TERMS OF REFERENCE FOR

MARKET ASSESSMENT & CONSUMER PREFERENCE STUDY FOR CLEAN HOUSEHOLD ENERGY IN NEPAL

BACKGROUND:

Household air pollution (HAP) is the third leading risk factor for ill health in Nepal, accounting for over 18,000 deaths each year[1]. In addition, HAP accounts for around 1/3 of ambient air pollution (AAP) in Nepal[2], which is responsible for an additional 18,000 deaths each year[1]. In order to achieve maximum health benefits, HAP should be reduced through demonstrably clean cooking solutions, as defined by the WHO Indoor Air Quality Guidelines (IAQG), consistent with International Organization for Standardization's (ISO) International Workshop Agreement (IWA) as Tier 4 and above for indoor emissions. Nepalese communities may not achieve the maximum benefits of clean cooking if there are major barriers to sustained and widespread access and affordability of clean cooking, households continue to cook and/or heat with more polluting stoves and fuels, and/or competing sources of pollution (e.g. brick kilns, traffic, neighbors who continue to cook with traditional stoves and fuels, preparation of animal fodder, etc.) are not addressed.

The Global Alliance for Clean Cookstoves (The Alliance), by commissioning a market assessment (Part A) and consumer preference study (Part B) for Nepal, aims to better understand the household energy sector in Nepal, with a focus on cooking, and the current barriers to scale and adoption of cleaner technologies, and to identify specific interventions that can move the sector forward. **Organizations can submit proposals to conduct either one or both of the studies based on their ability to deliver on the proposed activities.**

- Market Assessment (Part A): The assessment will include a comprehensive analysis of the supply, demand, and policy and enabling environment for clean household energy products. On the supply side, the assessment will map supply and distribution channels for clean household energy (including stoves and fuels) in Nepal from the manufacturing origin, to transport/import, to distribution at wholesale and retail and potential sources of financing available within the supply chain. On the demand side, the assessment will provide a segmentation of the potential market for clean household energy products in Nepal. This will include high level profiles of each segment and identification of key factors that likely drive current usage patterns and the barriers that currently impede these segments from transition to cleaner stoves and fuels. The assessment will also examine the current enabling environment for

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[1] Institute for Health Metrics and Evaluation (IHME). GBDCompareDataVisualization. Seattle, WA: IHME, University of Washington, 2016. Available from http:// vizhub.healthdata.org/gbd-compare. (Accessed January 26, 2017).

[2] Kim, B. M., Park, J. S., Kim, S. W., Kim, H., Jeon, H., Cho, C., Yoon, S. C. (2015). Source apportionment of PM10 mass and particulate carbon in the Kathmandu Valley, Nepal. Atmospheric Environment, 123, 190–199. http://doi.org/10.1016/j.atmosenv.2015.10.082

household energy products, including policy frameworks, regulations, and other household energy related programs.

- Consumer Preference Study (Part B): This will take a more in depth look at consumer segments identified in the market assessment (and as agreed to by the Alliance) as most poised for adoption of clean and efficient cookstoves and fuels. The consumer preference study will closely examine these segments' current cooking needs and preferences, their willingness to pay for cleaner cooking solutions, and existing and potential channels for distribution, marketing and communication.

The assessments aim to help the Alliance and its partners better understand the potential unique role to play and plan interventions that will help accelerate adoption of clean household energy products and fuels in urban areas of Nepal.

The methodology for the assessment and report will be guided by the Alliance's pre-existing sector mapping and market assessment toolkit, which includes Power Point templates, interview guides, analysis worksheets, and other items. Organizations can refer to the Market Assessment conducted for India in 2015 and Guatemala Market Assessment – Sector mapping; along with the Customer Segmentation Study in the State of Kerala in India as reference for the two proposed studies.

The Global Alliance for Clean Cookstoves invites proposals from suitably qualified organizations to conduct the Market Assessment and/or the Consumer Preference Study.

