



**USAID** | **INDIA**  
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*Technical Consultation on*  
**Advanced Cook Stoves for the Improved  
Health of Women and Children in India**



**SUMMARY OF PROCEEDINGS**

December 10, 2009, New Delhi, India



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the Improved Health of Women  
and Children in India**

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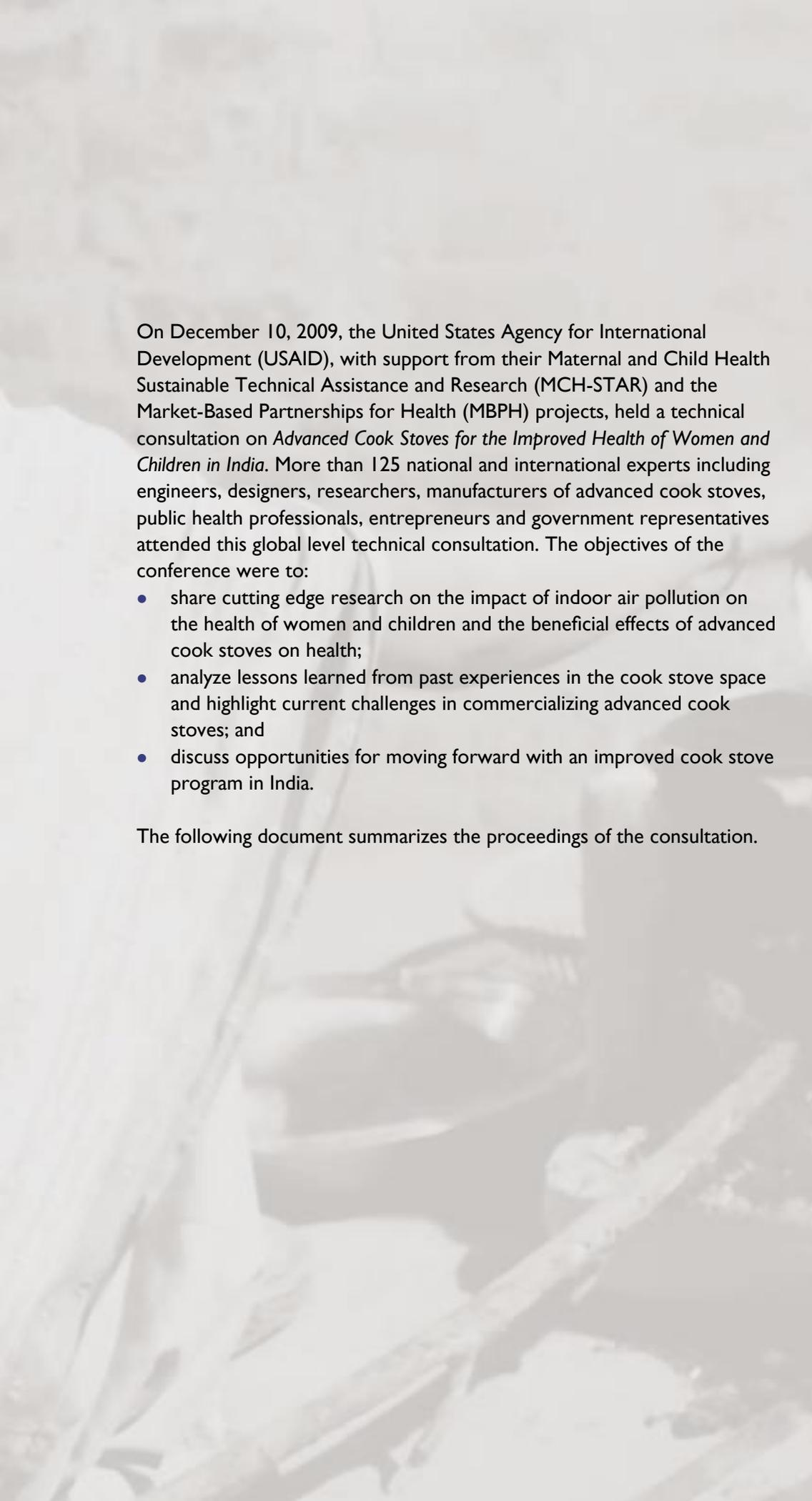
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A woman in a white sari is cooking over a traditional wood-burning stove. The background is a soft-focus image of a woman in a white sari, likely the same woman, in a similar setting. The overall tone is warm and focused on the subject of cook stoves.

