



PARTNERSHIP FOR CLEAN INDOOR AIR

PCIA Bulletin

Progress Since Bangalore

Since the 2007 Forum, PCIA membership has doubled from 120 organizations to 240, representing 52 countries and working in 115 countries around the world! As a community, we have made amazing progress in reducing exposure to indoor air pollution (IAP) from traditional cooking and heating practices and improving the health, livelihood, and quality of life for millions living in the developing world.

Partners are more successfully:

- Increasing the use of a wide range of cleaner-burning, more fuel-efficient, and safer technologies (biomass, charcoal, and coal stoves, and solar and retained heat cookers) and fuels (biogas, ethanol, methanol and LPG);
- Addressing social and cultural barriers to adopting improved technology;
- Developing local markets for improved technologies;
- Improving the design and performance of new technologies; and
- Monitoring intervention impacts.

Partners are exchanging valuable lessons learned through the PCIA Bulletin, online Partner Profiles, and global forums. More than 30 Partners have presented their work at international conferences, raising the profile, awareness, and support for household energy programs among the gender, humanitarian, energy, health, climate change, public, and private sectors. Partners are scaling-up approaches for using clean, reliable, affordable, efficient, and safe home cooking and heating practices. And, many Partners have undertaken stove testing, demonstrating significant fuel savings and emission reductions. Others are successfully accessing carbon funding.

Register now for the 2009 PCIA Forum!

Kampala, Uganda
March 23- 28, 2009

For more information and to register, please visit
the PCIA Forum Registration page:
<http://www.pciaonline.org/2009ForumRegistration>

January 2009 Issue 18

Have Your Results Counted!

At the 2007 Forum, nearly 40 Partners reported helping **1.4 million households** adopt clean cooking and heating practices since 2003 or during 2003 - 2006, reducing harmful IAP exposures for more than **7.6 million people**. By 2010, these Partners plan to reach another 6 million households!

We are now asking all 240 Partners to establish goals and report progress at www.PCIAonline.org/results/submit09 helping us to:

- Identify speakers and case studies for the 2009 Forum;
- Recognize the good performance of organizations at the Forum;
- Guide future PCIA work;
- Measure and help each other achieve meaningful results; and
- Publicize the collective results of our efforts in this field.

The Partnership has continued to increase the capacity of Partners to implement effective household energy programs through regional workshops and technical assistance. In 2007-08, the Partnership conducted two regional monitoring workshops (Vietnam, South Africa) and one regional design and performance workshop (Indonesia) helping 76 participants from 26 countries to strengthen their stove programs. PCIA has also supported laboratory testing of dozens of stoves. Today, more data exists than ever before on the performance of innovative technologies and there are increased numbers of new, and far superior, technologies. Additionally, breakthrough research on the health impacts of cleaner technologies is being analyzed and published.

Ultimately, the collective efforts of the Partners and the Partnership have had profound impacts on improved health, family economics, and quality of life; reduced poverty and impact on the global and local environment; and increased job opportunities.

Join us for the **4th Biennial Partnership for Clean Indoor Air Forum** in March 2009 where more than 200 household energy and health leaders will convene to share their successes, create synergies among organizations, and leverage resources and expertise. We hope to see you there!

ARE YOU READY FOR THE FORUM? March 23-28, 2009, Kampala, Uganda

You can still register! Registration open until January 30, 2009

Come learn, share, and participate in the 4th Biennial Partnership for Clean Indoor Air Forum.

Join the largest gathering of household energy (HHE) and health leaders as more than 200 practitioners share the latest developments in technologies, fuels, monitoring and evaluation, commercialization, carbon financing, awareness raising, and research; and make new commitments to significantly reduce exposure to indoor air pollution from cooking and heating practices.

Help achieve the Millennium Development Goals to reduce child mortality, improve maternal health, eradicate poverty, promote gender equality, and ensure environmental sustainability. Be a part of this exciting global event.

To register visit:

<http://www.pciaonline.org/2009ForumRegistration>

You can still submit an agenda item

We want your information to guide the development of the PCIA Biennial Forum Agenda! We want to know about your successful program results, and specific aspects of your program that you believe would be helpful for others to know about. Help us by answering a few questions at <http://www.pciaonline.org/2009forumAgendaSubmission> and letting us know your priorities for the Forum. The deadline is January 30, 2009.

Everyone who comes to the PCIA Forum will have opportunities to share information on their program, work, and challenges during the organized program, the poster sessions, and in Open Space sessions.

Or win an award

The PCIA 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. At the Forum, PCIA will recognize exemplary programs in two categories: Global PCIA Leadership Award and Special Achievement Awards.

The **Global PCIA Leadership Award** recognizes programs which have incorporated the four priority areas proven to be essential elements of sustainable household energy and health programs and achieved noteworthy results.

Special Achievement Awards include:

- **Meeting Social and Behavioral Needs** - For dedication and innovation in working with local communities to raise awareness of indoor air pollution and clean and efficient cooking alternatives
- **Developing Local Markets** - For creating a sustainable commercial supply and implementing exceptional commercial strategies for increasing the use of clean and efficient cooking technologies and/or fuels
- **Improving Technology Design and Performance** - For ingenuity and commitment to improving the design and manufacturing of clean and efficient cooking technologies
- **Monitoring Impacts of Interventions** - For dedication and investment to demonstrate the important health, social, economic and environmental benefits of clean and efficient cookstoves.

Four Priority Areas

The essential elements of sustainable household energy and health programs:

- Meeting social and behavioral needs
- Developing local markets
- Improving technology design and performance
- Monitoring impacts of interventions

Apply now at:

<http://pciaonline.org/2009ForumAwards>

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TEST YOUR KNOWLEDGE

Test your knowledge of what is going on with your colleagues who work on indoor air pollution!

Don't know the answers? Read the interviews with the PCIA Forum 2007 Winners in this issue of the Bulletin.

