What is the intensity of use of the various stoves and fuels within a household?
- ▶ What causes usage patterns to change?

“During the rainy season the wood is often wet so I cook more with gas.”

IN DEPTH INTERVIEW:
Escuintla, Guatemala

To better understand consumer needs around cooking products, a good place to start is with cooking habits. Since many households use multiple stoves and fuels to meet their energy needs, it's important to understand what those stoves and fuels are, what they are primarily used for and how often each is used. Information about current cooking practices, including regularly prepared foods and their requirements, is a critical input for product design and selection.

Examining cooking habits also provides an understanding of the “competition” because any new product would be competing against currently used stoves and fuels. Some stoves and fuels may be used for non-cooking activities such as heating water for bathing, heating the home, lighting or insect control. Cooking tasks can also include food for animals, liquor or food production for consumption and/or sale, as well as other income generating activities. Stove and fuel use also often varies by season.

These additional uses and variations should be considered in assessing the consumer's needs. Understanding the full range of stove and fuel related activities taking place in a household can inform what technology a new product would replace and how it would fit into a household's overall stove and fuel related activities.

TOOL EXAMPLE: OBSERVATION

One of the most basic and essential research methods, observation involves systematically gathering data through observing the variable of interest, whether people, actions, relationships, or situations. Observations are often recorded on a coded checklist to ensure systematic collection of information across the entire sample. Observing behavior can be preferable to asking people what they do because it minimizes self-reporting bias from not-entirely-true responses.

Household observation is an objective way to document which stoves and fuels are being used in a household as researchers can see for themselves. Accompanying a woman on her daily routine can provide rich insights on use of different stove and fuel combinations and other social contexts relevant to the cooking task (e.g., fuel collection might be a woman's only chance to be out of the house alone with other women). Observing the preparation of a meal can help to better understand typical food preparation and dishes, and thus demands on stoves and fuels, as well as social supports and pressures from husbands, children and other family members.

A focused observation checklist must be developed to guide data collection, pretested in the household context of interest to include the range and frequencies of possible observations. Photos can complement household observations. However, as with any tool, observation has limitations; it can be difficult to observe all variables, and observation is time consuming and costly to use with a large sample size. Observer presence in the household can skew the results to “ideal” rather than routine practice. That said, those being observed become accustomed to an observer's presence quickly and often resume natural routines.



TIP: Questions on usage are often hard for people to answer off the top of their head and are highly susceptible to recall bias; one way to prompt them is to formulate the questions around daily routine and typical meals cooked each day.





- ▶ What drives usage of the currently used cookstoves and fuels?
- ▶ What do consumers like/dislike about their currently used cookstoves and fuels
- ▶ How do consumers perceive their currently used cookstoves and fuels?
- ▶ How do they perceive other options?

Once the types of stoves and fuels used in a household are established, researchers should identify what drives the use of the stove/fuel combinations. While availability and affordability may be obvious drivers, additional factors such as tradition, societal pressures and lack of knowledge of other options may play a major role. **Techniques that elicit people's attitudes toward various options can help to uncover the real drivers of usage and their relative magnitude.**

Uncovering what people don't like about various fuels and stoves and identifying "pain points," or problems a consumer is having in using a product, in the cooking process can reveal opportunities for addressing these issues with new solutions. Understanding what people do like and value about various fuels and stoves, including cultural and/or religious connections, is also a key element in understanding what products are most likely to be accepted.

Eliciting knowledge and attitudes about stoves and fuel options not currently used by a household can also provide important insights about key barriers and motivators for switching to a new technology or fuel. In settings where improved cooking technologies have previously been introduced, gathering information about people's experience and/or perceptions with these technologies allows for important feedback for future designs and positioning of new products.

CASE STUDY

BURN MANUFACTURING — KENYA

Burn Manufacturing, with support from Acumen, conducted a survey measuring the impacts of adopting jikokoa stoves. A random sample of jikokoa consumers was compared to a sample of the general population to better understand stove usage and the stove's positive benefits on users' health and fuel expenditures. This type of random, representative sampling allowed for comparison of the two groups and for generalizations about jikokoa consumers. Initial findings from the self-reported survey show that Burn consumers take fewer sick days and feel that reduced smoke from cooking drives their improved health. Burn has documented consistently high self-reported fuel savings, not only among better off Kenyans who have more cash to invest in healthy habits, but also among Kenyans of lower socio-economic status. Burn plans to incorporate these findings into its sales materials to appeal more effectively to its target markets.

TIP: When gathering information about attitudes, it is often useful to ask questions more than once and in more than one way to validate responses. Techniques include rephrasing the question or asking similar questions to see if they yield similar answers.

Another technique is to ask people to share opinions and attitudes of 'people like you.' This technique makes respondents feel less threatened by exposing their opinions, which is often discouraged, particularly for women. Framing questions as "Why do you think that women in the village or women such as yourself might like...." can encourage open dialogue.



STOVE AND FUEL FEATURES AND BENEFITS

“Having multiple burners is nice.”

FOCUS GROUP:
Kerala, India

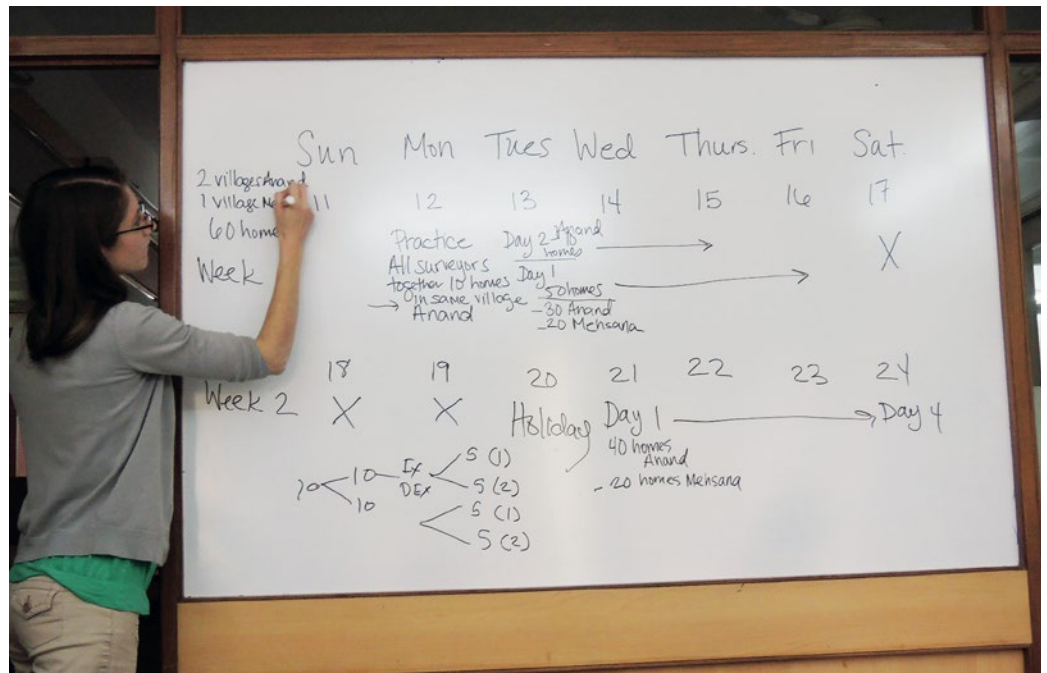
TIP: Visualization exercises during one-on-one and small group research can elicit information on preferences and prioritization, and uncover attitudes around cooking and life more broadly. Using word association and asking participants to spontaneously share what comes to mind when they hear a certain word can reveal hidden preferences. For example, participants could be asked to close their eyes and imagine their ideal kitchen... What would it look like? How would it be equipped? What would be different from their kitchen now? What comes to mind when the word “cooking” is mentioned? What about wood, charcoal, LPG, etc.?