On December 10, 2009, the United States Agency for International Development (USAID), with support from their Maternal and Child Health Sustainable Technical Assistance and Research (MCH-STAR) and the Market-Based Partnerships for Health (MBPH) projects, held a technical consultation on *Advanced Cook Stoves for the Improved Health of Women and Children in India*. More than 125 national and international experts including engineers, designers, researchers, manufacturers of advanced cook stoves, public health professionals, entrepreneurs and government representatives attended this global level technical consultation. The objectives of the conference were to:

- share cutting edge research on the impact of indoor air pollution on the health of women and children and the beneficial effects of advanced cook stoves on health;
- analyze lessons learned from past experiences in the cook stove space and highlight current challenges in commercializing advanced cook stoves; and
- discuss opportunities for moving forward with an improved cook stove program in India.

The following document summarizes the proceedings of the consultation.

# Introduction

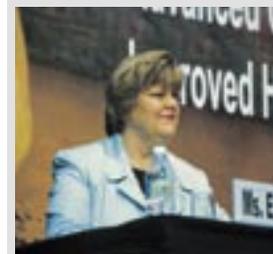


# Introduction and Welcome

*Erin Soto, Mission Director, USAID/India*

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The day began with Ms. Erin Soto highlighting the issue of private and public sector engagement in the promotion of cost effective and efficient cook stoves. She then welcomed those present and introduced Ambassador Roemer.



## Ambassador's Address

*Timothy J. Roemer, Ambassador of the United States of America*

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In his opening remarks, Ambassador Timothy J. Roemer welcomed the announcement of India's "National Biomass Cook Stove Initiative," calling it an exciting opportunity for the United States (U.S.) to contribute to India's longstanding efforts to tackle the problem of indoor air pollution while enhancing the lives of all Indians. He emphasized that the U.S. and India are committed to working together to ensure that the poorest and most vulnerable members of society have access to the best and most cost-effective cook stove technology and noted that indoor air pollution is not only an Indian problem. He said that India, as a global power, can lead the way to a solution for her own citizens and others at risk around the world. He thanked the participants and said he looked forward to hearing about the outcomes of the meeting.



## Public Health Perspectives on Indoor Air Pollution in India

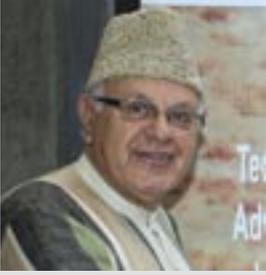
*Dr. K. Srinath Reddy, President, Public Health Foundation of India*

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Dr. K. Srinath Reddy emphasized the need for a policy initiative to address indoor air pollution by promoting advanced cook stoves and addressing health needs. He said that a positive political climate, financial and operational feasibility, and scientific credibility play a crucial role in directing policy level change. He noted that there is sufficient scientific data to link negative environmental and health impacts to indoor air pollution. Indoor air pollution from traditional *chulhas* (cook stoves) led to what he called a 'development challenge' which arises because affected women and children, who spend several hours gathering wood and in front of the traditional *chulha*, are unlikely to participate in areas of community and individual development such as education and health. He said that the consequences of not acting were high and it was time policymakers took action.



# Comments of the Minister for New and Renewable Energy



*Dr. Farooq Abdullah, Cabinet Minister for New and Renewable Energy, Government of India*

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Dr. Farooq Abdullah commended USAID and the participants for organizing the technical consultation. He appealed to the group to arrive at effective initiatives to deal with the issue of indoor air pollution. He said that an effective intervention would need to be sustainable, provide livelihood, use available sources of energy, and be affordable to the intended users. He was confident that India is in a position to address the issue of indoor air pollution through the use of improved cook stoves. Dr. Abdullah emphasized the need for the cook stove initiative to gain the confidence of end users. Dr. Abdullah also noted that alternative sources of energy, such as solar, hydro and wind, need to be examined.

## Keynote Address Household Fuels, Indoor Air Pollution and Health: Impacts on Women and Children Across the Globe



### Moderator

*S. Padmanaban, South Asia Regional Initiative for Energy (SARIIE) & Senior Energy Advisor, USAID/India*

### Speaker

*Dr. Kirk Smith, Professor of Global Environmental Health, University of California, Berkeley*

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Dr. Kirk Smith began his keynote address by bringing attention to the issue of indoor air pollution and its negative impacts on the health of women and children. He said that the “toxic tsunami” of indoor air pollution kills everyday, but since it is a slow death, it never gets into the headlines. He said that there is a need for collaboration between the public and private sectors to successfully tackle this problem. Dr. Smith explained that while poverty alleviation is everyone’s long term goal, it is also important to focus on the “levers” that can make people healthy before they are wealthy. These levers include improved nutrition, immunization and clean fuel.