1. Who is selling 60-70,000 cookstoves a year in Uganda and hopes to double their sales in 2009?
2. Who helped the Ministry of Environment, Science and Technology in Nepal develop their National Standards on Indoor Air Quality?
3. Which program has succeeded in making charcoal from agricultural waste?
4. Who had distributed over 30,000 solar CooKits?
5. Which program provides training on kitchen improvement that has been really effective when combined with IAP monitoring?
6. From 2003-2007, which project reduced the emission of greenhouse gases by a carbon dioxide equivalent of 303,481 tons?
7. Who has distributed more than 250,000 improved cookstoves without an end user subsidy?
8. Which project hopes to ensure a strong establishment of the ethanol-for-household energy market in Ethiopia?
9. Who has been repeatedly invited to share experiences with West African implementation projects that are promoting fuel-efficient biomass stoves?
10. Who handed over their award to the Ministry of Agriculture and Rural Development to promote their success in teaching rural communities about better stove options?
11. Which organization has gotten its products registered for carbon credits?
12. Who has received Gold Standard verification of carbon offsets for their partner cookstove program?
13. Who is producing a stove that lasts a minimum of 2 years?
14. Which organization "knows stoves" and has joined with a manufacturing and business expert to efficiently produce high-quality stoves in China?

ANSWERS ON PAGE 16





Hear from Past PCIA Award Winners



At each PCIA Forum we acknowledge the innovative, high quality work of a number of organizations and honour them with an award. We recognize 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. Several awards were given at the 3rd Biennial Partnership for Clean Indoor Air Forum in Bangalore, India. Winners serve as models for other programs striving to increase the use of clean, efficient, affordable, reliable and safe home cooking practices throughout the world.

The 2007 award winners agreed to share some insight with us prior to this year's Forum. On the following pages you can read their interviews, learn about their projects and latest work, and hear their opinions on why travelling to Uganda and attending the *4th Biennial PCIA Forum* will be a rewarding experience for you!



2007 3rd Biennial Forum



Award - Commercialization

In appreciation and recognition of creating a sustainable commercial supply chain for increasing the use of clean and efficient cookstoves in Ghana.

Interview with Don Feil

EnterpriseWorks/VITA—Ghana

Mission: Combating poverty by helping stove manufacturers and retailers achieve sustainable business and consumers possess fuel efficiency and reduced indoor air pollution.

What is the most exciting aspect of your work?

work? The ability to have such a strong and direct impact on people's lives! When I travel to areas, I try to get out into the rural areas and see the households where people are using our cookstoves and other products, and there I personally witness the benefits the products are having on their lives. Although most are not formally educated and are poor, all are extremely savvy consumers. They know if a product is good and economically desirable. Their input as users and consumers of the cookstoves is sought and used and helps make our products more successful.

How has being a PCIA Partner helped you in your work? Although most would think the first answer to this question is the "financial benefit," the real answer is the ability to associate with like-minded organizations, and to identify and meet with organizations I didn't know about. Learning through colleagues has been of great benefit to our work.

How has winning a PCIA Award helped you to promote your program? We won the Commercialization Award in 2007 and it was wonderful to have this recognition. We've been doing this work for forty years, working to make our non-profit use a for-profit business model for our products, so we are grateful to have our success highlighted.

What is the most useful thing you learned at the 2007 PCIA Forum that you were able to implement in your program? The PCIA Forum was so useful to us because of the people that attended and the relationships that came out of the meeting. We were able to begin relationships in new areas that we wanted to pursue, learning from our colleagues. As well, we have been able to clarify the commercialization process – expanding cookstoves as a sustainable business, not a subsidized environmental health intervention.

What new breakthrough/insight has your program achieved since winning your award at the 2007 Forum? Since winning the award, we've been able to scale up our cookstove program



Don Feil accepting the award from Kurt Hoffman, Director, Shell Foundation

in Ghana, expanding the sales-base of stoves to a point where the implementing organization is on the verge of being self-sustaining.

What are your program's goals for the coming 1-2 years? We are currently selling 60,000-70,000 cookstoves per year in only two areas – Greater Accra and Kumasi. The plan is to expand to other areas and by next year, double our sales.



Stock of cookstoves in Uganda

What advice do you have for others in the household energy and health field? There is a tendency to treat low-income populations as beneficiaries but it's much more beneficial, and actually necessary in our work, to treat them as clients. Taking into account the end-view of the customer from the very beginning designs of the cookstoves or other products to the end marketing and promotion is essential to achieving success. Without this, your product and program can fail. Low-income populations have money, but poor cash-flow and they will spend it, but the key is to show them the economic benefits, not just the health ones. For cookstoves, the result is significantly lower fuel costs and less indoor smoke pollution and better health, showing that less pollution means less sick days, which means more days of being able to work and bring in money (improving health brings economic reward) is key to changing consumer behavior.



Award - Net Forward Energy

In appreciation and recognition of your energy, optimism and enthusiasm.

Two organizations won this award.

On the following pages, read interviews with:

Solar Cookers International and Food and Fuel Consultants



Margaret Owino and Christa Roth accepting the award from EPA's Brenda Doroski and John Mitchell



Interview with Margaret Owino

Solar Cookers International - East Africa Region

Mission: Assist communities to use the power of the sun to cook food and pasteurize drinking water for the benefit of people and environments.

What accomplishments are you most proud of?

We've established a vibrant Solar Cooker International (SCI) office in Eastern Africa, managing it and a growing number of staff for the last 10 years. This has allowed us to implement three large projects in which we've distributed over 30,000 solar CooKits! Being a PCIA partner is also something we're proud of since it has meant assisting 1.4 million households adopt cleaner energies and technologies for health and wealth. We've received some major awards too - Ashden Renewable Energy Award, Pan African Women Inventors and Innovators Award (PAWII), International Net Forward Energy Award and recently, the National Energy Globe Award.

How has being a PCIA Partner helped you in your work? It is a major resource in terms of tested ideas, technologies and methodologies. I've gained exposure



Interview with Christa Roth

Food and Fuel Consultants - Germany

Mission: Assist interested partners in developing suitable household energy solutions for complex problem situations.

What is the most exciting aspect of your work?

That I am able to interest others in the topic of Indoor Air Pollution (IAP) and the efficient use of biomass fuels. It is a 'forgotten' topic and most people are not aware of the dangers and negative effects on health and the household economy, when biomass is used in inefficient ways. After a short introduction they often become very receptive to suggestions for simple mitigation measures like ventilation in the kitchen, improved stoves and the importance of firewood management. It's exciting to address this topic to various audiences – from policy makers, to the management of big companies (who refurbish their staff houses), to extension workers or to households in rural communities.