- ▶ What are the most important features of a cookstove and/or fuel for consumers?
- ▶ What benefit(s) do consumers want from the cooking experience?
- ▶ What additional products do consumers need to facilitate purchase/sustained adoption (warranty, complement, after-sales service)?

Identifying the features and benefits a consumer is looking for in a product can inform the design as well as the promotional techniques to market a clean cooking product or fuel. Although meeting basic functional needs, such as suitability for cooking typical foods, is a crucial requirement, consumers are often seeking other benefits that may not align with the benefits valued by the development community.

Desired benefits may vary depending on the consumer’s overall lifestyle so it is important to consider the broader context of their lives. For example, women who work outside the home may be more interested in a stove that is easy to light and cooks fast. Households in cooler climates or in highlands with cool evenings may value a stove’s ambient heat benefits. Women and men may also seek very different benefits in a cookstove and fuel so conducting research with both groups is important, especially in settings where men influence purchasing decisions.

Understanding both functional, as well as non-functional benefits that motivate the consumer is critical. Consumers may also be attracted to a cookstove or fuel for aesthetic reasons. Quality of materials, colors and shapes can drive stove purchase. Some fuels, such as gas, are seen as aspirational; having a gas stove in the home is a symbol of status. Lastly, consumers may attach great importance to long term guarantees and the promise of after sales support. This is of particular importance in the clean cooking sectors because consumers are not familiar with many of the products.





USER- OR HUMAN-CENTERED DESIGN

One way to research key product benefits and features—and consumer wants and needs more broadly—is to engage participants directly throughout the design process. The human-centered design approach to developing products has been gaining momentum and popularity. A flexible and iterative rather than rigid methodology, the approach engages the target market or intended audience with product engineers and designers from the start to create a product that meets the “wants and needs” of the consumer. The target market is consulted throughout the design process and is often involved in idea generation, prototype testing, usability testing and, finally, developing marketing and promotional strategies. The underlying purpose of user-centered design is to develop a product that “speaks” to consumers and taps into demand at both intellectual and emotional levels, driving purchase and use because it “answers” consumers’ needs at a price they are willing to pay. The iterative nature means engineers or designers consider consumer input, shape and reshape the product to ensure tangible as well as aspirational benefits (e.g. a stove must actually reduce emissions, handle big pots and look high tech), checking back with consumers at key points in the process.

Though used since the 1970s in commercial design, the process was recently codified using the ISO standard ⁷, identifying the follow six principles:

- 1 The design is based upon an explicit understanding of users, tasks and environments.
- 2 Users are involved throughout design and development.
- 3 The design is driven and refined by user-centered evaluation.
- 4 The process is iterative.
- 5 The design addresses the whole user experience.
- 6 The design team includes multidisciplinary skills and perspectives.

The firm IDEO that popularized the human centered design process offers a free toolkit on conducting this type of research on its website: <https://www.ideo.com/by-ideo/human-centered-design-toolkit>. The Alliance engaged IDEO to apply its design approach to the cookstoves and fuels sector in Tanzania. The full report for that study can be found on the Alliance website in the “Market and Consumer Research” section.

The underlying purpose of user-centered design is to develop a product that “speaks” to consumers and taps into demand at both intellectual and emotional levels.



“I was surprised at how fast the stove cooked.”

FOCUS GROUP:
Accra, Ghana

PRODUCT ACCEPTABILITY

- ▶ Do consumers understand how to properly use the cookstove and/or fuel?
- ▶ How can the product be improved?

Market research methods need not be used only before the design of a new product or venture. The same tools can be used to evaluate the acceptability and usability of an existing product or prototype. Ensuring usability of products is of particular importance in the clean cooking sector as most of the health, environmental, economic and livelihood benefits sought by the sector are not possible unless consumers fully adopt the products and use them correctly.



TIP: If conducting a trial in a focus group, the researcher can easily control for variations like type of food being cooked by providing all participants with a standard amount of ingredients and asking them to prepare the same meals. Alternatively, participants could observe one typical cook using the stove to prepare a common meal and then share their perceptions on various variables (cooking ease, fuel issues, taste of food, etc.).

TOOL EXAMPLE: TRIALS

Trials are a useful method for testing the acceptability of a product and determining if and how it can be improved. **The method engages target audiences with products, services, and/or program strategies to gain feedback before promotion to a wider audience.** It can be a simple or intensive process that yields important information about product or program features and allows organizations to correct any issues early on. The method can range from a short trial in which consumers are asked to cook a traditional meal in a focus group setting using the stove and/or fuels, to long trials that take place for weeks or months in the consumers' homes.

Randomized control trials (RCTs), a type of trial, are generally not recommended for market research as they require highly specialized skills, a large budget and significant time to conduct. The “Trials of Improved Practice” or TIPs methodology is one type of trial that has been used successfully in the cookstoves and fuel sector.





THE METHODS OF TIPs: Trials of Improved Practice (TIPs)

TIPs is one type of household trial used to assess consumer preferences. It is an extended in-depth interview, in which the respondent serves as a consultant who provides input and suggestions over time. The TIPs method uses a range of measures including “elicitation questions,” which are semi-structured questions developed and validated to systematically identify barriers and motivators to change, including which factors are most influential in spurring the performance or nonperformance of a behavior. Unlike other survey methods in which factors are held constant and researchers analyze the frequency and range of response, the TIPs mixed methods tool invites households to interact with researchers and identify, discuss and – unique to this method -- resolve barriers to using the new cookstove and/or fuel. Households may be asked to compare cooking on the new stove and on their traditional stove using a range of criteria. Through these comparisons, researchers can elicit categories of attributes valued by the target consumer.

TIPs for the clean cooking sector could rely on multiple models placed in homes that previously had traditional stoves, with each household trying only one of the new models, or multiple models in succession (not simultaneously). Cookstove operation and maintenance training is provided, and cooks are asked to try out stoves under normal conditions for a number of weeks/months and offer feedback and opinions. Interviews are conducted at baseline, at the end of the first week or first few days (to determine initial preferences, use patterns, and other initial reactions, as well as trouble-shoot any problems with the stoves), and at the end of the trial.

The methods below complement the TIPs method to measure stove usage and daily fuel consumption in homes and potential stove performance. These quantitative methods, when combined with the TIPs self-reported data, allow for comparison or “triangulation” between self-reported and calculated behaviors, e.g. use of the new and traditional stoves over time. More detailed protocols for these methods can be found on the Alliance website: <http://cleancookstoves.org/technology-and-fuels/testing/protocols.html>.

Stove Use Monitors (SUMs)

SUMs are temperature-sensing data loggers (iButtons) that record stove temperature at regular intervals over a period of time. SUMs provide an objective, quantitative, and unobtrusive measure of stove use and usage patterns, which can be compared with reported use and across study households. By doing this, researchers can track actual stove usage of multiple stoves over time. The recorded data must be downloaded periodically; for example, the SUMs may log temperatures every 6-10 minutes and fill up with data after 4-6 weeks, at which time the data must be downloaded and the SUMs re-launched to collect new data. Data can be analyzed to determine the duration and frequency of “cooking events” (i.e., number of times the stoves were lit) per day.

Kitchen Performance Test (KPT):

The KPT is a field test for measuring daily household fuel consumption and consists of weighing fuel consumed by a household daily over four days. Especially when combined with SUMs data, the KPT can show whether and how a household has incorporated an intervention technology into its cooking system. It does not measure the performance of any individual stove, but rather the impact of the introduction of an intervention stove on (total) household fuel use. KPTs are conducted in real homes with real cooks cooking real meals of their own choosing, without standardization across households.