He provided data showing that, in India, average exposure to pollutants is very high and that both indoor and outdoor cooking leads to similar levels of exposure to pollutants. He added that cook stoves with chimneys have no significant impact on health because the smoke often remains in the house.



He highlighted the significant environmental damage caused by household fuels in Andhra Pradesh, noting that about 40% of outdoor pollution is due to household fuel.

He also shared data that illustrate the negative health outcomes caused by indoor air pollution. Based on his research in Guatemala, he showed that the incidence of Acute Lower Respiratory Infection among children was 35% in households using stoves with chimneys but only 22.5% in those using more efficient cook stoves. Dr. Smith also shared health data showing that in households that use solid fuel:

- children experience 80% more cases of pneumonia;
- on an average, children from these households had 100 gm lower birth weight; and
- heart diseases and eye diseases (such as cataract) were more common.

On the issue of alternate fuels, Dr. Smith said that kerosene may not be a feasible option since the wick used to light/burn a kerosene device is highly polluting. Other fuels, such as liquid fuels, are higher up in the energy ladder and thus, more expensive. Regarding financing options, Dr. Smith pointed out that subsidizing stoves is a better option than subsidizing fuels since the latter often leads to black marketeering.

Addressing the way forward in India, Dr. Smith said that major innovations in technology, dissemination, and monitoring and evaluation are required for a cook stove initiative to be successful. He added that the role of the government is central in developing standards and enforcing them, as well as in delivery. Linkages with existing infrastructure, such as prenatal clinics, public health workers and government programs could be routes for bringing improved cook stoves to places and people who need them the most. It would be useful to pilot different approaches and explore private-private, private-public, and public-public options.

# Plenary I

## Indoor Air Pollution, Health and the National Program on Improved *Chulhas* in India

### Moderator

*Jacob Moss, Senior Advisor on Energy and Indoor Air Quality, U.S. Environmental Protection Agency*



### Speakers

*Dr. Kalpana Balakrishnan, Professor and Head, Environmental Health Department, Sri Ramachandra University, Chennai*

*Dr. Hafeez Rehman, Social Transformation Director, The Energy and Resources Institute*

## Indoor Air Pollution: An Exposure and Health Effects Review for India

*Dr. Kalpana Balakrishnan, Professor and Head, Environmental Health Department, Sri Ramachandra University, Chennai*



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Given the compelling international evidence on the health impact of indoor air pollution, Dr. Kalpana Balakrishnan underscored the need for India-specific studies that establish the causal relationship between indoor air pollution and health. She said that pollution level data from 4,000 Indian households in at least nine states is now available from several studies. However, she pointed out that there is still a need for investment in stove monitoring technology and for the study of cooking patterns in order to design consumer-oriented cook stoves. Dr. Balakrishnan said that a partnership between the government and the private sector would accelerate this process and lead to improved designs and more effective cook stoves.

## Moving Forward after the National Program on Improved *Chulhas* (NPIC)

*Dr. Hafeez Rehman, Social Transformation Director, The Energy and Resources Institute*



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Providing an overview of the National Program on Improved *Chulhas* (NPIC), Dr. Hafeez Rehman explained that NPIC promoted cook stoves with chimneys that directed the pollutants outdoors, since the program mandate was to target indoor air pollution rather than address the health impact. NPIC aimed to achieve 100% coverage within a village rather than attempting to cover 100% of villages in India. About 30 million stoves were disseminated during the duration of the program. NPIC had limited interaction with users, designers and manufacturers, and was confronted with issues, such as the lack of standards and

varying quality of the stoves disseminated. Dr. Rehman stated that subsidies provided as part of NPIC failed to sustain the demand and usage of improved cook stoves.

To move forward, he said that design standards need to be set so that models can integrate burner and cook stove design elements. He suggested that there could be various grades of standards since a wide range of cook stoves exist in the market. He emphasized the need for periodic field monitoring. In addition, in the Indian context, he also proposed management of fuel at the local (rural) level, which would help sustain the use of cook stoves. For an initiative to be successful, distribution and delivery need to be target driven. Dr. Rehman advocated a limited government role, which should be focused primarily on quality assurance and regulation.

