#### PARTNERSHIP FOR CLEAN INDOOR AIR (PCIA)



**PCIA BULLETIN** 

MAY 2011 SPECIAL AWARDS EDITION

#### **PCIA Recognizes Outstanding Programs**

The Partnership for Clean Indoor Air Awards Program recognizes organizations committed to improving health, livelihood and quality of life, particularly for women and children, by reducing exposure to indoor air pollution from household energy use. This year, through a competitive process, Partners could nominate themselves or others, for these prestigious awards. PCIA proudly presented Global PCIA Leadership Awards and Special Achievement Awards in recognition of 15 outstanding programs.

PCIA recognized award recipients at the 5th Biennial Partnership for Clean Indoor Air Forum in Lima, Peru, on February 21-25, 2011. Global Leadership Awards were presented by the First Lady of Peru, Pilar Nores De García at the Global Leadership Awards Dinner on February 23, 2011. Travel scholarships were given to one representative from each award-winning organization to participate in the 2011 PCIA Forum. Award winners also received a plaque or engraved crystal award and recognition on the PCIA website

In addition to the competitively selected awards, Net Forward Energy Awards were presented to two groups who, through their sheer determination and collaborative spirit, demonstrated all that is best about our collective Partnership.

Finally, the Partnership awarded Lifetime Achievement Awards to two inspirational leaders in the field of improved cook stoves.

We are excited to share with you on the following pages a brief snapshot of these stellar programs and some key insights on their successful approaches. We encourage you to read more about them at the online <a href="Forum Awards">Forum Awards</a> page or by viewing their <a href="Partner Profiles">Partner Profiles</a>.

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#### 2011 Global Leadership Award

Read more about these outstanding programs and how they are improving health, livelihood and quality of life by reducing indoor air pollution from household energy use in the communities they serve. Recipients of this prestigious award serve as models for other programs striving to increase the use of clean, efficient, affordable, reliable and safe home cooking practices throughout the world.

#### **Uganda Stove Manufacturers Ltd (Ugastove)**

Kawere Muhammad

To view a memorial tribute to Kawere Muhammad, view page 26 of <u>PCIA Bulletin 27</u>.

David Mukisa dmukisa23@gmail.com

Uganda Stove Manufacturers Ltd (USM), which developed out of a small family stove making business in 2000, is committed to reducing the strain on Uganda's natural resources through manufacturing improved cook stove technologies. In collaboration with Impact Carbon and JP Morgan Climate Care, USM now distributes its energy-efficient cook stoves across Uganda through the Efficient Cooking with Ugastoves project.

## 1. What 1-2 accomplishment(s) are you most proud of?

At Ugastove, we are proud of our successful stove design and marketing approach, which has helped make us a household name in the central region of Uganda. We are positive that this goodwill will sustain us for quite a while. Secondly, we regard our registration of the pioneer cook stove program on the Voluntary Gold Standard as a hard-earned achievement that should keep the household energy program alive for years to come.

## 2. How has PCIA helped you in your work over the years?

During 2004-2006, PCIA provided the seed grant that laid the foundation for the growth of Ugastove. The capacity development, stove design and market development consultancies financed by this grant will never lose value. This is in addition to the laboratory and field testing of the stoves, all of which proved handy in the carbon offset program. PCIA has worked tremendously to support our programs and leaders, culminating in the award of the Global Leadership Award 2011. This will remain a lifelong testimony of our capacity to transform ideas into reality for the benefit of our communities.



Kawere Muhammad, First Lady Pilar Nores, and David Mukisa

## 3. What piece of advice do you have for others in the household energy field, especially with respect to cook stove projects and carbon revenues?

It takes a good deal of sacrifice to run a successful household energy project. One needs to remain focused on the important goals. Household energy programs are perhaps the best models of the double bottom line; you can never succeed without fully involving the community. Developing partnerships is essential, and there is always something new to learn out there.

## 4. What one goal for the coming 1-2 years you would like to share?

Our goal is to lead the way to getting low cost stoves to thousands of households in Uganda. We hope to achieve this by mechanizing the production line to bring the cost of production down as low as possible.

# 5. As PCIA integrates into the Global Alliance, what past PCIA activities or other new activities do you most hope the Global Alliance will take on in the coming years?

We hope that the Global Alliance will take on the regional and global Forums which are perhaps the best platform for sharing experiences and challenges. The Global Alliance should also take on and widen the publication of the quarterly bulletins for wider distribution and consider translating them into different languages. The Global Alliance could also look at extending further leadership

training to household energy leaders to give them cutting edge knowledge and skills for greater impact on communities they serve.

#### **Impact Carbon**

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Impact Carbon began as a research center within the University of California at Berkeley School of Public Health and has grown into an independent nonprofit organization — dedicated to improving health and the environment through clean energy products that reduce carbon emissions. In Uganda, Impact Carbon partnered with Uganda Stove Manufacturers Ltd and JP Morgan Climate Care to introduce affordable, efficient and healthy stoves into homes through the Efficient Cooking with Ugastoves project, the first Voluntary Gold Standard cook stove project to register and verify credits.

### 1. What is the most exciting or enjoyable aspect of vour work?

The opportunity for scale is most exciting. We have an opportunity to leverage carbon finance to scale clean cooking solutions and provide health and social benefits for hundreds of millions of people. One of the most enjoyable aspects of our work is collaborating and partnering with great organizations around the world that are addressing this challenge.