How has being a PCIA Partner helped you in your work? I can get advice through the PCIA

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to other agencies and organizations working on the same theme. Being a partner has allowed access to capacity building hands-on training in areas such as: commercialization of stoves, monitoring and evaluating energy technology projects, using protocols and tools that measure indoor air pollution and stove performance testing.

How has winning a PCIA Award helped you to promote your program? Although the award is not well known, as a first recipient, it boosted my morale and gave my work the recognition it so much needed. It boosted our chances of securing SEPAL funding to scale up our project in Kadibo, Kenya.

What did you find most useful about the 2007 PCIA Forum? It enabled me to gauge the magnitude of the negative impacts of indoor air pollution and that it is a serious issue in all developing countries. I learned that many agencies are concerned and are working out solutions and these can be shared and replicated with minor adjustments to suit local conditions. Being a PCIA Partner, one can benefit from the resources (human and material) to enable one's program to qualify for carbon credits.

What are you most looking forward to about the upcoming 2009 PCIA Forum? Seeing old friends and sharing the stories of our successes and challenges face to face and meeting new partners, especially from Africa. Since Uganda is our neighbor, I would like to expose most of my staff to the Partnership and its resources first-hand. It will also be a great opportunity to demonstrate our technology to Partners who may still be skeptical when it comes to solar cooking and the related technologies we are promoting.

What new breakthrough/insight has your program achieved since winning your award at the 2007 Forum? We have won funding from U.S. EPA to scale-up our project in the Nyanza region and have been working closely with other local partners - Practical Action (Intermediate Technology Development Group - ITDG).

Who is one person (or what is one organization) you hope attends the 2009 Forum? Why? Dr. Priyadarshini Karve - she inspires me and her organization (ARTI) has many technologies and a wealth of knowledge and research experiences that are relevant and applicable to our situation here in Africa.

What advice do you have for those still deciding whether to come to the 2009 PCIA Forum? Imagine! Who will play your role - you make up the strong, reliable 240 member team, your absence will make our team lose. Hurry up and register! Let's meet and share, as we energize and synergize one another. See you in the land of the white crested cranes soon!



SCI Team demonstrating solar cooking

(Continued from page 6)

network as well as food for thought on how to better integrate IAP in the promotion of efficient biomass stoves.

How has winning a PCIA Award helped you to promote your program? Although I was a 'first-timer' at the Bangalore Forum, it gave me a lot of inspiration and courage to go on with the topic. It also helped to raise interest in the topic among my colleagues in Malawi, Zambia, and Tanzania. They were eager to learn more about IAP and the potential to use IAP-issues as a 'sales' argument to promote fuel-efficient biomass stoves on various levels.

What is the most useful thing you learned at the 2007 PCIA Forum that you were able to implement in your program? I learned about the importance of being able to quantify IAP in order to raise even more awareness and credibility for the topic. The qualitative linkage between the inefficient use of (wet) biomass as a fuel and the negative impacts on health and household economy are not only easy to understand, but rather easy to convey. What can be more difficult is to tell people how big that impact can be and which mitigation measures they can take to improve IAP.

What are you most looking forward to about the upcoming 2009 PCIA Forum? Reconnecting to the PCIA network, especially with people who use IAP measuring devices, as I have lots of things to learn on the correct use of the DUSTTRAK device. Data collection is only useful if you do it right and the data can withstand scientific scrutiny. I hope to learn more from both implementers and academic researchers to be able to do a better job on this in the future.

What mentoring or other opportunities have you had to share your successful approaches with others? Apart from the continuous sharing of our approaches with more implementation partners in our East-and Southern African partner countries, I was repeatedly invited to share our experiences with a network of West-African implementation projects, that all have a part in the promotion of fuel-efficient biomass stoves. The highlight was that as a result of integrating the focus on IAP in the promotion of biomass stoves, my Malawian colleague CAPS Msukwa was invited as the speaker on IAP at the Africa-wide March 2008 Air Pollution Information Network for Africa (APINA) conference in Lusaka. This opportunity gave us a platform to share our examples with a Pan-African audience.

Who is one person (or what is one organization) you hope attends the 2009 Forum? Why? It is difficult to single out a specific organization or person, as PCIA offers the unique opportunity to have numerous interesting organizations and people all in one place, which gives an incredible potential for networking. I would really like to meet people from the Liverpool School of Tropical Medicine (e.g., Stephen Gordon and Nigel Bruce), as they are preparing an interesting integrated research project "Breathe Africa" for Malawi. And I, would like to use the opportunity for a personal exchange with them and their colleagues. I also hope to catch up with all sorts of other people, especially from Aprovecho and CEIHD on IAP measuring.

What advice do you have for others in the household energy and health field?

Keep it up and get on with the work; there is so much to do! There have never been better times than these as everybody is talking about climate change, global warming, greenhouse gases, the energy crisis, etc. The challenge is to put "household" energy and its health impacts on that agenda too and to create awareness around the importance of using solid biomass fuels for the over half the population on this planet who rely nearly entirely on biomass.



School teacher Mrs. Mwale in Malawi, showing an improved cookstove to children



Award - Global Leadership

For vision, initiative, and action to achieve the mission of the Partnership.

Interview with Jun Hada

Practical Action—Nepal

Mission: To demonstrate and advocate for the sustainable use of technology to reduce poverty in developing countries, to increase poor people's access to energy technology options, through improving the efficiency and productivity of biomass use, and through small-scale, low-cost, off-grid electricity supply.

What project accomplishments are you most proud of? Helping to increase the capacities of poor communities in understanding the effects of indoor air pollution (IAP) to their health which is increasing demand for efficient technologies that help reduce the pollution while still heating their rooms. Also, significantly reducing air pollution (85%) through technology interventions in poor rural households. Gaining recognition of the problem by the government (Ministry of Environment, Science and Technology, Ministry of Health, National Planning Commission, National Bureau of Standards) which has led to the formulation of *National Standards and Implementation Guidelines for Indoor Air Quality*.

How has being a PCIA Partner helped you in your work? It has helped build linkages with many other agencies working to improve indoor air quality and health - getting their technical and advisory support. For example, we now have a linkage with Aprovecho Lab for testing the efficiency and effectiveness of the smoke-hoods that we are promoting.