Controlled Cooking Test (CCT):

The CCT assesses the performance of intervention stoves relative to the traditional stoves they are meant to replace. The CCT consists of multiple cooks performing a standardized cooking task multiple times on each stove; the test is meant to approximate actual cooking that local people do daily, but with variables minimized as much as possible. The cooking often takes place in a central location (not in homes), with standardized meals, ingredients and amounts, fuels, and pots that are representative of local cooking practices. The test reveals what is possible in households under controlled conditions but not necessarily what is actually achieved by households during typical use.

The TIPs mixed methods tool invites households to interact with researchers and identify, discuss and resolve barriers.



“It is prestigious to have that and if someone enters your kitchen and sees that, it makes you feel valued. It also helps to decorate your kitchen.”

FOCUS GROUP: LIQUID PETROLEUM GAS STOVES
Ashanti, Ghana



TIP: When conducting interviews with experts, probe for challenges they faced in applying their own research findings, including differences found between research and practice.

SUCCESSFUL PRODUCTS IN OTHER SECTORS

- ▶ What new products have been introduced successfully to the target consumer in the past?
- ▶ What made introduction successful?

Examining the success of other products introduced to the target consumer can provide insights and best practices that can be used across the “P”s. While cell phones or consumables like soft drinks or snack foods may immediately come to mind as successful products that have penetrated the BoP, the most relevant comparisons for the stove and fuel sector will likely come from product categories with similar characteristics, for example, durable goods with significant health benefits but low initial attractiveness, such as latrines and water filters.

Information about similar products can be gathered directly from consumers or by speaking to experts who have successfully introduced a new product to the target consumer. Local community leaders or others who are working with the same target population, such as health workers or NGO staff, are also useful to consult.

TOOL EXAMPLE: KEY INFORMANT INTERVIEW

Research to gather consumer insights need not be conducted only with consumers directly. Key informant interviews (KIIs) are conducted with experts, decision-makers, or other critical stakeholders in the value chain who can provide insights regarding consumer behaviors, explain relevant cultural considerations of the target market, and recommend strategies. While key informant interviews are generally loosely structured and more like a conversation, having a list of question prepared in advance can ensure that key topics are covered.

- *What was your marketing strategy for this product?*
- *How did you select your product range?*
- *How did you determine pricing for your product? Did you need to offer financing?*
- *Which main target groups did you select? Why? Was it a good choice?*
- *Which opinion leaders did you rely upon to help you recruit new consumers?*
- *Which distribution channels did you leverage?*





2. PRICE

While determining product attributes is often the first step in any marketing strategy, identifying the right approach for the other “Ps” is equally important and is an iterative process. **Even the most perfectly designed product could fail if consumers are unwilling or unable to pay for it.** Conversely, knowing a target segment’s willingness to pay can inform the product design.

Finding the balance between what consumers can afford and the real costs of producing and distributing products can be particularly challenging, given that products developed in the clean cooking sector are primarily targeted at BoP consumers who are budget constrained and often risk averse in money matters. **While identifying tactics for reducing unit costs is an important part of pricing strategy, this guide will focus on the other side of the equation: how market research can be used to determine how much consumers are able and willing to pay for a cleaner cooking solution.**

Determining ability and willingness to pay for a product extends beyond finding the right price point for a one-time cash purchase. In some cases, financing can alleviate upfront cash constraints and allow consumers to purchase a product over time. Access to credit was identified long ago as a key need for poor consumers who are willing but unable to buy products all at once, yet demonstrate demand. Identifying the right financing approach from the consumer perspective is critical to ensuring that the financing product will be utilized, as well as realistically followed through.

In addition, manufacturers can include features that are both desirable and affordable, taking into account the realities of the context. Many consumer items are available in a range of models, from basic/economy to luxury, and even an economy model can include desirable and aspirational features. Other sectors like the sanitation sector have developed stand-alone product components that can be purchased incrementally as funding permits, and this strategy could be applied to clean cooking as well; more basic stoves could be designed with incremental ‘add-ons’ like additional grates, utensil trays, cleanable chimneys, etc.

Lastly, the cost of acquiring and using a new stove and fuel combination can involve more than monetary considerations. Non-tangible costs such as “being perceived as a good wife and mother” is an example of a non-monetary cost. Other non-monetary costs include those associated with time and effort; e.g. does the new cookstove offered require additional time for fuel preparation? Would procuring the new fuel require the consumer to make an additional trip to the market every week? These types of costs can be as significant as monetary ones for some consumers and should be considered carefully.

Determining ability and willingness to pay for a product extends beyond finding the right price point for a one-time cash purchase.





“My daily routine including cooking is planned around the needs and wants of my children and my aging mother-in-law.”

OBSERVATION:
Khulna, Bangladesh

CURRENT STOVE AND FUEL COSTS

- ▶ What are the costs (monetary and non-monetary) associated with the stoves and fuels consumers are currently using?

Understanding a consumer’s current stove and fuel expenditures can inform what they may be able and willing to pay for a new product. In some cases this may not apply, however, as many at the BoP have traditionally used three-stone or “do it yourself” mud stoves and may never have paid for a stove before.

That said, cooking requires more than a stove; it requires fuel to generate heat, and fuel must be collected or purchased on an ongoing basis. **In many cases, ongoing fuel costs can represent the largest burden in terms of cost to the consumer.** Cost can include monetary as well as time burdens if members of the household are spending hours each day or week collecting fuel. In addition, when fuel is being collected, the time spent by women to collect it may be undervalued by the household.

Cooking related tasks may also have non-monetary costs and benefits that researchers should consider. For example, fuel collection trips may provide time alone with other women that is otherwise difficult to get in societies where women’s mobility is extremely limited.

Besides capturing current costs for cooking (stoves and fuels), much can be learned by collecting information about what other products the household has purchased and/or financed in the past year. These other purchases reflect household priorities (what they choose to spend money on) and potential financing options.



TIP: How questions are asked in a survey can impact responses greatly. How responses are structured should be carefully considered, e.g. whether they are open ended or allow for only a limited set of responses. Also, determining whether possible answers will be read aloud to the respondent, or whether the enumerator will be trained to elicit or select a “best fit” from the limited list, can have a large impact on results.

TOOL EXAMPLE: SURVEY

Surveys are usually quantitative forms (in a paper or electronic platform) used to collect the range of responses to set questions. They are often conducted by an enumerator, but can also be self-administered. Surveys aim to systematically collect information from a population sample based on certain screening criteria, though these criteria may be very broad (the entire population) or more specific (mothers of children under 5). Questions may be closed or open-ended. Open-ended questions are usually either coded to response categories, or recorded verbatim for subsequent analysis. Questions are constructed to have the same meaning for all respondents, so differences in responses reflect variation in the same “objective” stimulus, rather than distinct responses to each question. Surveys are useful when collecting information from a large number of respondents, or when analyzing correlations.

It’s important to ensure that surveys are tailored to the local context. If researchers are not very familiar with the local context, qualitative research (e.g. in depth household interviews, focus group discussions) may need to be conducted in advance to ensure that response options are applicable and will yield meaningful results. Surveys should also be piloted with a small group of respondents before fielding with the full sample to refine the survey. Pretesting surveys also helps identify the range of response categories required for a given question.

For example, if collecting information on fuel collection in a context where households are spending an average of six hours per week collecting firewood, responses that are broken down into one hour intervals per week (e.g. Less than 1 hour, 1 – 2 hours, 3 -4 hours, 5 -6 hours, more than 6 hours) may not be appropriate as many of the responses would fall under “more than six hours” and therefore lead to little variation in results.