## 2. How has PCIA helped you in your work over the years?

PCIA's support has been invaluable throughout the years. We have worked on projects in Uganda and China that both received grants from PCIA that supported the development and monitoring of high performance improved stoves. Early grant support from the Partnership helped these projects grow and eventually transition to a sustainable business model supported by carbon finance. This is especially noteworthy in Uganda, where we eventually registered the first Voluntary Gold Standard cook stove project, something that would not have been possible without the early support from PCIA. We have also benefited greatly from opportunities to network, share and learn best practices from other partner organizations at workshops and Forums, as well as through the bulletins.



John Mitchell (EPA), Elisabeth Gomez, Evan Haigler, First Lady Pilar Nores, Liz Grubin, Brenda Doroski (EPA), and Matt Evans

## 3. What piece of advice do you have for others in the household energy field, especially with respect to carbon finance for cook stoves?

The process of accessing carbon finance is complex and resource intensive, and it almost always takes more time and resources than one expects. We would recommend working with organizations that have established carbon project development experience, especially those with developed projects around household energy technologies. We also suggest that before signing up with a carbon project developer, organizations should do their homework in order to find a partnership that works best for them in terms of expertise, partner responsibilities, contract structure and financing.

## 4. What one goal for the coming 1-2 years you would like to share?

We aim to facilitate widespread and scalable access to carbon finance for projects globally through our work co-chairing the Carbon Finance Working Group of the Global Alliance. Many clean cook stove projects could scale and generate healthy returns using carbon finance, but traditional investors typically do not understand how to value these opportunities. One of our goals is to show investors that clean cook stove projects provide a scalable and financially attractive opportunity, and in turn, make carbon finance more accessible to project implementers.

# 5. As PCIA integrates into the Global Alliance, what past PCIA activities or other new activities do you most hope the Global Alliance will take on in the coming years?

The PCIA Forum has always been an excellent opportunity to meet with current partners and form new collaborations, and we hope to have an ongoing annual or biennial event

that serves as the "epicenter" of the stove world. We also hope the Global Alliance will continue the fantastic work it has already started in raising awareness and public relations. Ultimately, we need to elevate public awareness of indoor air pollution to the same level of malaria, TB and unclean water — and PCIA's integration into the Global Alliance will reinforce this effort.

#### International Lifeline Fund

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From the outset, the goal of the International Lifeline Fund (ILF), a U.S.-based nonprofit organization, was to promote self-sustaining interventions that would significantly relieve suffering in the poorest regions of the world. In an effort to address both environmental and humanitarian problems associated with open fire cooking, ILF began promoting the use of an insulated clay stove in 2006. At a cost of as little as \$1 to \$6 USD each, ILF utilizes a variety of stove technologies in order to provide a compatible stove-type to each beneficiary community, such as rocket stoves, briquette stoves, and charcoal or wood saving stoves. The average efficiency rating is 30-35 percent, and household surveys consistently indicate fuel savings of nearly 50 percent.

### 1. What is the most exciting or enjoyable aspect of your work?

The most exciting aspect of our work is observing when the local communities in various countries have truly adapted to the new technologies that we have introduced, without our presence in their daily lives. An example is the fuel-efficient stoves that with the local communities' involvement are introduced and adopted. The second most enjoyable aspect is when our rigorous training with our local staff produces future leaders and environmentalist in these local communities — strengthening the sustainability of our projects greatly. When communities have their own heroes, our job is done.

## 2. What did you find most useful about the 2011 PCIA Forum?

The 2011 PCIA Forum in Peru brought a lot of promise for those of us who work in the field on a daily basis and interact with numerous government officials. The government of Peru's engagement of various ministries



John Mitchell (EPA), Vahid Jahangiri, First Lady Pilar Nores, Hoi Trinh, Brenda Doroski (EPA)

showed us that it is possible to engage various government agencies and bring them to work closely in a collaborative effort. This has given us a boost in our confidence to now engage government officials in the countries where we work and present Peru as the success case. We have learned that solving the issue of indoor air pollution and the introduction of fuel technologies requires governments to be involved as we cannot do it by ourselves.

## 3. How has PCIA helped you in your work over the years?

PCIA has helped us to connect with so many actors in the world — learning from them and sharing lessons have been the most important element for us. The Forums have brought us face-to-face with engineers, researchers, physicians, laboratories, UN agencies and manufactures that we would have to spend years looking to find, but instead the Forums facilitated these invaluable interactions.

## 4. What one goal for the coming 1-2 years you would like to share?

We would like to get our CDM registration and to see how carbon financing can better the lives of the communities where we work. This has been a long-term goal where we have envisioned setting up cottage industries and allowing the local communities to replace us as the implementers. We want the local communities to be able to manufacture and sustain their own projects and we hope that carbon financing can be fruitful in this case.

# 5. As PCIA integrates into the Global Alliance, what past PCIA activities or other new activities do you most hope the Global Alliance will take on in the coming years?

The most important element that should not be affected in the integration of PCIA into the Global Alliance is the PCIA Forums, as this has played a huge part bringing numerous actors together. Therefore, we would like the continuation of PCIA Forums and engaging the private industry to assist the existing manufactures in various capacities.

#### **GERES Cambodia**

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Established in France in 1976, Groupe Energies Renouvelables, Environment et Solidarités (GERES) is an independent, nonprofit organization that promotes sustainable development worldwide. In Cambodia, where more than 80 percent of households rely on biomass as the main source of energy for cooking, GERES has focused its efforts specifically on a large-scale biomass-based energy program designed to promote energy efficiency, reduce indoor air pollution and lessen climate change. The New Lao Stove (NLS) project was born from these efforts. The NLS, an adapted version of the Thai bucket stove, combines traditional stove design with modern technology and engineering and costs between \$3.50 and \$5 USD per stove.