Awareness program in Gorkha district, Nepal



Intervention (smoke hood and stove improvement) in a household in Dhading District, Nepal

How has winning a PCIA Award helped you to promote your program? Winning a PCIA award has helped raise our profile and gain recognition among different communities including international donors (we secured European Union funding to initiate IAP reduction work in peri-urban areas in Nepal). It has helped promote our approaches among other Forum members through other platforms such as Better Air Quality 2008 and the UN Commission on Sustainable Development 2007.

What did you find most useful about the 2007 PCIA Forum? I found the working sessions on improving technologies, fuels, and practices most useful as we are more focused on working on the ground on technology and practices. Apart from that, carbon credits for stoves dissemination and the technology field visit were also useful.

What are you most looking forward to about the upcoming 2009 PCIA Forum? Learning more about new, innovative, cost-effective technological solutions that have been practiced elsewhere, the social marketing approach for raising the awareness of consumers in poorer households, and information about financing mechanisms for the poor to gain access to different technological options. I am also looking forward to networking with other Forum members who could provide technical, financial, and advisory supports to our program, and collaborating with new partners in testing new ideas or further scaling up our approaches.

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What new breakthrough/insight has your program achieved since winning your award at the 2007 Forum? The development of *National Standards and Implementation Guidelines for Indoor Air Quality* which is in a draft form on the Web site of Ministry of Environment, Science, and Technology – <http://www.moest.gov.np> for public comment. This process is being made very participatory; the public can send in their opinions and feedback on the proposed standards and guidelines.

Who is one person (or what is one organization) you hope attends the 2009 Forum? Why? The new person who will attend the Forum will be Suman Dhakal, a representative of our partner, (Winrock International Nepal) in our project. Both of us will be focusing on financing mechanisms for the poor to access technological solutions to combat IAP in poor rural areas.

What are your program's goals for the coming 1-2 years? Our IAP Reduction Program will focus our work in an integrated and holistic approach to bring about "Healthier Homes" that embrace intervention on IAP reduction, improved ventilation, research on efficient and cost-effective stoves, on-site kitchen and household sanitation, and water treatment and storage at point of use. As a result, we intend to improve the health of 35,000 poor women and children residing in poorer settlements both in rural and peri-urban areas. We believe that such actions will also be supported by other networks and partners focused on awareness of hygiene behavior and advocacy.

What advice do you have for those still deciding whether to come to the 2009 PCIA Forum? The PCIA Forum has been very instrumental to me for my personal growth, has broadened my knowledge on the issues of IAP, and has also been wonderful for my organization in achieving its goals on IAP. Thus, I encourage all to participate and join the network to fight IAP together.



A lady boiling milk using a traditional stove (metal tripod)



Award - Regional Collaboration

In appreciation and recognition of partnering, communicating, and building capacity for greater results in Asia.

Interview with Christina Aristanti Asia Regional Cookstove Program (ARECOP)

Mission: To facilitate the development of effective improved cookstove and biomass energy programs at the household and small industry levels, and create nationally-based networks of cooperation dealing with improved cookstoves and biomass energy use.

What is the most exciting aspect of your work?

Helping to solve local problems of indoor air pollution (IAP) and fuel cost and efficiency, and seeing the great results. Also, getting to know and collaborate with so many organizations around the world, and bringing new ideas from other places back to our own region.

How has being a PCIA Partner helped you in your work? Since our attendance at the 1st Forum, we have enjoyed being a PCIA partner and gotten great benefit from collaborating with partners and sharing experiences.

How has winning a PCIA Award helped you to promote your program? It definitely has helped us gain recognition, respect, and appreciation from other groups, both locally, regionally, and globally. We've been able to leverage resources and raise our public profile in the world. Other international organizations now recognize the work we have done with improved cookstoves (ICS), IAP, and biomass fuels. Even the World Health Organization has contacted us to collaborate. Non-governmental organizations (NGOs) like ourselves typically have a low profile and a tough time, but the award has helped us with that.

What is the most useful thing you learned at the 2007 PCIA Forum that you were able to implement in your program? The 2007 Forum's focus on partnership building and raising awareness of IAP issues was very beneficial to our own work to advocate to policymakers in Asia, build strong networks for information sharing, and to train others thus building capacity in the energy sector. We appreciated the group discussions and established some joint collaborations that have continued.

What mentoring or other opportunities have you had to share your successful approaches with others? Our dedicated work of facilitating the network allows us to constantly mentor and act as a bridge for exchanges of skills, expertise, and resources among sectors as diverse as government



Christina Aristanti accepting the award from EPA's Brenda Doroski

institutions, NGOS, academic and research institutions, community-based organizations, international agencies, and private institutions – all to help integrate improved cookstove activities into their work.

We also work to promote the decentralization of improved stove technical and programmatic skills through a comprehensive training that has now been adopted by institutions in the Asia region. We have initiated the adoption of a participatory methodology in improved cookstove programs to address the issues of gender, poverty, and sustainability. All of this with the purpose of helping low income groups to access clean, efficient, and affordable biomass energy devices. In addition to improving the health of the people, ARECOP also provides training and capacity-building in kitchen improvement that has been adopted by network members. On one occasion, in collaboration with PCIA, we developed and held trainings on kitchen improvements in conjunction with IAP monitoring which was very effective.

What are your program's goals for the coming 1-2 years? Unfortunately, core funding for ARECOP has ended, but the network seems strong enough to stay intact on its own. We hope to continue our collaboration with PCIA. The ARECOP network's weakness is still on technical parts such as providing good data on the ICS performance being disseminated. Yet the present trends in the world require that such data should be able to be presented (e.g., carbon finance, IAP.) Therefore, this will be the focus of ARECOP in the next 1 -2 years, given we can secure resources. Also with PCIA, we are hoping to continue plans to establish a much needed testing center for emissions in the Asia Region. We have purchased some equipment (PEMS, HOBO, UCB monitor, etc.) and are seeking resources for operations.



Award - Innovation in Stove Design

In appreciation and recognition of your creativity, dedication, and ingenuity in designing new and cleaner ways to cook.

Award - Ambitious Targets

In appreciation and recognition for leadership and commitment in setting bold future goals.

Interview with A.D. and

Priyadarshini Karve

Appropriate Rural Technology Institute—India

Mission: To develop innovative and environmentally friendly rural technologies based on modern scientific knowledge to help rural people in establishing new enterprises. Potential entrepreneurs are trained in the technologies developed by ARTI and are provided with support if they start their own business.

What is the most exciting aspect of your work?