ACTIVITY DESCRIPTION

In order to make further progress in the clean household energy sector in Nepal, more information is needed on the overall market, including a better understanding consumer preferences to expand further adoption.

A. Market Assessment:
The market assessment aims to clearly assess the current and potential supply and demand of clean household energy products in Nepal, and current opportunities and barriers for scaling up. The assessment will be done in five mapping modules: i. Macro Environment; ii. Market Demand for Clean Household Energy products; iii. Supply of Clean Household Energy products; iv. Financing (enterprise and consumer levels); and v. Enabling environment (Standards & Labeling, Regulatory environment).

The team will begin with:

- Conducting desk research to gather contextual country information;
- In coordination with the Alliance, identifying organizations and individuals to interview to better understand the local context; and
- Conducting interviews with relevant international and local partners, enterprises and key stakeholders in Nepal to understand the landscape of clean household energy products in Nepal.

After the desk research, the team will conduct interviews and discussions to assess and analyze the following components of the sector.

i. Macro Environment:
- Macro context of the market including demographic, social, gender, political, economic and ecological and agricultural[3] conditions and trends
- Current household-air-pollution (HAP) exposure and HAP awareness level

ii. Market Demand for Clean Household Energy products:
- Current and potential market size/demand for clean household energy products in urban Nepal and market segmentation to understand where to focus efforts, including current usage patterns for:
  - Cooking devices and fuels (biomass cookstoves, biogas, LPG, induction stoves, rice cookers currently used)
  - Heating devices (space heaters, biomass fireplace, etc.)
  - Lighting devices (electricity, solar lighting, etc.)
  - Fuels used for lighting, heating and cooking - key factors that likely drive current usage patterns and the barriers that currently impede these segments from transition to cleaner household energy products

iii. Supply value chain analysis:
- Mapping the supply value chain of clean household energy products from manufacturing to end user
- Barriers and challenges across the value chain for different clean household energy products (with a focus on cooking products) in urban areas of Nepal
- Options and tradeoffs analysis of supply chain and distribution scenarios – who produces / provides required products and services, how are they produced and where does their supply of raw materials come from, how are they produced and distributed to the final consumer, who are the "players" in the value chain and what are the barriers in scaling in urban areas
- Modeling for future requirement (supply required, barriers to supply, infrastructure needs, etc.) regarding moving substantial urban population to cleaner household energy, with a focus on electricity and LPG for cooking

iv. Enabling environment:
- Current testing, standards and labeling practices of clean household energy products in Nepal and willingness of product manufacturers for labeling of products
- Evaluation of policy frameworks for clean household energy products in Nepal, including taxes, tariffs, standards, and labeling
- Identification and review of existing initiatives promoting clean household energy, including organizations, scope, key actors involved, and lessons-learned, especially regarding reasons for success or failure to scale up distribution and use of clean household energy products in Nepal
- Identification of successful campaigns, distribution chains, and institutional models that reached the last mile, particularly in design, distribution, and livelihood creation, in past clean household energy projects and/or in relevant sectors (i.e. sanitation, solar lanterns, etc.)

v. Financing (enterprise and consumer levels):
- Evaluation of potential sources of financing for clean household energy businesses and suppliers, as well as for consumer financing, and key constraints in accessing financing

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[3] This would take into account factors such as seasonality and crop rotation patterns to better understand the potential yields available for cooking fuel production and distribution.

Based on the market assessment, the team will identify supporting structures and enabling environment activities that may need to be implemented to scale up the adoption of clean household energy products in urban markets in Nepal. They will also outline solutions and recommendations to address challenges in each of these areas:

- Potential product portfolio & service options;
- Product cost and price;
- Production and distribution facilities and infrastructure;
- Key drivers for adoption;
- Supply chain model;
- Marketing consumer value proposition;
- Scalability;
- Financing requirements and mechanisms.