## 1. How has PCIA helped you in your work over the years?

Shared information in the bulletin and participating in the Forum permitted a lot of exchanges with many stovers from all over the world. Also, receiving the 2009 Special Achievement Award and the 2011 Global Leadership Award has really motivated our whole team to keep improving our work

## 2. What is the main thing you want the rest of the household energy community and world to know about GERES' improved stoves work?

The ICS project of GERES is part of a larger biomass energy program that covers sustainable forest management, efficient processing, effective supply and efficient utilization. The ultimate goal of the program is to ensure sustainable biomass energy supply and consumption by



Iwan Baskoro and First Lady Pilar Nores

utilizing efficient, clean and affordable technology in term of economy and culture. By using a private supply chain to commercialize low cost ICS, we have been able to become sustainable and serve more consumers.

## 3. What piece of advice do you have for others in the household energy field, especially with respect to working with local stove producers?

Involving and enhancing the public and private sectors is crucial to attaining sustainable commercialization of efficient, clean and affordable cook stove. From there, it is a matter of pushing them to think big, long term and high quality.

### 4. What one goal for the coming 1-2 years you would like to share?

GERES is launching a project to promote ICS for rural households and aiming to sell 150,000 units per year by the end of 2012. We will also boost the sales of ICS for urban households up to 400,000 units per year by the end of 2012.

# 5. As PCIA integrates into the Global Alliance, what past PCIA activities or other new activities do you most hope the Global Alliance will take on in the coming years?

I hope the Global Alliance will incorporate inputs from the PCIA Forum and translate the inputs into pragmatic actions like providing support to activities that promote large scale and sustainable ICS dissemination to reach the ambitious target of 100 million improved stoves by 2020.

#### 2011 Special Achievement Award: Meeting Social and Behavioral Needs

### **Earth Institute - Millennium Villages Project** *Katie Freeman*

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The Earth Institute's Millennium Villages Project supports the integrated social and business development services for more than 500,000 people in rural communities across 10 countries in sub-Saharan Africa. Two of the goals of the infrastructure sector within the Millennium Development Village Project are to increase access to markets through improved roads and information communication technologies (ICT), and boost access to energy, via improved biomass cook stoves. The biomass cook stove program has been launched in the Millennium Development Villages in six countries and will be launched in two additional countries before the end of 2011. The program includes a systematic approach for surveying and discerning the wants and needs of the community. Women are asked to rank all the stoves tested and how much they are willing to spend for each of the stoves. The program's thorough social marketing approach includes posters, music and rallies.

## 1. What is the most exciting or enjoyable aspect of your work?

The most exciting part of the work we do in the household stove program in the Millennium Village project is seeing the real impact of improved cooking technologies on rural households. We frequently hear stories from women who have reduced the money they spend on firewood, or have reduced the amount of time and work it takes to collect firewood. We had one woman from our cluster in Mali tell us that because of the fuel savings, she is able to make her pocket money last twice as long, which translates



Katie Freeman, William Howley (Winrock International), and John Mitchell (EPA)

into better nutrition for her children and less stress for her. These success stories are common throughout the Millennium Village clusters in both East and West Africa.

## 2. What did you find most useful about the 2011 PCIA Forum?

The 2011 PCIA Forum was wonderful — it provided great opportunities to meet others and share best practices and lessons learned with stove researchers, designers and implementers from across the world. Our program took away several best practices from other implementers that we will apply to our own programs. We were able to make several great connections which will translate into collaborations in the future.

# 3. What is the main thing you want the rest of the household energy community and world to know about MVP's approach to increasing access to markets and boosting access to energy?

One of our main points of stress is that local cooking practices matter to the efficiency and adoptability of an improved cook stove. Cookstove programs should recognize that cooking practices, biomass composition and locally cooked foods can all impact the efficiency of improved cook stoves. In order to select the stove best suited to local conditions, MVP conducts Controlled Cooking Tests (CCTs) and surveys to determine stove fuel efficiency and user preference. Our CCT methodology and paper published on our testing process is available on the Modi Group website at www.modi.mech.columbia.edu.

## 4. What piece of advice do you have for others in the household energy field, especially with respect to meeting social and behavioral needs?

In order to generate demand for improved cook stoves, the benefits to the households must be tangible, and

promotional campaigns should reflect these benefits. To meet the need of the communities for cook stoves, we target sites where fuel wood availability is a challenge, and where focus groups and surveys demonstrate a clear demand and willingness to pay for improved cook stoves. Once sites have been identified, we capacitate local energy cooperatives and identify local vendors and work through them to build promotional campaigns around the benefits.

### 5. What one goal for the coming 1-2 years you would like to share?

In the next 1-2 years of the program, the Millennium Village Project will aim to widely share test results, lessons learned and best practices with other researchers and practitioners, and continue to grow our improved cook stove programs in the Millennium Villages in Africa.

#### **Microsol**

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Microsol is a social enterprise whose objective is to support social and environmental development projects and programs with carbon revenues. The organization creates and manages innovative Carbon Programmes of Activities (PoAs) in an efficient way that allows project developers to easily join and fully benefit from the structure. In order to carefully design the first Programme of Activities, Microsol performed a 12 month study aimed at understanding the target population and the needs of project developers on the field. This study was also used to provide education at the community level through partners, and broad promotion on the national level through universities, nonprofits and government agencies.

## 1. What 1-2 accomplishment(s) are you most proud of?

The accomplishments that our organization is most proud of are the registration of Qori Q'oncha Programme in Peru being the first cook stove PoA and the first Voluntary Gold Standard PoA; and new Programmes launched in 2010



Staff from Microsol

in order to reduce poverty, such as renewable energy, biodigesters, reforestation, and of course, cook stoves.