## Plenary II

### Enterprise-Based Solutions

#### Moderator

*Jeroen Blum, Director, Shell Foundation, The Netherlands*

#### Speakers

*Rakesh Sharma, Senior Director, Strategy and Business Development, Philips Electronics India Ltd.*

*Harish Anchan, Managing Director, Envirofit India Pvt. Ltd.*

*Mahesh Yagnaraman, Managing Director, First Energy Pvt. Ltd.*

*Dr. Mouhsine Serrar, CEO, Prakti Design Lab*

*Rakesh Sharma, Senior Director, Strategy and Business Development, Philips Electronics India Ltd.*

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Mr. Rakesh Sharma explained that the Philips' operating principle of "sense and sensibility", which attempts to bring consumer-focused solutions to the market, is what has led the company to pursue advanced cook stoves. Philips sees long term growth potential in Base of the Pyramid (BoP) markets and has therefore, invested in developing appropriate technological innovations to cater to this segment. Philips, however, is a new player in the advanced cook stove arena and has not yet initiated commercial production and marketing. Mr. Sharma expressed his appreciation for the exchange of ideas and experience he has received from the more established actors in the field.

Mr. Sharma said that while the consumer base for the Philips woodstove could be in both rural and urban markets, the urban BoP consumers are more likely to become early adopters because women (and families) living in urban slums are highly aspirational and consider time saved in cooking as a value added benefit. The convenience of using advanced cook stoves can be



one of the positioning platforms for Philips woodstoves. He said that some of the major challenges ahead relate to affordability and demand generation.

*Harish Anchan, Managing Director, Envirofit India Pvt. Ltd.*

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Mr. Harish Anchan said that while Envirofit has sold over 100,000 stoves, the company has faced many obstacles, such as low visibility and awareness among target consumers and high costs of reaching the end consumer. Introducing a completely new method of cooking requires changes in behavior that have been inculcated over years and generations. Many consumer behaviors, from lighting a fire and chopping wood to making a purchase decision for a previously “free” product, need to be changed through education before new cook stoves can be successfully commercialized.

Mr. Anchan said that a distributor is the backbone of stove supply, both for building a client relationship and for providing continued service after the sale. He explained the commission-based direct selling system that Envirofit has piloted through village-level entrepreneurs. He closed by saying that Envirofit would be interested in establishing partnerships with other actors who can build on demand creation.

*Mahesh Yagnaraman, Managing Director, First Energy Pvt. Ltd.*

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Mr. Mahesh Yagnaraman opened by noting that consumers need an integrated cooking solution, not just a new cook stove. This thinking led to the development of the *Oorja* stove that is not only efficient, but also appeals to the aesthetic sensibilities of consumers. The *Oorja* stove runs on processed biomass pellets, which according to First Energy, increases efficiency and reduces cook stove emissions. He said that this ‘price plus performance’ combination works with consumers; 425,000 consumers are now using *Oorja* stoves. First Energy supplies the product through a distributor-based model. They have recently embarked on an entrepreneurship-led model where the local entrepreneur makes a profit on stoves sold. The company is also distributing *Oorja* stoves through the ITC e-Choupal network in Madhya Pradesh.

Mr. Yagnaraman said that low consumer awareness and high investment in creating the necessary awareness were the most significant barriers they encountered during commercialization. This was especially true of rural consumers, who often take their cues from cities, where LPG stoves are more prevalent. Thus, rural consumers are not as likely to be aware of, or desire, advanced cook stoves. Investments in brand building and in delivering a desirable product are therefore, crucial to the success of an initiative. Mr. Yagnaraman noted that the health benefits of improved stoves are not sufficient to drive consumer demand.

He said that First Energy has partnered on technology and distribution with the Indian Institute of Science (IISc) and with ITC e-Choupal respectively. He welcomed this consultation as a step forward in identifying and building new partnership opportunities.



*Mouhsine Serrar, CEO, Prakti Design Lab, Pondicherry*

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Mr. Mouhsine Serrar gave an overview of Prakti Design Lab operations. The company aims to create affordable, easily replicable, fuel-efficient stoves for thousands of people living in villages in Asia and Africa. Prakti designs, develops and manufactures cook stoves that reach consumers through distributing companies. Prakti has experimented with various types of distribution, customizing distribution options for different types of consumers. As a company that is technology driven, Prakti pilots stove models to determine their effectiveness in the field. Mr. Serrar said that while striving for the best possible performance in the laboratory was commendable, it is more realistic to aim for sustained acceptable performance at the field level.

Mr. Serrar said that mass manufacturing was not the only commercially viable solution. There is also potential for a commercially viable *in situ* production, which he called a “commercial cottage” model. In this case, local production monitoring and evaluation of both the product and the production process would be critical. Manufacturers need to find the optimal balance between manufacturing *in situ* cottage stoves and factory manufactured stoves, as well as stoves for domestic and institutional usage. He concluded by emphasizing that the cook stove industry requires integrated solutions rather than piecemeal efforts to achieve significant impact.