As scientists, making new discoveries has always been a highly exciting activity. It is also exciting to see a scientific concept develop into a technology that directly impacts common people's lives.

How has being a PCIA Partner helped you in your work? We became aware of the problem of indoor air pollution. We also came to understand several facts regarding combustion of biomass. This knowledge helped us in inventing new and less-polluting stoves and fuels. It has also helped in creating useful linkages with like-minded people and organizations.

How has winning a PCIA Award helped you to promote your results? The publicity attached to this award helped us in popularizing our technologies regarding stoves and biomass-based fuels.

What did you find most useful about the 2007 PCIA Forum? We could meet many scientists and inventors in person and conduct discussions with them on many mutually interesting themes. We also learned about new technologies being developed by other groups.

What are your goals for the 2009 PCIA Forum? Most people use wood as a source of fuel. We, on the other hand, advocate the use of waste biomass as a source of fuel. We would like the 2009 PCIA Forum to highlight the use of waste from agriculture and also urban solid waste as a source of fuel. The PCIA meeting should showcase technologies that



Dr. Priya Karve and Dr. A.D. Karve accepting the award from EPA's Brenda Doroski and John Mitchell

convert waste biomass into high value fuel, and also highlight the stoves that use such fuel.

What new breakthrough/insight has your program achieved since winning your award at the 2007 Forum? Our major contributions have been (a) making charcoal from agricultural waste, (b) designing a cooking system using such charcoal and, (c) producing biogas from food waste. Our work during the past two years consisted of developing more user-friendly and cheaper devices and finding new ways of using these inventions. We were able to develop a smaller and cheaper kiln for making charcoal. We also developed a smaller and cheaper hand-operated briquette extruder.

The capital expense of our original system, consisting of two kilns and an electrically operated briquette extruder was about US\$1000. The new operative unit, also consisting of two kilns and an extruder, costs only US\$200. Our biogas system, initially accepted only sugars, starch, digestible proteins, or fats as the source of biogas. However, farmers as well as householders also have a lot of ligno-cellulosic waste in the form of green plant material and vegetable waste.

We have now developed a domestic biogas system which is capable of producing biogas from all kinds of biodegradable waste, including ligno-cellulosic material. Our new system not only produces biogas, but also acts as a garbage disposal device. We have also succeeded in demonstrating that domestically produced biogas can be used as fuel in an internal combustion engine, which can in turn be used for pumping water or even for generating electricity. The biogas plant is, thus, not just a cooking device, but a device that produces high-quality fuel that can substitute petroleum-based fuels.

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What are your program's goals for the coming 1-2 years? We wish to popularize our inventions. In view of the shortage of petroleum fuels, we wish to popularize the use of biogas as fuel in internal combustion engines and to substitute mineral coal for our char briquettes produced from agricultural waste. We also wish to propagate clean-burning biomass fueled cooking devices for household and commercial cooking needs in both urban and rural areas, as a sustainable alternative to the fast depleting and polluting fossil fuels.

What advice do you have for those still deciding whether to come to the 2009 PCIA Forum? Try and make it to the 2009 PCIA Forum! The PCIA Forum is always a great opportunity to share ideas and form useful linkages.



Dr. Priya Karve demonstrating ARTI stove models

Upcoming Events

Energy and Climate Summit 2009

February 3-4, 2009, New Delhi, India

PCIA Partner Integrated Research and Action for Development (IRADe) is organizing this summit, entitled 'Meeting new challenges,' which will focus on how the energy sector can reduce climate change impacts, and how climate change will impact the energy sector.

For more information and to register please visit <http://www.rade.org/upcomingevents.htm>.

Delhi Sustainable Development Summit 2009

February 5-7, 2009, New Delhi, India

PCIA Partner The Energy and Resources Institute (TERI)'s annual flagship event, this summit on sustainable development will focus on the theme 'Towards Copenhagen: an equitable and ethical approach.'

For more information please visit: http://dsds.teriin.org/2009/Announce_two.pdf.

Environmental Film Festival

March 11-22, 2009, Washington, DC, USA

At the film festival, PCIA Partner Solar Household Energy will show 4 films on solar cooking projects around the world; this screening will take place at Sumner School on March 20th at 12-1:30pm.

For more information please visit: <http://www.dcenvironmentalfilmfest.org/>.

Call for Abstracts: ISES Solar World Congress 2009

October 11-14, 2009, Johannesburg, South Africa Abstract deadline February 1, 2009

The International Solar Energy Society accepting abstracts for participation at the ISES Solar World Congress, the theme of which is "Renewable Energy Shaping our Future".

For more information and to submit an abstract please visit <http://www.swc2009.co.za/>.



Award - International Results

In appreciation and recognition of exceptional commercial strategies for increasing the use of clean and efficient cookstoves.

Three organizations won this award.

On the following pages, read interviews with: **Alternative Energy Promotion Centre, Groupe Energies Renouvelables, Environnement et Solidarités (GERES) Cambodia, and Deutsche Gesellschaft für Technische (GTZ-SUN Energy)**



Karuna Bajracharya, Hiwote Teshome, and Yohanes Iwan Baskoro receive their awards from Brenda Doroski and John Mitchell of EPA

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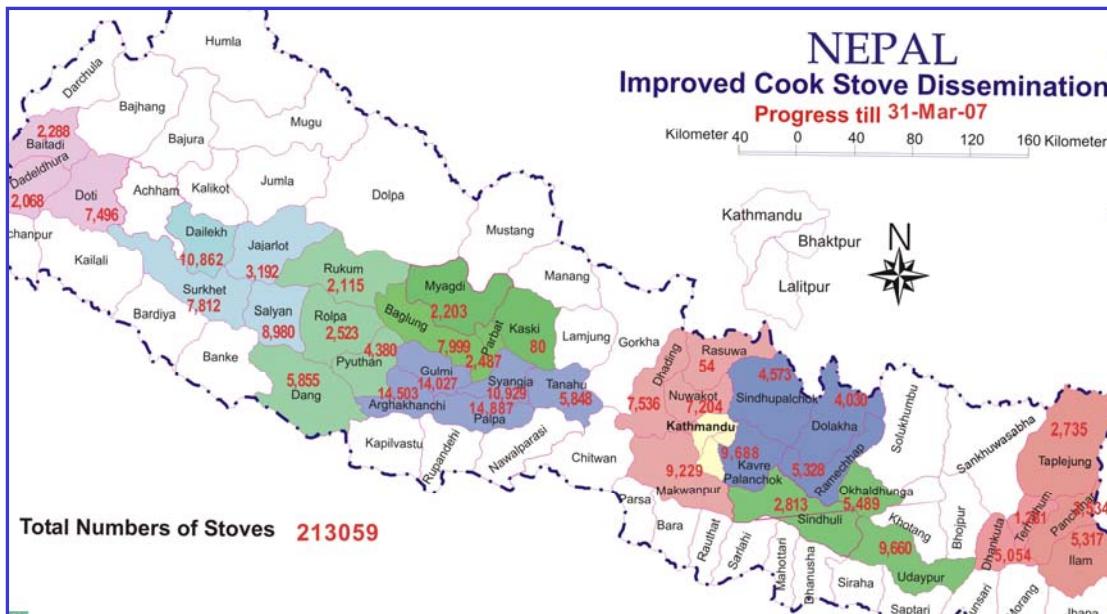