## 2. What mentoring or other opportunities have you had to share your successful approaches with others?

There were many project developers from different parts of the world at the Forum interested in learning more about Microsol's Programmes of Activities and the carbon market. We had the opportunity to share our knowledge and experience. We believe that after the PCIA Forum, many cook stove project developers will be interested in joining a Programme such as the Qori Q'oncha Programme.

## 3. What is the main thing you want the rest of the household energy community and world to know about Programmes of Activities?

We think that Programmes of Activities are an easier way to introduce project developers in the carbon market. Through these PoAs, Microsol coordinates the job of all local partners, organizes the whole carbon cycle and related processes, trains its local partners on these issues, including socio-anthropological ones, and implements quality control. A Programme of Activity is usually dedicated to expand a single entity's work, contrary to Microsol's Programmes that are open to anyone. This creates a real incentive for any local participant to invest and benefit from the carbon market; this has proven successful: four formal participants for Qori Q'oncha 2009 activities, six for 2010 activities and around 10 planned for 2011. The coordination of the whole Programme (around 200,000 cook stoves planned for 2008 to 2011 activities, in more than 10 regions) is a complex task that requires specialized knowledge. For this reason, governments from four countries in Latin America and Asia have asked us to build their cook stove PoAs based on Microsol's experience and methodologies between mid-2010 and early 2011.

## 4. What piece of advice do you have for others in the household energy field, especially with respect to meeting social and behavioral needs?

Our 12 month study, including socio-anthropological dimensions, was essential to understand the cultural

dimension both of the target population and the consequences of the introduction of this new technology in an existing social environment. We think that others in the household energy field should pay very close attention to the cultural context as cooking and food are in the center of everyone's daily life and have to do with a lot of deep idiosyncratic dimensions. We think that it is important to meet basic criteria designed to ensure a minimum level (as high as possible) of the cook stove project's success is:

- Presence of a chimney;
- Use of local materials:
- Raising awareness and capacity-building activities;
- Involvement of the target population in the stove's construction;
- Follow up; and
- Maintenance.

## 5. What one goal for the coming 1-2 years you would like to share?

Our hope is that in one year, the project developers we support through our Programs will have received carbon revenues and will therefore be able to further develop their clean human development projects in a sustainable way. We also make strong efforts for facilitating access of these human development activities to the carbon market through new open Programmes of Activities everywhere they are needed.

## 2011 Special Achievement Award: Improving Technology Design and Performance

## **GIZ** - **Private Sector Development in Agriculture**

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GIZ aims to enhance the capacities of people, organizations and institutional structures in partner countries to enable them to improve their living conditions through their own efforts. GIZ promotes improved cook stoves on a fully commercial approach in Kenya. The objective is to enable the rural population to sustainably access energy through promotion of ICS by scaling up production of quality ICS as well as increase demand and utilization of stoves. The program studied three different cook stoves to determine



Anna Ingwe and Elisa Derby (Winrock International)

efficiency, affordability and sustainability. Based on the results, this program has modified its stove design, including the shape of the stove, to meet the needs of the women using them in Kenya. The staff is committed to improving performance while ensuring that the stove is accepted by the community.

## 1. What is the most exciting or enjoyable aspect of vour work?

The most exciting aspect of my work is the opportunity to contribute to improving the lives of rural families through stove dissemination! We enjoy creating clean kitchens, less work for women and less exposure to harmful smoke, while also creating opportunity for income generation and employment for those involved in stove businesses.

## 2. What mentoring or other opportunities have you had to share your successful approaches with others?

International and national forums in various sectors, bilateral project exchanges and regional energy forums have provided us an opportunity to share our approaches, and of course, the various energy discussion groups on the internet. We have supported the German Red Cross to initiate stove activities in Somaliland. Most of all, the PCIA

Partner's network and diversity has been a great opportunity to get many people informed on our successful approaches!

## 3. What is the main thing you want the rest of the household energy community and world to know about developing local markets?

Developing local markets is vital in ensuring that stoves uptake will continue beyond the project phase. People get to know about the stove, including where to get it from, and it becomes just like any other product in the market. The world over knows where to buy Coca-Cola — that is how we should market the stove!

### 4. What one goal for the coming 1-2 years you would like to share?

To advocate for government commitment and support and budget allocation towards improved cook stove initiatives.

# 5. As PCIA integrates into the Global Alliance, what past PCIA activities or other new activities do you most hope the Global Alliance will take on in the coming years?

To capitalize on already existing expertise in the PCIA network to scale up good practices, technologies and approaches for quick results, if we have to get to 100 million stoves by 2020!

#### **The Paradigm Project**

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The Paradigm Project is a low-profit limited liability company (L3C) whose mission is to create sustainable economic, social and environmental value within developing world communities. Paradigm helps well-established global relief and development organizations identify, fund and develop scalable emission reduction projects that meet immediate development needs. Currently focused on programs in Kenya, Haiti and Guatemala, they have identified a pipeline of future projects in at least 10 other countries. The project provides consistent feedback and design recommendations to its manufacturers on a monthly basis, resulting in continual product revisions and refinements. They are partnering with the Berkeley Air Monitoring Group to provide independent emissions testing and fuel efficiency results.



Johanna Matocha and Elisa Derby (Winrock International)

## 1. What is the most exciting or enjoyable aspect of your work?

The opportunity to work closely with local entrepreneurs and community members to address their needs and challenges for improved cooking technologies.

### 2. What did you find most useful about the 2011 PCIA Forum?

The Forum offers the opportunity to see other projects and spend time with other project developers — especially sharing lessons learned from large-scale projects using innovative production, distribution and financing mechanisms.

## 3. What is the main thing you want the rest of the household energy community and world to know about scalable emission reduction projects?