- ▶ How much are consumers willing to pay for the product?
- ▶ Does seasonality affect ability to pay (e.g. post-harvest)?
- ▶ Is there a price-quality perception among my target market?

“Monthly payments will go for a long time, so I prefer weekly to go faster.”

FOCUS GROUP:
Nyeri, Kenya

Determining the right price for products in the clean cooking sector can be particularly challenging because target consumers have limited purchasing power. Furthermore, despite acknowledgement that vast market opportunities exist for consumer goods at the BoP, most products in the cookstove and fuel market are “push” products that people need to be convinced to purchase because they may not have an immediate perceived value. **Therefore, in conducting willingness to pay research in the clean cooking sector, it may be necessary to provide detailed education about the product, or even a demonstration or trial, so that potential consumers can gain an understanding of the new product’s potential value.**

Determining willingness to pay is further complicated by a legacy of NGO giveaways or subsidies that distort consumers’ valuing of goods with a social benefit. Community members often internalize decades of being regarded as beneficiaries rather than consumers and either undervalue such products or be unwilling to pay fully for them.

Timing is also an important consideration when evaluating pricing and ability and willingness to pay for a product. It is particularly important in the clean cooking sector, where many consumers engage in agricultural and seasonal work without a regular stream of income. Understanding income patterns can help to distinguish between a lack of ability or willingness to pay and temporal liquidity constraints, as well as to determine the right timing to offer a new product.

WILLINGNESS TO PAY METHODS

Marketers have developed many methodologies to assess consumers’ willingness to pay, including issues around credit and financing. Willingness to pay assessments help to guide pricing of products, and are also used more generally to indicate potential demand for a product by a particular consumer audience. Some methods directly ask consumers how much they value products and services, either by choosing one product over another to reflect preference or by naming a price they are willing to pay for an item.

Other methods assess willingness to pay indirectly by setting up situations that “reveal” willingness to pay, or by examining available market data like sales statistics generated from actual purchases. For example, the scanning of a consumer’s “member number” at a supermarket or chain store contributes to a consumer profile of purchases that is later analyzed and/or sold to marketers to understand consumer behavior. The data can be sorted by different types of consumers and analyzed further.

Another widely used method is referred to as auctions, in which target consumers secretly bid against each other and name the price they are willing to pay. Then using various techniques, a sales price is set. Bidders who offered the selling price or above must then buy the item. Willingness to pay auctions may need to be adapted to buying practices in a local context, e.g. to better reflect bartering practices commonly used in developing world markets where revealing ones final price would not be common practice. Other methods have given consumers a “purse” to spend, and consumers make choices between several items. This method reflects preference and informs pricing. Some methods then go further, using statistical analyses (conjoint or discrete choice analysis) to derive more precise pricing.

All methods have their strengths and weaknesses in cost, complexity, flexibility and validity.

For further information on WTP methods, consult the U.S. EPA/Winrock International webinar on Willingness to Pay for Cookstoves and Fuels: <http://pciaonline.org/webinars/willingness-to-pay>



CONSUMER FINANCE

TIP: Most consumers are looking for financing that carries as little risk as possible and so may say that they are most comfortable with informal financing options. Research gathered directly from consumers may therefore need to be adapted to match what a distributor or financial institution may be able to offer while still incorporating the key characteristics of financing that consumers look for as much as possible.

- ▶ Are consumers able to pay completely up front?
- ▶ Are financing options available for stoves/fuels?
- ▶ How should financing for stoves/fuels be structured?

Given the budget constraints of many target consumers in the clean cooking sector, in many cases pricing of the product should include other considerations beyond a one-time purchase price. The role of financing is also important to consider. Many forms of innovative finance are already familiar and available to BoP consumers, including savings clubs and/or microfinance institutions, and have been successfully used for other durable and household goods such as solar lighting and televisions. Research into these other models is a good starting point for developing hypotheses for potential models to test with consumers.

In evaluating financing needs, it's important to first identify at what price point financing will be necessary, and whether the consumer would realistically be able to repay a debt of that size, keeping in mind that this may vary by segment. Willingness to accept financing for a product may also depend on the type of cookstove and/or fuel and the perceived value the consumer attaches to it. Other considerations include details about when the product will be delivered (i.e., before or after payments are received) and payment terms, including cash required up-front and amount, number and frequency of installments.

Financing may not always need to be in the form of a loan or credit; other mechanisms such as savings via groups, remittances, and payments through an employer (e.g., incremental payments are deducted from the employee's salary) are also possibilities to explore. As with any partner or external channel, it's also important to understand the consumer's current perceptions and attitudes about the channel. For example, are they comfortable taking out a loan via their employer? Do they trust financial institutions?

Lastly, mobile money has greatly reduced the cost to lenders of installment payments. Gauging consumer experience with mobile money would inform possible installment payment schemes for cookstoves.





CASE STUDY

MERCY CORPS — UGANDA

Mercy Corps' focus on clean cooking emerged from food security programs implemented in Uganda. The goal of building livelihoods through market systems led to a closer look at cookstoves and energy access as an income generating opportunity for entrepreneurs. Mercy Corps focused on women specifically, as they were the major consumer group in the cooking sector, and previous work in food security and microenterprise had shown that women were highly effective sales agents. Mercy Corps conducted focus groups with women and surveyed them to understand the drivers behind cookstove and fuel purchases to determine the existence of a viable market for cookstoves in the East Acholi region of Uganda.

Initially, the study emphasized willingness to pay and cost barriers to cookstove adoption, but the quantitative surveys used to explore this question were not providing clear answers. Thus, the focus of the study shifted to collecting qualitative details behind purchasing decisions, which were capable of yielding deeper insight into what was driving stove acquisition.

It turned out that cost was a barrier for only a small subset of consumers who tended to be more rural or dependent on a spouse for income. Mercy Corps identified the lack of consumer understanding around the benefits of using clean cookstoves as a primary barrier to purchase. Once this insight was generated, a greater emphasis was placed on informing consumers of the benefits of clean cookstoves, and in many cases customers decided to purchase one.

Reflecting on the study, Mercy Corps was able to generate new insights that fundamentally altered its cookstove promotion strategy in East Acholi and led to higher cookstove sales. If funding had allowed, the study would have continued for a longer period of time. This would have allowed for more promotional strategies to be tested and fine-tuned even further.



Frequency of visits is particularly important if introducing a new fuel as consumers will need to purchase it on an ongoing basis.

3. PLACE

Offering a product in the right place is an integral piece of the marketing mix. The first step is to confirm where the target consumers live to ensure that the correct geographies and settings (i.e., urban, peri-urban or rural) are being targeted. For some cookstove and fuel projects, location may be determined by donor or other financing requirements, and in many cases, target areas may have been set when priority segments were chosen. Either way, conducting research to ensure that target segments and target locations line up can ensure effective and efficient allocation of resources.

Once target locations are identified, where to sell the product, including the purchase point and “distribution channel,” will need to be determined. **As with consumers anywhere, potential consumers of clean and efficient cookstoves and fuels are looking for convenience, so tapping into distribution channels already accessed should be a primary consideration.** That said, many consumers in the clean cooking sector are located in remote rural locations and in countries where distribution channels and infrastructure are not fully developed. It may be necessary to use village level entrepreneurs and other “last mile” distribution models.

When examining the viability of distribution channels, some things to consider include: accessibility barriers for the consumer, potential as a decision point for purchases (i.e., are consumers likely to be in “purchase mode” when they visit this channel?), appropriateness for the product, and frequency of visits. Frequency is particularly important if introducing a new fuel as consumers will need to purchase it on an ongoing basis. The proper placement of a product within the distribution point is also important. For example, if using a retail outlet, which aisle is most appropriate? Where in a local market do women shop for household goods?