## Plenary III

### Demand Generation and Distribution

#### Moderator

*S. Patara, Vice President, Development Alternatives Group*

#### Speakers

*Anuradha Bhavnani, Advisor, Shell Foundation India*

*Ashis Kumar Sahu, Chief Operating Officer, SELCO Solar Pvt. Ltd.*

*Dr. Priya Darshani Karve, Project Coordinator, Appropriate Rural Technology Institute*

### Challenges in Creating Demand for Cook Stoves

*Anuradha Bhavnani, Advisor, Shell Foundation India*

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Ms. Anuradha Bhavnani pointed to one of the biggest challenges in the commercialization of advanced cook stoves – the lack of a ‘felt need’ in the minds of potential consumers and the target audience. This is because the target consumers at the BoP have limited financial resources and cook stoves compete with other basic amenities, such as health and education. In order to drive the adoption of cook stoves, consumer financing is important, she said.



She also emphasized the need for standardization. The lack of standardization and quality assurance in the cook stove market is an impediment to convincing both donors and consumers. The industry needs to set acceptable standards for cook stoves, and only products that meet these standards should be promoted. She said that the Shell Foundation has developed a set of interim standards for rating, known as the Shell Standard, and plans to brand “quality” stoves with these standards.

In addition, she said that efforts were needed to focus on building awareness and behavior change communication targeted at potential consumers. To this end, Ms. Bhavnani noted that both media and direct contact channels need to be explored.

## Experimenting with Direct Sales in Marketing Cook Stoves

*Ashis Kumar Sahu, Chief Operating Officer, SELCO Solar Pvt. Ltd.*

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In his experience, Mr. Ashis Sahu explained that he has consistently encountered certain myths that marketers need to break. There is a belief that, in addition to the reluctance to pay for technology, the poor are not comfortable with and do not readily adopt new technology. It is also thought that technology-driven solutions for the poor cannot be commercially viable. He said that SELCO’s success story had dispelled these myths and that entrepreneurs working with consumers at the BoP need to be innovative and understand their consumers.

Mr. Sahu noted that the target consumer probably does not consider indoor air pollution to be a problem. Thus, increasing consumer awareness is important. There is also a need to offer technological solutions that are reliable, affordable and customizable. Finding the right balance between opportunity cost and price would go a long way in converting consumers. He also emphasized the need for after sales service, which was a precursor to sustained use.

## Supply Chain Challenges in Bringing Cook Stoves to Markets

*Dr. Priyadarshini Karve, Project Coordinator, Appropriate Rural Technology Institute (ARTI)*

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Dr. Priyadarshini Karve provided an overview of ARTI’s in-depth experiences in the advanced cook stove industry. From being a participant in a purely subsidized sector to a pioneer in the development of a commercial model for cook stoves, ARTI has been at the forefront of sustainable cooking solutions. ARTI has created a private entity called Samuchit Enviro Tech Ltd (SET) to commercialize their energy technologies. SET assists in the marketing and distribution of cook stoves. Dr. Karve highlighted the



various challenges in expanding the reach of cook stoves, which include lack of quality and standards, limited financial resources for marketing efforts, customized and geographically constrained markets, and the “welfare approach” of Non-Governmental Organizations (NGOs) leading to the lack of commercial orientation. ARTI has endeavored to incorporate customized solutions for different groups of consumers. While adopting mass manufacturing in cook stoves, ARTI also has a wide range of products to cater to various needs.

Dr. Karve said that consumer awareness and behavior change is critical to driving the cook stove market and emphasized the need for a study on the barriers to the adoption of cook stove. In order to bridge the gap between the manufacturer and the consumer, ARTI engages in direct interface with the target audience, including participation in village *haats* and agricultural fairs. She concluded by saying that while the cook stove industry has come a long way, there are still miles to go.

## Plenary IV

### Innovative Financing

#### Moderator

*Parijat Ghosh, Global Account Manager, The Monitor Group*

#### Speakers

*Ron Bills, Chairman, Envirofit International*

*Eduardo C. Ferreira, Associate, Environmental Markets, JP Morgan*

*K. Suresh, Chairman, Grameen Koota*

### Addressing Tariffs and Taxes

*Ron Bills, Chairman, Envirofit International*

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Mr. Ron Bills spoke about the high taxation on cook stoves. He pointed out that taxes on cook stoves include customs duty of about 13.5% on imported cook stoves, while excise duty for domestically manufactured cook stoves is around 8%. Additional taxes include 4% VAT and 2% Central Sales Tax (CST). This amounts to a total taxation of 13 – 19% on cook stoves. These expenses, along with manufacturing and other transaction costs, mean that manufacturers are not able to invest in as many demand generation activities as they would like. He said that the accreditation of cook stoves is important so that products that meet qualifying standards can seek tax relief, which will ultimately benefit the consumers. Mr. Bills added that the way forward should include standardized testing protocols, government accreditation and tax relief.