Carbon financing is a game-changer for developing a scalable and successful stove program. Sustainable behavior change requires long-term commitment, follow-up and financing that is made possible though emission reduction programs.

### 4. What one goal for the coming 1-2 years you would like to share?

We aim to start two new projects with the success and scale of our project in Kenya to help put us well on the way to our goal of 5 million stoves by 2021. We are excited about new developments in charcoal stove technology being a part of this effort.

# 5. As PCIA integrates into the Global Alliance, what past PCIA activities or other new activities do you most hope the Global Alliance will take on in the coming years?

Continuing the effort to coordinate project and partner information will help increase synergies and collaboration among the stove community. The Global Alliance is also in an excellent position to create clear messages for a larger community through advocacy work and supporting research that will help to increase awareness and lead the conversation around the need and social and environmental benefits of stoves.

#### 2011 Special Achievement Award: Developing Local Markets

#### **Envirofit International**

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Envirofit International works to reduce indoor air pollution and reduce biomass energy consumption. They take an enterprise-approach to solving health, environmental and economic problems in developing countries in India, Africa and Latin America — with an Envirofit line of clean technology cook stoves. Envirofit employs over 50 employees directly and estimates another 400 jobs are created in its sales and distribution channels. The program partners with micro finance institutions to make the stoves more affordable. They are pursing carbon finance to help further reduce stove prices.

## 1. What is the most exciting or enjoyable aspect of your work?

Working with customers is always the most enjoyable part. Seeing them use our products and the changes that it makes in their lives is always gratifying.



Ron Bills and Brenda Doroski (EPA)

## 2. What 1-2 accomplishment(s) are you most proud of?

Selling over 200,000 stoves was a big accomplishment for us. Also our rapid expansion into Africa in late-2010 and now in 2011 is very exciting.

### 3. What did you find most useful about the 2011 PCIA Forum?

The most useful aspect was how many people the Forum brought together and the networking opportunities that it provided. Envirofit has partners all over the world and it was great to have face-to-face time with a lot of them in one place as well as meet and find new partners.

## 4. What mentoring or other opportunities have you had to share your successful approaches with others?

Working closely with our partners is very important to us. Understanding the ground realities across our vast markets helps us provide valuable, learned strategies to our partner

sales and distribution efforts. Our participation in the Africa Coalition (founded at the PCIA Forum) will also be a good catalyst for continued collaboration.

## 5. What piece of advice do you have for others in the household energy field, especially with respect to cook stove commercialization?

Quality and durability are essential. If you want to be sustainable, your products need to last.

### 6. What one goal for the coming 1-2 years you would like to share?

Our current focus is largely on India and Africa. In the next two years, we'd really like to see our Latin American partnerships grow.

#### StoveTeam International

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StoveTeam International provides economical, environmentally friendly and fuel-efficient Ecocina stoves to Central America and around the world. They have assisted local entrepreneurs to establish operating factories in Guatemala, Nicaragua, Honduras and El Salvador, and they are also assisting a local entrepreneur to establish one in Mexico in 2011. They use Peace Corps volunteers, and provide training and feedback to factory owners regarding stove acceptance.

## 1. What is the most exciting or enjoyable aspect of your work?

The most exciting aspect of StoveTeam's work is that by giving local entrepreneurs the necessary tools and training, these men and women are perfect candidates to become leaders managing the production, marketing and sales of fuel-efficient stoves.

## 2. How has PCIA helped you in your work over the years?

With the help of the PCIA connections over the years, StoveTeam has been able to link with other stove producers to make fuel-efficient stoves more affordable.

## 3. What is the main thing you want the rest of the household energy community and world to know about developing local market?

By linking with other supporting organizations, such as Rotary International, there is an opportunity for all stove



Nancy Hughes and Brenda Doroski (EPA)

organizations to more than double the money that is locally raised. Heavily subsidized programs are tempting, but by empowering local people to produce, market and sell fuel-efficient stoves, we all help to address one of the leading causes of poverty: unemployment.

### 4. What one goal for the coming 1-2 years you would like to share?

StoveTeam International is expanding rapidly and will be establishing new factories throughout the world.

# 5. As PCIA integrates into the Global Alliance, what past PCIA activities or other new activities do you most hope the Global Alliance will take on in the coming years?

With the funds from the Global Alliance, it is StoveTeam's hope that there will be continued support throughout the developing world for not only large, but also small stove projects.

#### **Toyola Energy Limited**

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Toyola Energy Limited is a social entrepreneurial business that produces and sells energy efficient cook stoves and solar energy products to poor households in urban and rural areas of Ghana and Togo — using a decentralized production and mobile marketing approach. This program uses a unique direct marketing sales and distribution model by which products are brought to the doorsteps of customers in remote communities in Ghana, thereby providing ownership opportunities to those who will otherwise not have access. These are complemented by leveraging carbon finance and micro finance to scale up sales activities making the products ubiquitous and affordable.

## 1. What is the most exciting or enjoyable aspect of your work?

Meeting customers in interactive sales sessions, which is also an opportunity for a two-way learning experience: the customer educating me about their needs and circumstances and me telling them about the features and benefits of my products. The customer's surprise on opening the "Toyola money box" and seeing how much they have managed to save is a joy to behold.

## 2. What 1-2 accomplishment(s) are you most proud of?

I am most proud of being able to positively impact the lives of several thousand very poor people that would otherwise not have access to clean energy products. We also successfully build a sustainable supply chain in rural areas that many urban based businesses think are not viable and use a simple homegrown micro credit mechanism.

## 3. What mentoring or other opportunities have you had to share your successful approaches with others?

I freely discuss the Toyola approach at every opportunity I have, especially in conferences including the recent PCIA conference in Peru and the Clinton Global initiative in 2009. I was at Columbia University in New York in September 2009 to discuss the Toyola model, and I am currently mentoring some students of the University of Development studies in Ghana.