Lastly, as with pricing of cookstoves and fuels, identifying strategies for distributing a product involves considerations beyond consumer insights (and can often involve multiple intermediaries before the point of purchase by the consumer). These considerations are outside the scope of this guide and will not be discussed in detail here. In addition, determining the appropriate channels for promotion of stoves is critical and will be covered in the following section.





- ▶ Where are the target consumers located?
In which geographies?
- ▶ In what type of setting do they live?

Perhaps the most important step in identifying how to get a new stove or fuel to target consumers is to determine where they are located. This may have been determined when target segments were identified, or might be dictated by financing or other requirements. Even if this is the case, confirming that the geographies being targeted, including specific regions and/or cities within a country, include substantial populations of the target consumer, will allow for more efficient allocation of resources. In addition to geography, determining whether consumers live in urban, peri-urban or rural settings must also be considered, as this will have important implications for the type of distribution strategy needed.





“There are also shops that are stocked with household goods and you can buy from there.”

IN DEPTH INTERVIEW:
Dhaka, Bangladesh

When examining currently accessed channels, it's also useful to gather insights on consumers' perceptions and attitudes towards those channels.

DISTRIBUTION CHANNELS

- ▶ Where do consumers prefer to acquire the cookstove and/or fuel?
- ▶ Where do consumers acquire similar products?
- ▶ What distribution channel(s) are consumers already accessing?
- ▶ How can barriers to access be lowered for the product?

Once target geographies and settings have been established, appropriate purchase points and distribution channels should be identified. **A good place to start is where consumers are currently accessing similar products, to leverage existing channels and place the product where consumers would expect to find it.** This can include venues where they purchased their currently used stove and/or fuel as well as other household items. Given that fuel must be acquired on an ongoing basis, the proper distribution channel for a new fuel may differ from the channels for stoves and will likely require additional analysis.

In addition to channels for accessing products, channels for accessing services such as health care could also be explored, in particular if accessed on a regular basis. Such channels may be especially relevant to consider for consumers who have never purchased a stove and/or fuel and/or have limited access to product distribution channels. When examining service channels, however, it's important to examine the feasibility of selling the product via these channels; in some cases selling products may present a conflict of interest for providers. For example, in some countries, health care workers employed by the government may be prohibited from selling products. Using channels not traditionally used for purchasing products may also require substantial additional infrastructure to accept payments, maintain inventory, etc. These channels may still be successful for promotion, which will be discussed in the next section.

When examining currently accessed channels, it's also useful to gather insights on consumers' perceptions and attitudes towards those channels. For example, do they trust the charcoal seller? Or do they buy from that seller out of necessity? Were they happy with the source of their last stove purchase? Uncovering these details can help identify channels to avoid, as well how to position a new product and/or channel vis à vis existing ones.

Opportunities for bundling with other products (e.g., cooking oil) are also being explored in the sector. Bundling can be used to leverage existing demand and brand recognition of other products while building familiarity for a product like a clean cookstove that may be new to a consumer. Consumer perceptions of potential products to be used in bundling should be explored.

Lastly, given the location of many potential cookstove and fuel consumers in hard to reach or “last mile” locations outside the reach of many product distribution channels, it may be necessary to examine the viability of setting up a new distribution channel for getting the product to the target consumer. The pros and cons of creating a new channel involve many considerations beyond those that can be answered through knowledge about consumers, but information on consumers' experience with models similar to those proposed, as well as testing the new concept directly with consumers can yield important information.



TOOL EXAMPLE: IN-DEPTH INTERVIEW

In-depth interviews involve face-to-face conversation with a relevant stakeholder using a question guide to ensure consistency of questions across respondents. Interviews can be conducted with consumers as well as with experts.

Conducting in-depth interviews with consumers can yield rich and detailed information about access points for purchases, in particular the reasons certain channels are used and consumers' perceptions of them. As with other forms of research, having questions prepared in advance of in-depth interviews can ensure coverage of all key topics.

- *Where do you generally purchase your cookstove? What about fuel?*
- *How often do you have to purchase a cookstove? fuel?*
- *Does the price remain the same or is there any variation in the price?*
- *Do you feel you are getting a fair price from this source?*
- *Have you always purchased from this source?*
- *Have you ever had any issues with quality when purchasing from this source?*

TIP: When examining distribution channels of similar products, it's important to consider the size and weight of these products; cookstoves are heavier, bulkier and/or more fragile than fast moving consumer goods such as toothpaste or shampoo. Caution should be taken when making comparisons.

CONDUCTING MARKET RESEARCH IN HUMANITARIAN SETTINGS

There are close to 60 million refugees and internally displaced people worldwide due to war and conflict, and another 97 million affected by natural disasters. Most of these individuals rely on three-stone fires and traditional fuels such as wood, coal, animal dung, and agricultural waste for cooking. UN agencies and NGOs are beginning to recognize the importance of access to cleaner and more efficient cookstoves and fuels for the health and safety of these crisis-affected populations.

With this increased focus on delivering energy products and services to these populations, humanitarian implementers, private sector stakeholders, and community-based organizations have the opportunity to implement effective, sustainable approaches that deliver high quality, culturally-appropriate products and services that truly meet the needs of these users. In order to do this, it is critical that implementers view the people reached by these programs and business models as users with distinct preferences and cooking needs, just like any users targeted in development settings.

There is often a misperception that displaced people will accept any type of stove or fuel distributed to them because they are likely not purchasing them at full cost. However, they are also more likely to sell or trade these products if they do not meet their needs or if they are not properly trained on how to use them because they are very often struggling to meet basic needs. Typical marketing strategies should be utilized and supported by market research to ensure uptake of the products and services provided, and implementation plans should include a robust approach to meeting the 4 Ps.

Crisis-affected populations such as refugees, internally displaced people, and those affected by natural disaster are particularly vulnerable so any research or data collection must be done very carefully. Humanitarian workers and researchers should only conduct studies that are directly applicable to the welfare of the study population, and the results must be used to provide direct benefits or services to the target population. Furthermore, all effort should be made to ensure the study design imposes the minimum of additional risk to participants.



Determining which channels and messengers are most effective for promotion should start with consideration of the context and target consumers' level of access to various channels.

4. PROMOTION

Developing the approach for generating demand and promoting a product is generally the last step in a marketing strategy. It can also be the most fun and creative part of the research and decision-making process. **Key elements to consider when designing promotional activities include the overall positioning of the product and creative strategy (including branding), message content and tone, who will deliver the messages and how the messages will be delivered.** In some cases, additional research may be required after the other “Ps” have been determined to refine the design of promotional elements, including pretesting concepts with consumers.

Many potential cookstove and fuel consumers look for products that deliver benefits beyond functional ones, so highlighting non-functional aspects can be a powerful way to tap into emotional triggers and grab people’s attention. In addition, given that clean and efficient cookstoves and fuels often represent previously unknown products for many consumers, indicating where the product can be accessed and any support available for purchasing it (i.e. financing, vouchers, etc.) may be important. First testing these concepts with consumers is important in ensuring that messages resonate with consumers and are understood clearly.

Many channels exist for promoting cookstoves and fuels, from mass media, to local leaders and women’s groups, to direct messaging via mobile phones, among many others. “Edutainment,” or combining entertainment and education (e.g., story line placements on soap operas and telenovelas, children’s shows, etc.), is also being tested in the sector. Determining which channels and messengers are most effective should start with consideration of the context and target consumers’ level of access to various channels. For example, do the women being targeted belong to a social group? Do they regularly listen to the radio?