Interview with Karuna Bajracharya

Alternative Energy Promotion Centre

Energy Sector Assistance Programme (AEPC/ESAP) - Nepal

Mission: To further expand our subsidy-less program by promoting the benefits of and disseminating improved cooking stoves in the rural areas of Nepal.



What accomplishments are you most proud of?

I am proud of being able to disseminate more than 250,000 improved cooking stoves without an end users subsidy in the rural areas of Nepal through local district-based partner organizations. The program has included capacity-building of local people and has produced more than 3,000 stove promoters (stove entrepreneurs).

How has being a PCIA Partner helped you in your work? I was very happy to become a PCIA partner. PCIA has provided training on indoor air monitoring and kitchen management. Right after the training, we conducted the Indoor Air Pollution (IAP) study in three working areas and found the average percentage change of the IAP concentration between the traditional cooking stoves (TCS) and improved cooking stoves (ICS) was 65.73% for PM2.5 and 62.34% for CO. This was a great result for the advocating of continuing the program and provided encouragement for setting additional targets.

How has winning a PCIA Award helped you to promote your results? After receiving the award from PCIA, the program has been considered a special program within the country and has been recognized by other stakeholders for our best dissemination strategies and appropriate technologies in Nepal. This has encouraged the program to set a larger target.

What did you find most useful about the 2007 PCIA Forum?

We learned at the Forum that the Nepal program had set larger target goals among the participants of the Forum and more carbon trading organizations have contacted us as a result. Additionally, I found meeting with various experts and personnel of the household energy programs to be useful and found myself proud to be part of a larger team that is dedicated to improving peoples health, livelihood, and quality of life by reducing indoor air pollution.

What are your goals for the 2009 PCIA Forum?

The program would like to share our indoor air monitoring results and share dissemination strategies in three adverse geographic locations. For example, dissemination of metal stoves above 2,000 meter altitudes, dissemination of low-cost mudbrick improved cooking stoves in 1,300-1,900 meter altitudes and dissemination of portable rocket stoves at 800-1,200 meter altitudes.

Do you have any results you'd like to let PCIA members know about? We're excited to share the results of our IAP study and social acceptance of a subsidy-less program in a rural community.

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What are your program's goals for the coming 1-2 years? Our 1-2 year goal is commercialization of low-cost, wood-burning stoves because 85% of rural populations are dependent on wood/biomass fuel for cooking and space heating, as well as running small and micro enterprises.

What advice do you have for others in the household energy and health field? Although it is not easy to convince people who have been using traditional cooking from generation to generation, have patience!



Improved cookstoves in Ilam district

Answers to the quiz:

1. EnterpriseWorks/VITA
2. Practical Action
3. Appropriate Rural Technology Institute
4. Solar Cookers International
5. Asia Regional Cookstove Program
6. GERES Cambodia
7. Alternative Energy Promotion Center
8. Project Gaia
9. Food and Fuel Consultants
10. GTZ-SUN Energy
11. Ugastove
12. Center for Entrepreneurship in International Health and Development (CEIHD)
13. BP, Emerging Consumer Markets Division
14. Aprovecho Research Center

How do your answers rate?

12-14 correct answers

You are completely up to date on all innovations and projects related to household energy and IAP. Move to the head of the line when you get to the Forum!

8-11 correct answers

You definitely have some knowledge on the latest in household energy projects. Read a few of the interviews in this bulletin to be completely up to date and ready for the Forum!

0-8 correct answers

Become a more active PCIA Partner, check out the quarterly PCIA Bulletins, and browse the Web site! Keep up-to-date on all the innovative things going on among Partners working on indoor air pollution and household energy.



Interview with Yohanes Iwan Baskoro

GERES Cambodia

Mission: To preserve the environment and improve the living conditions of the Cambodian people by reducing fuel wood consumption, emission of GHG and other hazardous gases, cost of energy and cooking time, and ultimately to enhance the sustainability of the ongoing renewable energy services.

What accomplishments are you most proud of? The partnerships that GERES Cambodia has formed with 27 micro-enterprises in Cambodia producing Improved Cook Stoves (ICS) and more than 240 private entities that now distribute the ICS through commercialization. The average monthly sale of the ICS in 2008 was 20,837 units, which is about a two fold increase compared to 2007, and the micro-enterprises and private distributors enjoy added value of about US\$250,000 per year now. Also, I am proud of our partnership with the Department of Industrial Standards of the Directorate of Industry of the Ministry, of Industry, Mines & Energy which has established a national ICS standard. There are 180,000 families in urban Cambodia using the ICS and each can save about US\$36 per year, a total of six million per year. And, from May 2003 to December 2007, the project reduced the emissions of GHG by 303,481 tons CO₂ equivalent (verified by a Kyoto-certified DOE).

How has being a PCIA Partner helped you in your work? Exchanges through email, newsletters, and events organized by PCIA has allowed GERES Cambodia to learn from other projects and activities.

How has winning a PCIA Award helped you to promote your results? Winning the award from PCIA has helped our team members build more personal and professional confidence, especially with the 27 micro-enterprises and the 240 private distributors. The award has shown them that their efforts are very important and very special in a global context. As well, for communication to other partners, the Award gives GERES Cambodia a certain attribute in sustainable ICS dissemination.