Suraj Ologburo and Brenda Doroski (EPA)

# 4. What is the main thing you want the rest of the household energy community and world to know about mobile marketing/monitoring and direct sales? It works. The approach gives unparalleled ownership opportunities to those who would otherwise not have access to improved energy technologies.

## 5. What piece of advice do you have for others in the household energy field, especially with respect to developing local markets?

Listen to the customer. Build products and services that directly address their needs and don't conflict with existing social behavior; this enhances acceptability. Don't underestimate the importance of the informal sector where the majority of poor customers are found, and pay attention to local approaches that have stood the test of time.

## 6. What one goal for the coming 1-2 years you would like to share?

Selling at least 100,000 stoves per annum from 2012 onwards and redefining Toyola's target market as the West African Sub-region.

#### Winrock International, Nepal

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Winrock International is a nonprofit organization that works with people in the United States and around the world to empower the disadvantaged, increase economic opportunity and sustain natural resources. Winrock designs innovative and integrated household energy and health solutions that are locally appropriate and scalable, and that incorporate advanced technology design, behavior change, market development and IAP monitoring. Winrock Nepal is currently establishing wholesale lending agreements between local financial service providers, such as saving and credit cooperatives, micro finance development banks, and the larger commercial and development-focused financial institutes. This wholesale lending mechanism ensures adequate supply of credit financing to rural Nepal.

## 1. What is the most exciting or enjoyable aspect of your work?

We are pioneers in promoting different smoke alleviating technologies by engaging local micro finance institutions and formal banks in Nepal. Most of the financial institutions have now started lending for renewable energy technologies and define energy lending as one of their loan products, which is very exciting.

## 2. What did you find most useful about the 2011 PCIA Forum?

The most useful thing about the 2011 PCIA Forum was that it served as a great networking opportunity for all stove practitioners, CDM experts, researchers, academics and different donor communities. The 2011 PCIA Forum also allowed us to identify different stove designs, test results, CDM opportunities in ICS and financing aspects of clean cooking technologies.



Elisa Derby (Winrock International) and Suman Dhakal

## 3. How has PCIA helped you in your work over the years?

PCIA has given us a wider spectrum in our work by providing the technical knowledge, performance information of stoves under different circumstance as well as approaches for mitigating health impact of indoor air in rural communities. In addition, PCIA has also given us a very good platform for networking to all stakeholders in the sector.

4. What piece of advice do you have for others in the household energy field, especially with respect to developing local markets through credit expansion? In the case of household energy, I would like to advise implementing agencies to have a repayment modality in accordance with local peoples paying capacity. Most of the households in the community are not able to purchase the system by paying upfront cost all at one time, but if they can pay in small installments they can purchase smoke alleviating technologies easily.

# 5. As PCIA integrates into the Global Alliance, what past PCIA activities or other new activities do you most hope the Global Alliance will take on in the coming years?

I hope all the stove testing and promoting different model of stoves in and around the world will be carried over by Global Alliance, and that the biennial Forum will also be continued in the years to come.

#### 2011 Special Achievement Award: Monitoring Impacts of Interventions

#### **Alternative Energy Promotion Centre**

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AEPC/ESAP's Biomass Energy program has a comprehensive approach toward overall biomass energy development geared to help in achieving its long-term objectives of socio-economic, gender, health, drudgery and poverty reduction and empowerment of rural people. The organization's main activities are decentralization, institutional capacity building, and policy and socio-economic uplifting of rural people. By the year 2012, AEPC projects sales of 500,000 improved stoves of various kinds. The program performs an initial assessment to define the cooking requirements in each village. A questionnaire survey and pollution measurements are conducted both before and after stove installation. After one year, additional monitoring determines warranted next steps and expansion.

## 1. What 1-2 accomplishment(s) are you most proud of?

In the case of fixed mud brick ICS, deterioration of baffle structure, reduced combustion chamber diameter, change in the fire gate and blockage of chimney passage are some of the issues that need to be assessed and correlated with the performance of the ICS, and its impact on reducing indoor air pollution. We are proud of the results received on need of determining the long term impacts or affects of operation and maintenance of the stoves after a long term use. The WHO recommends that health evaluation can show a significant change only at least after six months of intervention (WHO, 2005). Similarly, the previous study only used qualitative analysis for health impact assessment. We are proud of our finding about the need to establish the effect of operation and maintenance on IAP reduction, assess health impacts and changes in the key dimensions of ICS after one year of use. Both accomplishments are the key tool for designing the programme as well as need for monitoring of specific aspects.

## 2. How has PCIA helped you in your work over the years?

AEPC/ESAP's biomass energy programme's main marketing point is health benefits. In order to quantify the health



Kuruna Bajracharya and Brenda Doroski (EPA)

benefits and communicate to the relevant stakeholders, we were about to conduct a study but we were not sure how to do it. After receiving the training programme on Measuring Change: Indoor Air Pollution and Household Energy Monitoring Asia Regional Workshop, held August 7-11, 2007, (and organized by PCIA and ARECOP), I personally benefitted in many ways. I learned about study design, sample identification and knowledge on equipment use, and data analysis and interpretation. With this knowledge, we conducted an IAP study through a consultant. The output of the study is key indicator for our marketing programme and also lesson for us that we should go for more improved technologies.

## 3. What is the main thing you want the rest of the household energy community and world to know about monitoring impacts of interventions?

Monitoring the impact of an intervention is always a wise thing to do to know whether or not you are on the right track. Things might have been excellent when your program was conceived but time and situation may change the context. So, monitoring of impact intervention will add value to your work.