Lastly, communication can also be a powerful driver of behavior change, and given the importance of sustained and correct use of products in the cookstove and fuel sector, it’s important to consider how promotional strategies motivate long-term use in addition to purchase, leading to the positive impacts the sector is hoping to achieve, as well as repeat purchases.







“I like the word *comfortable*. Anybody can come to the kitchen and I’ll be happy if they come.”

FOCUS GROUP:
Kilifi, Kenya

TIP: When formulating questions, be sure to keep them simple and provide some prompting, while still being mindful of biases. A good rule of thumb for researchers is to ask themselves if they could answer this question about their own life.

See the Alliance’s *Resource Guide on Scaling Adoption of Clean Cooking Solutions through Women’s Empowerment* for additional best practices on applying a gender lens to research.

TARGET AUDIENCE(S)

- ▶ Who in the household is the target audience(s)?
- ▶ Who will use the product?
- ▶ Who makes purchasing decisions in the target households?

As with any product or service, when promoting a new cookstove or fuel, it’s important to start by defining your target audience. **While your target consumer may be the person who will be using the product, promotional activities should also consider who will be purchasing it, or the “customer”, as well as others within a household who may influence purchase decisions and which products are used within a household.** This is especially important in the clean cooking sector as women, while generally the main cooks in a BoP household, may have little or no decision-making authority regarding purchases. Even in cases where women have some purchase decision-making, buying a new stove or switching to a new fuel is likely to represent a significant decision and may require that women consult their spouses or other family members before making the purchase.

In addition, multiple users should be considered. Many households have multiple generations of families living in them, and multiple women in the household (and sometimes men, too!) may undertake cooking tasks. In some cases, the household may have a maid or other hired help who assists with cooking.

Lastly, children are an interesting audience to consider as they can have significant, albeit indirect, influence on purchasing decisions and behaviors within a household. Conducting research with children requires different skills than working with adults, so it’s important to ensure that the research facilitator is properly trained in working with children, and also that all permissions, consent and ethical requirements are met.

APPLYING A GENDER LENS TO MARKET RESEARCH

When conducting market research, analysis of the different roles of women and men in the household is essential. As cookstove consumers and users, women are critical in the sector’s effort to reach scale. Women must be fully integrated into the process of designing products and solutions because without their opinions and input, products will not meet their needs and will not be used. Women drive demand and are ultimately the ones in control of whether or not products are fully adopted.

When conducting research, several best practices should be applied:

- Conduct analysis to understand community gender roles and dynamics
- Collect and analyze sex-disaggregated data
- Develop a strategy to engage men
- Schedule times and locations of meetings/activities around women’s availability and remain flexible



- ▶ How can target consumers be reached with promotional messages?
- ▶ How does the target market learn about new products?

“I would rather use more fuel and cook faster than spend half day cooking to save some wood.”

OBSERVATION:
Kerala, India

Another key piece of any promotional strategy is identification of channels to be used. As with distribution, it's useful to start by examining existing channels that already reach the target segment. They can include mass media such as TV, radio and newspapers, as well as more direct channels such as community and religious leaders, family, friends and social groups. As mentioned in the last section, **service providers, such as community health workers and agricultural extension offices, are a potential channel to explore in the clean cooking sector as they may be interacting regularly with the target audience.**

When researching channels, it's important to examine what type information is accessed through these channels and how best to use them. For example, some channels may be more appropriate for product and brand specific promotion, whereas others, such as health workers, may be more effective for raising awareness of the product and sensitizing consumers to its value.

Again, it's important to understand the consumers' attitudes and perceptions of the channels under consideration. Are they a trusted source of information? What is generally the tone of this channel? If working at the community level, it's also important to gain endorsement from village chiefs and other opinion leaders to ensure access to the community, as well as establish trust.

CASE STUDY

FAST TRACK CARBON — GUATEMALA

The Global Alliance for Clean Cookstoves engaged Fast Track Carbon to conduct market research on enablers and barriers related to clean cookstove and fuel adoption in Guatemala. Its task included identifying the target population segments most likely to purchase cookstoves and creating evidence-based messaging strategies for partners to apply to their marketing activities.

To find this information, Fast Track Carbon started by reviewing existing research. Recent national surveys in Guatemala offered a rich source of information around existing cookstove and fuel penetration and usage. An analysis of the data provided a solid baseline for Fast Track Carbon to generate research hypotheses on which population segments were most poised for purchase and adoption of clean cookstoves and fuels and informed the design of the primary research.

Surveys, focus groups and in-depth interviews were used to better understand what was driving current cooking behaviors and purchasing decisions. The findings from the initial phase of primary research were used to develop marketing messages, which were then tested with consumers via focus groups. Testing of the messages with consumers revealed that while some themes, such as health of children, came up as important topics in the research, they did not necessarily resonate with consumers in the marketing messages. Full findings from the study are available on the Alliance website.

TIP: When examining access to channels such as TV or cell phones, be sure to establish the level of access that exists. For example, do target audience members actually own a TV and watch it regularly, or do they rely on a community access point? If they do have access to TV, do they have cable channels? For mobile phones, what capabilities does their device have? Texting? Web access?



TIP: Establishing trust and comfort at the onset of a focus group discussion will lead to a more focused and honest discussion. For example, if conducting research with women, accommodating childcare needs can help ensure their participation and avoid distractions and interference with their schedule and duties. Discussions should also begin with a warm up to make participants feel comfortable with the facilitator and others in the group.

PROMOTIONAL MESSAGES

- ▶ How should the stove and/or fuel be positioned?
- ▶ What type of messaging will resonate with consumers?
- ▶ Who should deliver the message?

Developing the right messages to promote a stove or fuel is critical to realizing purchase (and can also help to ensure sustained use). While it may be tempting to frame messages around the values the development community sees in a clean and efficient stove and/or fuel, such as health and environment benefits and fuel and time savings, it's crucial to examine whether these same benefits line up with what the consumer values. As discussed in the product section, consumers may seek very different benefits in a stove or fuel, and therefore the selling points that resonate with them may be different from what drove the development of the product.

Functional aspects alone are unlikely to sell a consumer on the idea of a clean and efficient cookstove and/or fuel. As with any consumer, those at the BoP sometimes make purchasing decisions on a non-rational basis and may be driven by emotions and social pressures. What will drive purchase can be hard to pinpoint, so it's often most effective to start by examining the key attributes and benefits that emerged in the research to develop ideas and themes and, if the budget allows, conduct additional research to pretest the concepts with consumers.

Lastly, the messenger is important when developing the content and tone of the messages. As with channels, different messengers may be more appropriate for different types of messages. There must be a good match between a trusted messenger (for that particular topic) and a particular audience segment. For example, people may want to hear from a motherly figure like an "auntie" about how using a new cookstove still allows a woman to cook traditional foods, whereas aspirational messages about how a new cookstove makes a woman "modern" may be more effective coming from a celebrity figure.



TOOL EXAMPLE: FOCUS GROUP DISCUSSION (FDG)

Focus groups consist of direct feedback from consumers in a group interview setting. Because they encourage interaction and dialogue around variables of interest, FDGs provide group sentiments and preferences that might not be captured in individual surveys. Trained FDG facilitators can probe initial responses to uncover deeper meaning and insight into issues.

FDGs can be used to pre-test a variety of ideas with consumers before release into the open market, including promotional messages. Message testing is an important step in message development as it can be used to test hypotheses developed from the research and to refine messages. Testing with consumers can verify efficacy and comprehension and confirm that messages have no unintended cultural or social aspects.