B. Consumer Preferences:

The consumer preferences study will first focus on identifying various customer segments based on socio-economic backgrounds and their current cooking and heating habits. Stove "stacking" habits (use of multiple stoves and fuels) and the intensity of use of various fuels will be carefully evaluated, as well as clean stove and fuel affordability, access, and willingness to pay. The study will seek to identify the key factors that drive use of multiple stoves and fuels (specifically a mix of clean fuels like LPG, biogas, pellets, electricity, and solar) and the barriers that currently impede these segments from transition to more exclusive use of clean household energy.

In addition to a better understanding of the barriers to adoption of clean energy for household use, the study will also gather insights around strategies for overcoming these barriers and driving greater demand and sustained adoption of clean household energy, with particular focus on LPG, biogas, pellets, and cooking on induction stoves with electricity. These findings will be used to develop detailed profiles of each segment and recommendations for strategies to stimulate demand for more exclusive use of clean energy for household use for each segment.

The team should also examine the influences of cultural traditions and their implications for purchase and adoption of clean stoves and fuels. This should include changes in food taste or food preparation, perception by the family or community and household decision making dynamics. The study should also evaluate consumer knowledge on benefits of household energy products and how standards and labeling might influence consumer behavior. The research team should also study the means by which these consumer segments have successfully changed behavioral patterns in the past.

Below are specific topics to be explored in the research. Please note that this list is not exhaustive and we would be interested in hearing from applicants what additional information they think would be valuable to collect and/or analyze in order to meet the identified objectives.

Product usage:
- Profile of female and male consumer behavioral patterns and prioritized drivers of choice, including price sensitivity and accessibility;
- Products currently being used and/or purchased by the segment for lighting, heating and cooking (note: multiple cookstove, lighting/heating products or fuel use within a single household should be examined closely, including intensity of use of various stoves and fuels);
- Identification of key fuel issues for both male and female users within different consumer segments, such as time spent in fuel collection, cost of fuel, etc.;
- Reasons for using and/or purchasing current household energy products, including likes/dislikes and aspirations to upgrade from current combination;

- Reasons for not using and/or purchasing other types of clean household energy products (for lighting, heating and cooking);
- Difference in practices across different urban settings including availability, accessibility, affordability and usage patterns of clean household energy products in Nepal;
- Cooking habits and needs (cooking styles, role in daily routine, etc.);
- Awareness levels of clean stoves and fuels (including awareness of impacts of traditional cooking methods, cleaner technology options, and benefits of cleaner technologies;
- Lighting and heating habits and needs.

Price & consumer financing:
- Cost of the currently used current household energy products (both upfront and ongoing);
- Understanding of product labeling and standards amongst various customer segments for clean household energy and other products;
- Perceived benefits of products, and how standards and labeling may or may not influence perceptions and purchasing decisions;
- Willingness to pay for clean household energy products;
- Interest in consumer financing for household energy products, price point at which financing is appropriate and desired terms;
- Current consumer financing models utilized or other means of purchasing household products.

Distribution channels:
- Purchase channels used for current household energy products/fuels (or fuel collection practices) for lighting, heating and cooking;
- Currently utilized distribution channels reaching the segment, for household energy products, including the size and weight of products;

Marketing & communication:
- Marketing messages, techniques, channels currently being used to target this segment, including which have been documented as most effective;
- Messaging and techniques that could be effective in promoting more intensive use of clean household energy products including fuels to this segment (including testing of various content, wording, channels, labels, non-tangible driver (e.g. social or cultural factors) etc.);
- Segments' interaction with community (social groups, health workers, etc.);
- Exposure to media (radio, TV, etc.);
- Information about aspirational goods, including where motivation originated and actions taken to save for or purchase them;
- Active clean household energy stakeholders trying to reach this segment, including their scale, their main challenges, and their main factors of success.

METHODOLOGIES

The consultant should start with desk research of all existing data, including studies conducted by the Alliance and others. The Alliance will also introduce the consultant to various stakeholders in Nepal for this gathering further information but should reach out directly to consumers and other additional players (manufacturers, distributors, financing institutions, policy makers etc) within the clean household energy sector in Nepal.