## Making Carbon Financing Work for the Expansion of Improved Cook Stove Programs

*Eduardo C. Ferreira, Associate, Environmental Markets, JP Morgan*

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Mr. Eduardo C. Ferreira explained that carbon financing includes two mechanisms: Carbon Emission Reduction (CER), with guidelines set by Kyoto Protocol, and Voluntary Emission Reduction (VER), which have been specified by the UN. He noted that Bangladesh has proposed a large carbon reduction program for advanced cook stoves, under which about 1 million CERs/year will be generated. Mr. Ferreira, however, explained that the evaluation and other procedures make carbon financing options for advanced cook stoves prohibitively expensive for the private sector. He added that in India, where cook stoves are not a replacement for coal (or other non-renewable fuels), the benefits accrued from advanced cook stoves are limited. Mr. Ferreira concluded by saying that pre-paid carbon financing of a project is possible and depends on the technology used, the state of the project, and the relationship with the client.

## Role of Micro-Finance in Financing Cook Stoves

*Suresh Krishna, Chairman, Grameen Koota*

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Mr. Suresh Krishna explained that Grameen Koota is one of the largest Micro-Finance Institutions (MFI) in the country, and is registered as a Non-Banking Financial Company (NBFC). He noted that Envirofit is a leading partner in the dissemination and financing of cook stoves. Awareness building is a key initiative of Grameen Koota, which conducts workshops and organizes demonstration camps towards this end. Loans of between INR 500-1000, with a 10-week repayment period, are provided to its members.

Mr. Krishna said that the key challenges for micro-financing of advanced cook stoves include the servicing ability of manufacturers, reputation and financial risk to the MFI, and the perception among consumers that financing increases the cost of owning cook stoves.

# Concluding Session

## Key Lessons Learned and the Way Forward

### Moderator

*Dr. Rajiv Tandon, Chief, Maternal and Child Health, Nutrition and Urban Health Division, USAID/India*

### Speakers

*Dr. Marta Levitt-Dayal, Chief of Party, USAID/India's Maternal and Child Health Sustainable Technical Assistance and Research (MCH-STAR) Project*

*Dr. Anand Sinha, Country Director, USAID Market-Based Partnerships for Health (MBPH) Project*

### Discussants

*Dr. Ambuj Sagar, Professor of Policy Studies, Indian Institute of Technology, Delhi*

*Dr. Kirk Smith, Professor of Global Environmental Health, University of California, Berkeley*

*Dr. Hafeez Rehman, Social Transformation Director, The Energy and Resources Institute*

*Jeroen Blum, Director, Shell Foundation, The Netherlands*

## Summary of the Day's Proceedings

*Dr. Marta Levitt-Dayal, Chief of Party, USAID/India's Maternal and Child Health Sustainable Technical Assistance and Research (MCH-STAR) Project*

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Dr. Marta Levitt-Dayal summarized the key points from the preceding sessions. In order to reduce indoor air pollution and improve the health of mothers and children through advanced cook stoves, the key messages of the meeting were:

- We require sustained engagement and results.
- We need to develop creative partnerships that are a convergence of multiple private and public sectors and professions with diverse expertise.
- We need to reach the most vulnerable by ensuring that advanced cook stoves are: readily available, easy to use, not too expensive, can be repaired, and meet user needs.
- We need to track impact by disaggregating data for specific diseases and disorders, in particular low birth weight, stillbirths, acute respiratory infection, chronic obstructive pulmonary disease, and heart disease in mothers and children.
- We do not need to wait for poverty alleviation for improved health and



can have an impact on health through interventions such as cook stoves and cleaner fuels.

- We should focus on improved fuel combustion efficiency and try to get down to levels acceptable to the World Health Organization (WHO) standards.
- Investments will be needed for at least 10 years.
- We must learn from past lessons:
  - Strengthen entrepreneurship opportunities.
  - Promote greater interaction between users, producers and designers.
  - The government's role should be to establish quality standards, regulation and facilitation of standards, but not implementation.
  - Focus on new, cleaner fuel technology development.
  - Engagement and investment of the corporate sector is critical.
- The following are needed for a well-functioning cook stove program:
  - Monitoring and evaluation using new technologies and global research standards.
  - Pilots that are well documented and can go to scale.
  - Policies and programs that encourage and reward private/corporate sector investment and engagement.
  - Government responsibility to support regulations, standards, and benchmarks along with cost saving policies.
  - Public and private partnerships that reach the most vulnerable.
  - Linkages with existing MCH, nutrition, development and education programs.