What did you find most useful about the 2007 PCIA Forum? The discussion and exercises during the conference; it gave me a better understanding about partnership. And, making the acquaintance of many important people from all over the world working on different aspects of ICS development (technical, social, economic, communication, etc.)

What are your goals for the 2009 PCIA Forum? GERES Cambodia is quite small and we consider learning from the participants attending the Forum



GERES staff receiving the award from Brenda Doroski of EPA

quite important and necessary to improve our work in Cambodia and the South-East Asia Region.

Do you have any results you'd like to let PCIA members know about? Our success with the private sector in disseminating ICSs in a sustainable way, our establishment of a thorough monitoring system and mechanism to assure smooth feedback of information from the markets and users to the supply chain, and our ability to bring the ICS program into carbon markets to access carbon funds to support project scale-up (outreach and intensity).

Who is one person (or what is one organization) you hope attends the 2009 Forum? Why? I am looking forward to seeing two people: Mr. Amaresekera, IDEA, Sri Lanka – he is my “guru” on ICS commercialization, and Mr. Mohamad Yunus, Grameen, Bangladesh – I want to learn about sustainable economic development from him, which will be very useful in developing ICS commercialization.

What advice do you have for others in the household energy and health field? Develop and introduce affordable ICS with designs that are simple and easy to operate by the average person in your target areas. It's important to collaborate in close partnership with the private sector to produce and distribute the ICS, so when the business reaches its maturity, the private sector will ensure sustainability. Collaborate in close partnership with the relevant government institutions to assure the quality of the ICS and make sure to set-up a thorough monitoring system and mechanism to permit regular and updated feedback from the users and the markets.



GERES Cambodia improved stove distributor



Interview with Hiwote Teshome

**Deutsche Gesellschaft für Technische,
GTZ - SUN Energy - Ethiopia**

Mission: Improve energy efficiency and minimize indoor air pollution by teaching the community about better stove options.

What is the most exciting aspect of your work? I enjoy working in an area where I can make changes to the society's livelihood. This change impacts stove producers as well as stove users. It's also exciting to see the connection between large-scale promotion of the stove and the possible impact on sustainable utilization of natural resources.

How has being a PCIA Partner helped you in your work? It has helped me to see what is going on in other parts of the world in the area of household energy. It's comforting knowing that there is a big presence of different types of expertise working in this sector and there is the possibility of sharing this experience with others.

How has winning a PCIA Award helped you to promote your results? Winning the PCIA Award helped GTZ-Sun Energy promote our results and their impacts to the public, decision makers, the media, and, most importantly, our development partners. To promote our results we organized a ceremony and presented our award to our partner ministry, the Ministry of Agriculture and Rural Development. In the handing over ceremony we invited all our development partners, the media and representative stove producers to recognize their effort and to show them that there is a lot to be done in the future.

What is the most useful thing you learned at the 2007 PCIA Forum that you were able to implement in your program? How to strengthen our approach, which is "Thinking Big," and the importance of collaborating with other development partners for a better result.

What are you most looking forward to about the upcoming 2009 PCIA Forum? I am looking forward to meeting with people from different organizations that have outstanding results in the household energy sector. I also look forward to discussing possible ways of collaboration and integration for the future.



An Ethiopian woman making injera on her Mirt Stove

What mentoring or other opportunities have you had to share your successful approaches with others? One issue is the multi-sectoral impact of commercial approach of promotion of improved stoves in the areas of income generating activity, improvement of livelihood, etc. The second one is the importance of involving different partner organizations working in different sectors that have, one way or the other, a stake in promotion of energy efficiency.

Who is one person (or what is one organization) you hope attends the 2009 Forum? Why? I hope to meet a decisive person from the World Health Organization (WHO). I believe the WHO—with its partner organizations like the Ministry of Health—can do a lot on promotion around improved stoves in collaboration with other ministries and development partners.

What advice do you have for those still deciding whether to come to the 2009 PCIA Forum? Use this opportunity to meet key people that are working in the household energy sector for future collaboration and learn from their experience.



Picture of a Mirt Stove



Award - Indoor Air Pollution Monitoring and Evaluation

In appreciation and recognition of dedication, commitment, and investment to demonstrate the impact of household energy interventions.

Interview with Milkyas Debebe

Project Gaia — Ethiopia

Mission: To provide access to locally produced ethanol and ethanol fueled cooking stoves for Ethiopian households and to create a local stove and fuel business.

What accomplishments are you most proud of?

Establishing an awareness of the Clean Cook (CC) stove project in Ethiopia – with various government officials and bodies, development organizations, and UN agencies. Also, having a positive impact and easing life for refugees (especially women and children), making good progress with Makobu (a private business working on the local manufacturing of the CC stove) towards establishing a local household market for ethanol, and gaining international recognition for our work through the Ashden Awards for Sustainable Energy.

How has being a PCIA Partner helped you in your work? We have learned a lot from other partners about their challenges and unique systems when it comes to implementing their programs.

How has winning a PCIA Award helped you to promote your results?

Winning the PCIA award was a great acknowledgment of our work and allowed us to advocate for our work to different partners and organizations. This has resulted in discussions with them to work together and scale up our program in different countries. It created an interest from different partners to work with us in their respective countries.

What did you find most useful about the 2007 PCIA Forum?

It was great for Gaia to receive the monitoring and evaluation award and to exchange and share so many experiences on IAP interventions with other organizations.

What are you most looking forward to about the upcoming 2009 PCIA Forum? Continuing to network with like-minded individuals and organizations, learning what new approaches to the indoor air pollution problem have been thought up or developed in this last year, and continuing our education on the issue to ensure that we are up-to-date with the latest research and developments related to IAP. We also hope to promote Gaia's work and show others that small, local organizations can have a big impact.

Do you have any results you'd like to let PCIA members know about? In 2008 we won the prestigious Ashden Awards for sustainable energy and are in the last stage of the grant process of the Wellcome Trust for a health study to monitor the



Milkyas Debebe accepting the award from EPA's Brenda Doroski and John Mitchell



Woman learning to use a Clean Cook stove

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health impact of the CC stove. Gaia was selected by United Nations Development Program (UNDP) for a feasibility study for the use of ethanol as a household cooking fuel in Malawi where the CC stove has turned out to be the final recommendation after the study of ethanol stoves from all over the world. Gaia is working on a study in Madagascar with Practical Action, University of Liverpool UK, Berkley Air Monitoring Group USA, and ECO Consulting Group on ethanol as household fuel including the health benefits, economic assessments, and, review of African lessons for scale-up projects funded by World Bank.