The consultant should also plan to conduct primary research with consumers and stakeholders, which could include, but is not limited to: expert interviews, household surveys, focus groups, ethnographies and product demonstrations. All firms submitting proposals should specify the methodologies they plan to use to gather

the required information. The market assessment would be conducted at a national level where as the customer preference study will have specific focus regions within urban areas of Nepal.

Specific study sites should include, but are not limited to:
- o Bharatpur Municipality, Chitwan District
- o Kavre VDC, Kavrepalanchok District
- o Kathmandu Valley

TIMELINE

The time-period to complete both the Market Assessment and Consumer Preference Study begins on or around June 1, 2017 and ends August 31, 2017, with a preliminary findings and results to be presented at the Alliance stakeholder consultation at end of July 2017.

All initial drafts will be due prior to the stakeholder consultation by end of July in Kathmandu, Nepal with various stakeholders, and the final deliverables, which fully integrate the feedback and comments collected from the initial draft, are due by August 31, 2017. The consultant will need to have its representatives in Kathmandu to present the market assessment report and recommendations.

DELIVERABLES

In addition to the producing the following deliverables by the specified dates, the research team will be expected to have regular calls with the project manager throughout the project work period.

- Detailed project and work plan, including methodologies by June 10th, 2017;
- Preliminary findings and results in PowerPoint submitted for review by July 20th, 2017;
- Presence at meetings in Kathmandu with local stakeholders to present findings and discuss recommendations during the last week of July, exact date TBD.

The following deliverables are expected by August 31st, 2017:

Market Assessment:

- Executive Summary of the Market Assessment in PowerPoint format;
- Market Assessment report with analyses as detailed in the activity description;
- Recommended interventions to increase availability/adoption of clean household energy products.

Consumer Preference Study:

- Interim report outlining segmentation hypothesis and segments to be targeted in primary research;
- Full consumer preference report with detailed data analysis and detailed profile of each of the target segments, for most effectively targeting each consumer segment;
- Executive Summary of the consumer preference study;

APPLICATION INSTRUCTIONS:

Applicants may propose to conduct:
1. The Market Assessment Study
2. The Consumer Preference Study
3. Both the Market Assessment and Consumer Preference Studies

Please submit a proposal and work plan, describing the following:

- Proposed timeline and approach for completing the work, including a description of overall process. The timeline should include all key deliverable dates and a plan for meeting those deadlines.
- Detailed methodologies for all aspects of the study (not to exceed 4-5 pages for each proposed study)
- Unique qualifications of the organization and its staff, such as: understanding of and experience in conducting market research, experience working with consumers and conducting consumer research in developing countries, understanding of and experience in Nepalese context. If the organization plans to hire any sub- contractors a letter of support from each sub-contracting organization must be provided. CVs of key personnel involved in the project along with their relevant experience.
- Broad overall budget, including budget for potential sub-contractors (note that indirect cost estimates may not exceed 13%)
- Outline of experience conducting this kind of market research or analysis, including samples of previous work if applicable

Appendices may be provided for supplementary materials as relevant, but review will be based mainly on the information provided in the project plan.

Finalists will be selected based on the following criteria:
- Experience conducting market assessments and/or consumer focused studies
- Experience conducting similar studies in clean energy/consumer durables in developing countries
- Experience conducting research in Nepal
- Appropriateness of the methodologies proposed
- Appropriateness of budget
- Demonstrated ability to complete deliverables within a specified timeframe

Any questions regarding the TOR should be submitted to Amit Antony Alex at aalex@cleancookstoves.org no later than May 10th, 2017. A compiled FAQ would be provided to the organizations that have raised queries by May 2017.

Applications should be submitted to proposals@cleancookstoves.org no later than **6.00 pm GMT on May 17th, 2017**. The selected organization(s) will be notified by May 31st, 2017.