## The Way Forward

### *Dr. Anand Sinha, Country Manager, USAID/India's Market-Based Partnerships for Health (MBPH) Project*

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Dr. Anand Sinha highlighted different drivers and barriers across the value chain of the advanced cook stoves market along with the desired end-states across the various elements (research and development, manufacturing, distribution, financing, consumer awareness and demand generation). Dr. Sinha identified potential intervention options across the value chain, based on player/possible solutions and past experience. In arriving at potential models for the commercialization of advanced cook stoves, he pointed out that, for a specific geography, it was critical to determine the market and the required configuration for product, distribution and financing based on consumer preferences.

Dr. Sinha said that successful interventions will need to address issues across all or most elements of the value chain. This requires partnerships between stove manufacturers and other players with relevant expertise in specific elements of the value chain. In this context, a favorable regulatory environment with respect to taxation and/or financial benefits/subsidies would accelerate gains in the sector. He underscored the need for an ongoing knowledge management mechanism to synthesize and widely disseminate experience from current and new interventions.





## Discussion

**Q: What are the specific gaps that can be addressed to make an impact in the cook stove arena?**

*Jeroen Blum, Director, Shell Foundation, The Netherlands*

Mr. Jeroen Blum said that three areas require focused interventions: demand generation, affordability and Public-Private Partnerships (PPP) to drive the adoption of advanced cook stoves. Demand generation for cook stoves was unlike selling propositions for other durables because cook stoves require significant alterations in existing behavior in a fundamental and daily activity. He pointed out that there is an opportunity to create funds within MFIs exclusively for a clean technology portfolio, which would lead to funds for marketers and increased affordability for consumers. He added that the concept of PPP should be based on partnership rather than driven by a donor-recipient relationship.

**Q: The cook stove players are a dynamic group that has garnered significant experience over the years. In this context, what is the best way for USAID to facilitate an engagement?**

*Dr. Hafeez Rehman, Social Transformation Director, The Energy and Resources Institute*

According to Dr. Hafeez Rehman, USAID could play a pivotal role in building partnerships between U.S. and Indian institutions to catalyze technological interventions for the next generation of cook stoves.

Driving affordability and financing would also be an important value addition from an organization such as USAID. The first step towards this would be to carry out a comprehensive study on the various transaction costs associated with cook stoves, including costs at various value chain elements, from Research and Development (R&D) and manufacturing to market activation. Dr. Rehman also pointed out that innovative consumer awareness generation strategies needed to be piloted and USAID could be the catalyst for such promotional campaigns.

## **Q: What are the next steps in light of the government's initiative in biomass cook stoves?**

*Dr. Ambuj Sagar, Professor of Policy Studies, Indian Institute of Technology, Delhi*

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Dr. Ambuj Sagar said that the government's improved cook stoves program is a multi-pronged intervention that targets technology, delivery, testing and monitoring of cook stove technology. He suggested that in collaborating with the national program, USAID could adopt a phased approach and focus on capacity building in the initial stages. As the program moves forward, other areas of association would emerge. In conclusion, Dr. Sagar suggested that USAID could work to get the U.S. government to provide financing for cook stove technology based on the idea of "avoided emissions" as a result of these products.

*Dr. Kirk Smith, Professor of Global Environmental Health, University of California, Berkeley*

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Dr. Kirk Smith suggested that USAID/India convince USAID in Washington of the importance of the improved cook stove programs. He reiterated that a successful cook stove program would need to work with the national program. Since a pure commercial approach would be too slow, a role for government is still needed.

## **Closing Remarks**

*Elizabeth Warfield, Deputy Mission Director, USAID/India*

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Ms. Elizabeth Warfield thanked the speakers and participants, and acknowledged the efforts of the organizers.