### 4. What one goal for the coming 1-2 years you would like to share?

More than 75 percent of the population in Nepal is still dependent on solid and loose biomass for cooking energy needs. So, our goal is reaching maximum households with clean, efficient stoves and IAP free indoor environments.

# 5. As PCIA integrates into the Global Alliance, what past PCIA activities or other new activities do you most hope the Global Alliance will take on in the coming years?

Most of the past PCIA activities should keep going on through the Global Alliance to cover a wide coverage issues, such as technology improvement, simplicity and cost effectiveness. This includes support for piloting improved technologies and developing tools for measurement of quantitative and qualitative aspect of stove programmes. Lobbying stove programmes as a priority sector for countries where their source of cooking energy is predominately biomass.

#### Instituto Perene

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Instituto Perene promotes projects that benefit rural communities while helping conserve the natural resources of the Atlantic Forest biome of Brazil. To address the widespread problem of inefficient wood-burning cook stoves, they developed an improved stove with the help of local stakeholders and Aprovecho, and scaled up the initiative through carbon financing. Perene's pioneering program is benefiting 30,000 people through the construction of 6,000 efficient stoves. The project maintains a record of all stoves installed in a detailed project database. An extensive series of monitoring tasks is conducted, including kitchen surveys every three months during the first year of installation. In each community, an interested, respected and motivated woman is identified to work for the project as a Community Agent, helping with engagement, monitoring and post-installation service.

## 1. What is the most exciting or enjoyable aspect of your work?

Although the main driver of our projects is the reduction in GHG emissions, the most enjoyable aspect by far is witnessing the improvement in women's lives after the adoption of the new stove.

## 2. What 1-2 accomplishment(s) are you most proud of?

The accomplishment we are most proud of is having the first carbon-financed cook stove projects in Brazil, funded by the Natura Carbon Neutral program and following the Gold Standard. We are also very happy to have received the PCIA award for our Monitoring program.



Renata Everett Valladares and Brenda Doroski (EPA)

### 3. What did you find most useful about the 2011 PCIA Forum?

It was a unique chance to meet people from all over the world and exchange experiences related to cook stoves and IAP. Thanks to that networking, Perene is pursuing new opportunities with organizations in both technical issues and funding.

## 4. What is the main thing you want the rest of the household energy community and world to know about monitoring impacts of interventions?

That rigorous monitoring can be costly, but it is absolutely necessary for carbon-financed projects. Our project indentifies each installed stove by a record of the username and ID, together with GPS location and photo. Post installation visits are carried out by community agents and kitchen surveys are applied on a quarterly basis.

# 5. As PCIA integrates into the Global Alliance, what past PCIA activities or other new activities do you most hope the Global Alliance will take on in the coming years?

Facilitate access by cook stove projects to the carbon markets by: developing and making available non-renewable biomass (NRB) studies by biome and emissions factors by stove model, subsidizing the costs of validation and verification, and promoting regional PoAs.

#### **Proyecto Mirador**

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Proyecto Mirador is a fuel-efficient stove project that will use carbon finance to provide a market-based solution to build stoves in rural Honduras. The organization became a Gold Standard registered project, which requires extensive testing, in August 2010, and it hopes to complete the certification process in early 2011. Since inception, they have installed over 12,000 stoves for individual families, resulting in positive economic and health impacts for people in rural Honduras. The project has revisited stoves built in 2004 and reports that most families have replaced parts of their stoves and have continued to be pleased with the stove's performance and continue its use.

## 1. What is the most exciting or enjoyable aspect of your work?

The most exciting part of Proyecto Mirador's work is our daily contact with the beneficiary families and hearing about their satisfaction with respect to the economic savings and the reduction in illness that our stove brings them. We also enjoy the variety of people and cultures we meet every day.

## 2. What 1-2 accomplishment(s) are you most proud of?

We are most proud of the Gold Standard Certification of our carbon emissions savings because this certification provides the financing that will sustain our program to help the poor. It took four years, many research studies and improvements in the way our stoves are built to achieve this prestigious status. We are also proud of the way our Programa de Contratistas has worked. Our Contratistas (Contractors) are paid for each stove they build on our behalf and we select each one for their honesty, their hard work and their management abilities. Each Contratista is a small business with its own construction team. Members of the team undergo an intensive training and we supervise the stoves they build in the field. With the help of Contratistas, we expanded our operations and increased the number of families we serve. Proyecto Mirador is like an octopus and each Contratista an arm, thus creating the most efficient construction program while starting successful small businesses that offer quality employment to their employees.



Reyna Guzman (Zamorano University, accepting on behalf of Proyecto Mirador) and Brenda Doroski (EPA)

## 3. What mentoring or other opportunities have you had to share your successful approaches with others?

We have shared hands-on stove building techniques and knowledge with others at Aprovecho's Stove Camp and at the 2011 PCIA Forum. We have also shared our knowledge of the Gold Standard certification process, carbon finance and stove testing with the international stove community at ETHOS. Our Gold Standard Project Design Document (PDD) is listed on the Gold Standard website and can be downloaded. We believe many stove organizations have found it useful.

# 4. What is the main thing you want the rest of the household energy community and world to know about providing market-based solutions to poor rural families?

Well-run projects require long-term equity capital to provide funding necessary for certification by the Gold Standard. Certification opens access to carbon finance and provides a path to true financial sustainability. This is mandatory if the global community is to solve the multiple problems of indoor air pollution, deforestation and lagging rural economic development.

# 5. As PCIA integrates into the Global Alliance, what past PCIA activities or other new activities do you most hope the Global Alliance will take on in the coming years?