PART 3:

Market Research Management

FINDING THE RIGHT RESEARCH PARTNER

Market research can be time consuming and requires specialized skills. In many cases, it may be more effective for a cookstove or fuel organization to hire a research consultant to help design, execute and analyze the research. Hiring a research partner still requires careful planning and ongoing management by the cookstove or fuel organization to ensure that research goals are met.

Organizations that decide to work with an outside partner should first develop a “terms of reference” (TOR) to act as a point of reference throughout the research process. **The TOR should clearly articulate the purpose and objective of the research, the expected roles and responsibilities of the researchers, and the research location and timeline.** Specific deliverables listed in a TOR may include work plan, including expected timeline with milestones, methodology and tools to be used for data collection, and an outline of the format of final deliverables.

Once the TOR is completed, it can be released to potential research partners for submission of proposals. Strong proposals typically include:

- Demonstrated understanding of research needs and goals
- Staff who are properly trained and experienced in the type of research proposed
- Time allocated for training survey enumerators; ideally, enumerators are trained together so that the way questions are asked is consistent across surveys
- Clear plan for ensuring quality assurance in data collection, including piloting of surveys and supervisor checks
- Knowledge of local language and customs and access to the communities or regions to be included in research
- Knowledge or familiarity with cookstoves and fuels, ideally in the region being surveyed

Once the research partner is contracted, the next step is to develop or adapt the research instruments, questionnaires, and/or interview guides. **It is acceptable to adapt existing research instruments and to build on already tested guides and tools.** Managers should take an active role in previewing research instruments created or adapted by the researchers to align the focus of the study with both parties. Managers could also request the researcher create “dummy tables,” or mock tables of how research findings will be displayed, to guide the development of instruments and ensure all of the data needed for analysis is collected.

During data collection, the organization should be in regular contact with the researcher to keep track of progress, obstacles, and unanticipated conditions. Check-ins should be set before the study begins, occurring either after research milestones are reached or on a regular basis, such as bi-weekly. Once findings from the study become available, the consultant should provide top-line results or a summary of key findings. This information can provide critical input to improve program design, as well as begin answering the initial research question.

This top-line assessment will also guide final reporting. A preliminary presentation of top-line results is highly recommended and can include additional stakeholders for validation. Final reports may take several drafts and can be time consuming, so having input early into the content of the report helps to save time later.

INTERPRETING AND APPLYING FINDINGS

How research findings are used will depend on the original research question and the results of the research. As emphasized previously, the most useful research questions are structured to inform decisions. If this is the case, applying what has been learned to the decision at hand should be relatively straightforward. Some additional things to keep in mind when applying findings include:

- **Be specific:** Depending on the research question, the findings might not apply in every context. Be clear about when/how/to whom findings apply. Research findings can be generalized to contexts beyond those in which research was conducted only when conditions are similar.
- **Listen to the data:** Sometimes data will tell organizations something they don't want to hear. In these situations, listening to the data and incorporating what is learned – instead of continuing the status quo — can lead to stronger interventions and strategies (which is why the research was conducted!).

ETHICS IN RESEARCH

Many countries have strict procedures to protect the rights and welfare of research study participants and ensure that their participation in research activities is both informed and voluntary. These procedures require that the risks and benefits of participation are clearly explained before any research activity begins. To monitor adherence to ethical standards, many U.S. institutions as well as international ones have established Institutional Review Boards (IRBs) that administer review processes, including a template for creating an IRB Review Package. The review package includes a description of objectives and procedures, as well as data collection instruments and informed consent scripts.

Research studies fall into three IRB categories: full, expedited or exempt. Most often, a full IRB template must be filled out for full and expedited reviews, whereas a notification is submitted for exempt review. Expedited review is granted for research deemed “of minimal risk” to participants and is carried out by the IRB chairperson or a designee.

For research conducted by a U.S. organization in another country, research standards require IRB review and approval both in the U.S. and in the country where the research is to be conducted. It is often possible to obtain a list of country-specific IRBs from the Ministry of Health, USAID, or market research companies. If an in-country research vendor is conducting the research, it can assist or completely manage the IRB review procedure in the country where research is to be conducted, although only U.S.-based institutions submit to U.S. IRB review boards.

From a practical standpoint, U.S. and host-country IRB review can require up to four to six months and becomes a key part of a research timeline. Frequently, the IRB packages are reviewed by IRB committees on a regular schedule (monthly or quarterly), with committees requesting clarification and/or modifications, which are then reviewed on an ad hoc schedule. This procedure continues until the IRB committee is satisfied with procedures, at which point approval is granted and research may commence. The U.S. and in-country IRB review packages can be submitted simultaneously; if revisions are required by one board, researchers must then inform the other of changes.

However, several research categories are considered exempt from IRB oversight, including studies designed to evaluate consumer acceptance. Relating all of this to market research on cookstoves and fuels, research may or may not be considered exempt, and this can only be determined by the IRB Review Board. While market research clearly falls into the exemption

category of “consumer acceptance,” the fact that consumers will be using cookstoves and fuels in homes, with the potential for emissions and burns, may require IRB committee reviews. Generally, human research ethics guidelines require decisions about exemption to be made by an IRB representative, not by the investigators themselves.⁸

Whether or not research requires ethical review, several key concepts remain relevant to market research and include:

- **Transparency and Consent:** When research is being conducted, researchers must be clear with participants about the reasons for the research, and the expectations of participants must be managed effectively and honestly. That participation in the research is voluntary should also be made clear, and consent should be established before research with participants begins. Some cookstove target markets have been surveyed and studied intensively for years, and additional participant expectations could have been formed through previous engagement with research organizations. Survey fatigue can make some participants hesitant to participate in ongoing research, and as such, expectations around what participants can expect to receive from participating in research must be clearly stated to maintain credibility in that market and to encourage participation.
- **Credibility:** Research activities and marketing activities should be separate. Selling under the guise of research (SUGGing) is a highly unethical practice that puts at risk not only the firm conducting the research, but other researchers in the field as well, as a market's perceptions around researchers can sour quickly after negative experiences.
- **Confidentiality:** Any identifying information should not be made public to others not involved in the research process. In addition, consumer identity and related data should not be linked or released to outside entities.

Conclusion

The impacts caused by the use of solid fuels in traditional stoves and open fires are among the world's most pressing health and environmental problems. The Global Alliance for Clean Cookstoves works with its partners to address this issue through the creation of a thriving global market for cleaner and more efficient cookstoves.

A core principle of the Alliance's market based approach is that potential users of cleaner and more efficient cookstoves and fuels should be treated as consumers, rather than beneficiaries. A healthy market for clean cooking solutions means that consumers demand the products on offer, can choose from a range of attractive options, and are willing to invest their own, in many cases limited, resources in acquiring them.

To reach this goal, the needs, wants and aspirations of consumers must be understood. Well designed and executed market research can uncover these insights, and when incorporated into the design of products and marketing strategies, will lead to the thriving global market for clean cooking solutions that is needed to change the lives of the three billion people who are impacted every day by this issue.





Endnotes

1. Building on the unprecedented contributions of more than 350 global experts from diverse disciplines and organizations, “Igniting Change: A Strategy for Universal Adoption of Clean Cookstoves and Fuels Igniting Change,” identified the creation of a thriving global market for cleaner and more efficient cookstoves and fuels as the most viable way to achieve universal adoption. It outlined a three-pronged approach to catalyze the market with strategies to enhance demand, strengthen supply and ensure a strong enabling environment. The subsequent Alliance strategic business plan and Country Action Plans for focus countries provided a roadmap for executing the recommendations of “Igniting Change.” Copies of these reports can be found on the Alliance website.
2. Kotler, “Social Marketing: Influencing Behaviors for Good.”
3. Hope Consulting, “Customer Insights Toolkit: Enhancing Value Chain Development Through Consumer Research.”
4. Hope Consulting, “Customer Insights Toolkit: Enhancing Value Chain Development Through Consumer Research.”
5. For more information on the backward research model, see Andreasen, “‘Backward’ Market Research.”
6. Kotler, “Social Marketing: Influencing Behaviors for Good.”
7. ISO, “Ergonomics of human-system interaction.”
8. Ritter, “Running Behavioral Studies with Human Participant.”