# Annexure

# Agenda

## Technical Consultation

### “Advanced Cook Stoves

for

### Improved Health of Women and Children in India”

December 10, 2009

Stein Auditorium, India Habitat Centre (IHC), Lodhi Road, New Delhi

Time	Session
10:30–11:00	Registration, Stove Exhibit and Tea
11:00–11:05	<b>Film:</b> “A Life in Smoke” by Vijay Kutty
11:05–11:10	<b>Introduction and Welcome</b> Erin Soto, Mission Director, USAID/India
11:10–11:25	<b>Ambassador’s Address</b> Timothy J. Roemer, Ambassador of the United States of America
11:25–11:40	<b>Public Health Perspectives on Indoor Air Pollution in India</b> Dr. K. Srinath Reddy, President, Public Health Foundation of India
11:40–12:20	<b>Keynote Address:</b> <b>Household Fuels, Indoor Air Pollution, and Health: Impacts on Women and Children across the Globe:</b> Dr. Kirk Smith, Professor of Global Environmental Health, University of California, Berkeley  Question and Answer Session Moderator: S. Padmanaban, Director, South Asia Regional Initiative for Energy (SARI/E) & Sr. Energy Advisor, USAID/India
12:20–1:00	<b>Plenary I – Indoor Air Pollution, Health and the National Program on Improved Chulhas in India</b> Moderator: Jacob Moss, Senior Advisor on Energy and Indoor Air Quality, U.S. Environmental Protection Agency  Speakers: <ul style="list-style-type: none"> <li>• <i>Indoor Air Pollution: An Exposure and Health Effects Review for India:</i> Dr. Kalpana Balakrishnan, Professor and Head, Department of Environmental Health Engineering, Sri Ramachandra University, Chennai</li> <li>• <i>Moving Forward after the National Program on Improved Chulhas:</i> Dr. Hafeez Rehman, Social Transformation Director, The Energy and Resources Institute (TERI)</li> </ul> Discussion

1:00–1:45	Lunch
1:45–2:30	<p><b>Plenary II: Enterprise-Based Solutions</b> Moderator: Jeroen Blum, Director, Shell Foundation, Netherlands</p> <p>Speakers:</p> <ul style="list-style-type: none"> <li>• Rakesh Sharma, Senior Director Strategy and Business Development, Philips India</li> <li>• Harish Anchan, Managing Director, Envirofit India</li> <li>• Mahesh Yagnaraman, Managing Director, First Energy Private Limited</li> <li>• Dr. Mouhsine Serrar, CEO, Prakti Design, Pondicherry</li> </ul> <p>Discussion</p>
2:30–3:15	<p><b>Plenary III: Demand Generation and Distribution</b> Moderator: S. Patara, Vice President, Development Alternatives Group</p> <p>Speakers</p> <ul style="list-style-type: none"> <li>• <i>Challenges in Creating Demand for Cook Stoves:</i> Anuradha Bhavnani, Advisor, Shell Foundation India</li> <li>• <i>Experimenting with Direct Sales in Marketing Cook Stoves,</i> Ashis Kumar Sahu, Chief Operating Officer, SELCO Solar Pvt. Limited</li> <li>• <i>Supply Chain Challenges in Bringing Cook Stoves to Markets,</i> Dr. Priya Darshani Karve, Project Coordinator, Appropriate Rural Technology Institute</li> </ul> <p>Discussion</p>
3:15–3:30	<b>Tea Break</b>
3:30–4:15	<p><b>Plenary IV: Innovative Financing</b> Moderator: Parijat Ghosh, Global Account Manager, MONITOR Group</p> <p>Speakers</p> <ul style="list-style-type: none"> <li>• <i>Addressing Tariffs and Taxes:</i> Ron Bills, Chairman, Envirofit India</li> <li>• <i>Making Carbon Financing Work for the Expansion of Improved Cook Stove Programs:</i> Eduardo C. Ferreira, Associate, Environmental Markets, JP Morgan</li> <li>• <i>Role of Micro-Finance in Financing Cook Stoves:</i> K. Suresh, Chairman, Grameen Koota</li> </ul> <p>Discussion</p>
4:15–5:25	<p><b>Concluding Session: Key Lessons Learned and the Way Forward</b> Moderator: Dr. Rajiv Tandon, Chief, Maternal and Child Health, Nutrition, and Urban Health Division, USAID/India</p> <p><i>Summary of the Day's Proceedings:</i> Dr. Marta Levitt-Dayal, Chief of Party, USAID/India's Maternal and Child Health Sustainable Technical Assistance and Research (MCH-STAR) Project</p> <p><i>The Way Forward:</i> Anand Sinha, Country Manager, USAID/India's Market-Based Partnerships for Health (MBPH) Project</p> <p>Discussants:</p> <p>Jeroen Blum, Director, Shell Foundation, Netherlands Dr. Hafeez Rehman, Social Transformation Director, The Energy and Resources Institute (TERI) Dr. Ambuj Sagar, Professor of Policy Studies, Indian Institute of Technology, Delhi Dr. Kirk Smith, Professor of Global Environmental Health, University of California, Berkeley</p> <p>Discussion</p>
5:25–5:30	<p><b>Vote of Thanks</b> Elizabeth Warfield, Deputy Mission Director, USAID/India</p>



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