The Forum, the extensive PCIA website with links to projects and its library of stove documentation are very important. With links to the UN Foundation and the State Department, the Global Alliance has access to the media.

As developers in the field, we look to the Global Alliance to get small stove projects and their numerous advantages featured in important and prestigious newspapers, publications, TV, radio, and online entities. Global coverage has been sparse, if at all, for our small, well-run projects, although large organizations such as the Shell Foundation have had a high profile. If our worldwide network of small developers can raise its profile internationally, knowledge of the issues of deforestation, environmental degradation

and improvements in world health will increase, and access to funding will become easier. Perhaps the Global Alliance might be able to work with banks to establish a five-year loan fund with low interest rates for small stove projects that need financing in advance of carbon market certification. By controlling the whole of carbon finance payments, stove projects can be profitable and thus can both pay back loans and sustain growth.

#### **2011 Net Forward Energy Award**

At each Forum, PCIA recognizes a person or group of people who show a high level of energy, optimism and enthusiasm throughout the Forum, and who will carry that spirit forward as they work to meet the challenges of providing clean, safe and efficient cooking solutions worldwide. This year, PCIA was pleased to give the award to two groups who embodied this spirit.

The Medical team from the University of Cayetano in Lima, Peru: New to PCIA, and having little-to-no idea of

what they were truly committing to beforehand, the doctors from the University of Cayetano launched full speed into PCIA Forum coordination mode, helping with any and every task they were given, with more energy and enthusiasm than PCIA planners could have ever asked for. They were onsite every day to help with registration, translation, medical assessments of participants traveling to the high Andes and every other task under the hot Lima sun. PCIA is extremely grateful for their positive attitude, incredible work ethic and enthusiastic promotion of PCIA efforts. For these reasons, PCIA was pleased to recognize Dr. Accinelli



Dr. Accinelli and the Medical Team from the University of Cayetano

and the rest of the medical team from University of Cayetano with the Net Forward Energy Award.

**Bus Number 7:** All of the Forum participants who went on the field trip to the high Andes had one adventure or another. After traveling two hours up the wrong mountain, and being rescued by the Peruvian national police when their bus wouldn't start somewhere well beyond 3,000 meters, Bus Number 7 finally arrived in Lanchi to visit the SEMBRANDO project sites with smiles on their faces and



Nancy Hughes accepts on behalf of Bus 7

a story to tell. On the way back, Bus Number 6 (which had been following closely behind them) suddenly disappeared, and Bus 7 stopped to wait for them to catch up. When that didn't happen, everyone piled off the bus and sent the driver back up the mountain. An hour later they were still standing on the side of an unknown mountain road, with nightfall looming, no word from their Bus 6 colleagues, and not even a glimmer of a bus in the distance, but they never lost hope or their sense of humor.

If you have to get lost in the mountains of a foreign country, let it be with PCIA Partners. Once they finally joined up with Bus 6 (who had harrowing adventures of their own) to

fit more than 30 people in a 20-seater bus, everyone was sharing food, photos and stories in good spirits. For their unending positive attitude during uncertain times, PCIA was glad to give the Net Forward Energy Award to the riders of Bus Number 7.

#### **Lifetime Achievement Award**

At the 2011 Forum, PCIA was honored to present Lifetime Achievement Awards to two esteemed recipients for their significant contributions to the development of top-lit updraft gaisfier stove technology. PCIA applauds their commitment to improving health, livelihood and quality of life, particularly of women and children, by reducing exposure to indoor air pollution from household energy use.



Dr. Thomas Reed and Paal Wendelbo

Dr. Thomas Reed became interested in gasification of municipal waste in 1973, when his friend Dr. John Anderson developed the Purox MSW gasification process, and again later when he met Dr. Harry LaFontaine who built wood gasifiers in Denmark during WWII. In 1985, he was at a timber conference in South Africa and noticed the terrible



Brenda Doroski (EPA), Paal Wendelbo, Dr. Thomas Reed, Christa Roth (FoodandFuel Consultants)

local cooking conditions of the locals. He woke at 3 a.m., and couldn't get back to sleep. He knew that "downdraft" engine gasifiers used the intake of engines to draw air through fuel to make clean hydrogen-carbon monoxide gas fuel, and wondered if one could use natural draft for this purpose by turning the gasifier over with the charcoal on top rather than on the bottom. Dr. Reed returned to MIT and tried it, and saw it worked surprisingly well. Later renamed the "top lit updraft" (TLUD), this technology allows for significantly cleaner burning stoves. As a distinguished instructor, Dr. Reed continues to share his knowledge with people around the world.

Mr. Paal Wendelbo learned basic TLUD principals during German occupation of Norway in the 1940s, alongside hunters and members of the resistance movement hiding in the forest, who needed to cook meals over small wood fires without smoke in order to not be spotted. Later, as a humanitarian working in Africa in the 1980s, Mr. Wendelbo observed the health and environmental issues caused by cooking over open fires. Remembering the smokeless fire in Norway, he started to think about how to control the TLUD flame for more efficient cooking. Four years of hard work later, he found success in a tin can with a lid, with sufficient holes for fresh air to enter and hot air to escape. A year after that, he made the further discovery that putting more holes at the top of the combustion chamber resulted in cleaner burning and a hotter flame. This simple invention, dubbed the Peko Pe, was tested at the Technical High School in Copenhagen in late 1980s. Twenty years later the Peko Pe won the 2009 Aprovecho Stove Camp Award for best performing and cleanest burning stove. Mr. Wendelbo can reliably be found in his stove workshop, continuing to contribute to efforts to provide the world with clean burning stove options.



Forum attendees applaud Mr. Wendelbo and Dr. Reed's lifetime commitment to improved cook stoves