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Appendix

ADDITIONAL RESEARCH TIPS

SURVEY SUGGESTIONS

Survey length: Participants are busy people with limited free time. The longer an interview goes, the less accurate the information gathered will be. To be respectful of respondents' time and effective with the surveying, try to limit the length to 30 minutes. This will improve the quality of information received and lessen the burden on the respondent.

Pretesting: Pretesting surveys before collecting large amounts of data is critical. Ideally, the research instruments can be tested in the field one to two weeks before data collection begins in earnest. This will ensure that questions are translated correctly and are locally appropriate (with time for corrections to be made if not), and that the survey enumerators are well trained at obtaining the desired information.

Things to watch out for include: confusing, unnecessary or inappropriate questions, potential biases, including the full range of closed-ended responses as options, and correct skip patterns (for conditional questions) throughout the survey.

FOCUS GROUP SUGGESTIONS

Participant selection: Participants should be chosen according to a specific selection criteria to ensure that they have similar backgrounds, and that they belong to the consumer group of interest for the research question. For example, focus groups could be women, or men in a particular age range and income background. They might be potential or actual early adopters, or another target segment of stove and fuel customers. Focus group discussions could also target others on the value chain, such as potential distributors, or anticipated resisters (e.g. mothers in law). As gender relationships can play out in focus groups, it is recommended to have women's and men's groups separate.

Accommodation: Participants are most likely to feel comfortable, happy, and participatory if some refreshments or snacks, and a comfortable seating arrangement is provided in a private setting. In addition, planning around competing duties in participants' lives, such as work and household responsibilities and family can also ensure better participation.

Facilitator: Someone with experience guiding focus groups should lead the discussion. Ideally they will have training in focus group facilitation, and are able to understand the goals of the discussion in order to capture the most salient points that emerge from the discussion.

Opening the discussion: The opening to the discussion should provide participants with a clear idea of the goals of the focus group, and should establish an expectation of everyone being able to express their opinions without being judged.

QUANTITATIVE VS. QUALITATIVE RESEARCH

Understanding the differences between quantitative and qualitative research is important for selecting the most appropriate tools, and for structuring the questions being asked. Ultimately the type of data gathered is only as good as the amount that it answers the research question at hand, the amount it aides in decision making, and its cost-effectiveness.

Quantitative research can be used for statistical analysis when trying to determine correlations or relationships between factors. Sample sizes are generally larger than in qualitative research and data is collected using structured and validated research instruments. Sample size and sampling method will determine whether the survey findings are representative and can be generalized to the wider population. Quantitative data can be useful in determining and sizing market segments, including statistically significant differences among segments.

Qualitative research is used to explore topics in-depth and can be used to understand the “why” behind quantitative data and offer insight into underlying reasons, opinions, and motivations. It involves smaller samples sizes and is rarely generalizable to a wider population. Qualitative data, in addition to words, can include pictures, recordings, maps and videos. For cookstove and fuel organizations, qualitative research can be used to understand social phenomena, like the constructs around stove purchase and sustained use, which requires unpacking complex beliefs and preferences around cooking practices, gender interactions, and resource control.

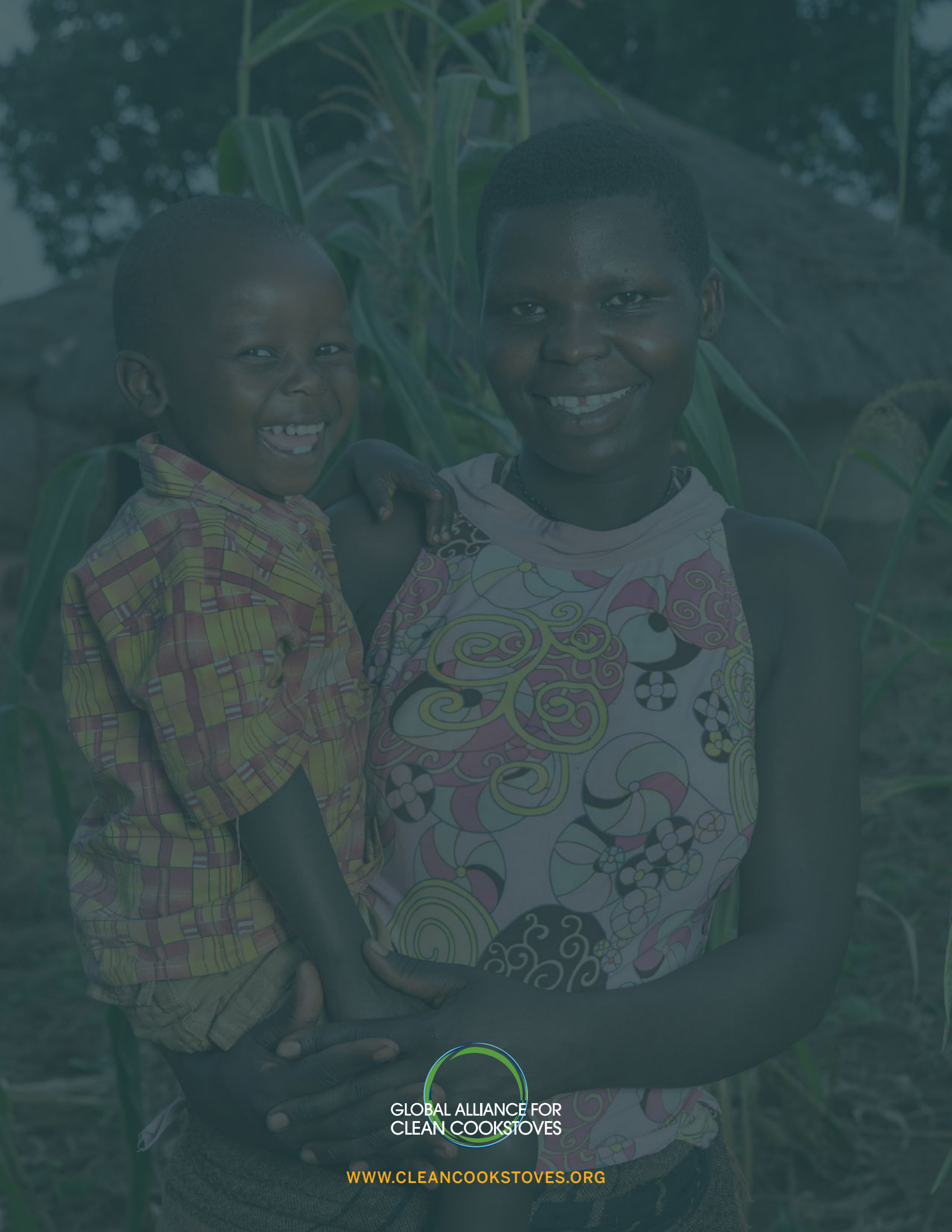
In some research circles, there is a preference for quantitative data, because it is considered to be more “factual,” “rigorous,” “generalizable” or “analytical.” While quantitative data can be used to calculate statistical insights, from the market research point of view it is not inherently better or more accurate than qualitative data. Quantitative and qualitative data are complementary and can be used simultaneously and in sequence.

Also note that collecting and analyzing qualitative and quantitative data require very different skills sets, and often research professionals specialize in one or the other, although some do specialize in both.

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