What are your program's goals for the coming 1-2 years? To continue to scale-up and/or expand the refugee program to as many households in as many camps as possible. We anticipate that Ethiopia will receive many more refugees in the coming year from Somalia, and we would like to work to ensure they are free from the burden of fuel wood collection and IAP. Perhaps our most focused goal for the next 1-2 years is working to ensure a strong establishment of the ethanol-for-household-energy market, to commence local production of the stove, and to ensure sustainability of the market and fuel supply through continued awareness-building and partnership cooperation. We also hope to continue to produce relevant, quality research (health study, IAP testing, socio-economic assessment, etc.) and to look into possibilities for partnering and scaling-up in other countries.



Refugee carrying wood for fuel

What advice do you have for those still deciding whether to come to the 2009 PCIA Forum?

If your work is at all related to the alleviation of the problems associated with IAP, this Forum is something not to be missed! The networking and education from the interactions at the Forum alone are worth the trip. The more the partners work together and continue with a shared vision, the more likely we are to combat this massive issue of IAP.



Award - Global Monitoring and Evaluation

In appreciation and recognition of your ground breaking efforts in assisting others to demonstrate the impact of household energy interventions.

Interview with Evan Haigler

Center for Entrepreneurship in International Health and Development (CEIHD) - Global

Mission: To improve the health and well-being of women and children in developing countries by catalyzing transitions to cleaner-burning fuels and superior stoves as household energy solutions to underserved populations, especially those in rural or peri-urban areas.

What accomplishments are you most proud of? We are most proud that we're succeeding in extending two of our projects beyond their original time frame and from the original funding that was given by EPA. These two projects are in Uganda and China and are focused on developing and implementing sustainable business models using carbon financing. Carbon financing offers an excellent opportunity to achieve widespread dissemination of health-improving technologies, such as cleaner burning stoves and making the model sustainable will have even further benefit for those looking to invest to achieve both carbon offsets and wider social goals. We've obtained other grants to continue on with these projects which will allow us to continue our research and result in achievable best practices.

How has being a PCIA Partner helped you in your work? Grant funding from PCIA was instrumental in starting our work in Uganda. CEIHD, in collaboration with Pioneer Carbon, recently completed a carbon financing project in partnership with the stove enterprise UCODEA (now UGASTOVE) in Kampala, Uganda. These CEIHD-sponsored stoves can reduce indoor air pollution by more than 50% and save poor families an average of \$43 per year, and local social entrepreneurs distributed the healthy and efficient cookstoves. We gained tremendous benefit from working with these other PCIA partners, sharing experiences and collaborating.

How has winning a PCIA Award helped you to promote your results? Winning the award in monitoring and evaluation has definitely helped increase respect that others working in this field have for us and our projects. We are asked to confer our expertise in the field and to collaborate with other partners.



David Pennise (formerly of CEIHD) accepting the award from EPA's Brenda Doroski and John Mitchell

What did you find most useful about the 2007 PCIA Forum? The Forum was great for networking with other PCIA partners, putting a face to emails that had already been exchanged or those we hadn't met with yet. Attending the Forum facilitates a close human connection that is useful when working in the field.

What are your goals for the 2009 PCIA Forum? We hope to meet many others working in our same area of expertise, tell them of our carbon financing work, and develop working partnerships in carbon finance, and hopefully direct support for improved cookstoves.

Do you have any results you'd like to let PCIA members know about? Our Carbon Finance in Urban Uganda Project (in conjunction with UGASTOVE) will be the first to successfully achieve Gold Standard verification of carbon offsets for a cookstove project. With Gold Standard certification we are able to attract well-known companies who have a desire to associate with high-quality branded carbon-credits. Also, CEIHD is no longer tied to the School of Public Health at the University of California. We have become our own non-profit!

Who is one person (or what is one organization) you hope attends the 2009 Forum? Why? Barack Obama would be great, but since it's unlikely, his proposed new science adviser, John Holdren. He's an energy and climate specialist who could help get cookstoves the exposure and importance they need!

What advice do you have for those still deciding whether to come to the 2009 PCIA Forum? The Forum is an excellent opportunity to network with colleagues working on the same issues, learn from them and develop new collaborations. It shouldn't be missed!



Award - Stove Design and Performance Improvement Award

In appreciation and recognition for commitment, determination, and continuous improvement resulting in cleaner and more efficient stoves for Ugandans.

Interview with Kawere Muhammad

Uganda Stove Manufacturers Limited (UGASTOVE, previously UCODEA) - Uganda

Mission: Produce improved household and institutional stoves to improve the socio-economic condition of the urban poor by engaging them in sustainable, innovative, environmentally friendly economic activities.

What is the most exciting aspect of your work?

Seeing the achievement of weekly projections of production, sales, and supply is exciting since it means many people have come on board to purchase our stoves which are efficient, energy saving, safe to use, and environmentally friendly. Our stoves significantly reduce greenhouse gas (GHG) emissions and also provide co-benefits to users and families in the form of relief from high fuel costs and reduced exposure to health damaging airborne pollutants. With carbon financing, our project aims to break the mold and move large populations away from conditions under which GHG emissions are unacceptably high and health effects are unacceptably inhumane for the women and children spending long hours each day in conventional kitchens.

How has being a PCIA Partner helped you in your work? Being a partner to PCIA has helped us acquire managerial skills. We have made an alliance between UGASTOVE (formerly UCODEA) and the Center for Entrepreneurship in International Health and Development (CEIHD). Over the past year of this partnership, we have attained many significant achievements in the areas of business development and growth, social, economic and environmental benefits and considerable greenhouse gas emissions reduction. We've been able to streamline operations through construction of an improved kiln which has made production work easier and also focus on stove design, especially for wood stoves which reduce air pollution.

How has winning a PCIA Award helped you to promote your program? The recognition of winning an award from PCIA has greatly helped UGASTOVE to get its products registered for carbon credits. It's really a great achievement.



Kawere Muhammad and David Mukisa demonstrate using a stove

What is the most useful thing you learned at the 2007 PCIA Forum that you were able to implement in your program? Knowledge of demand-focused implementation, so we are in a position to know what products are needed, at what price, and in what place. The PCIA is a great forum that is surely playing a pivotal role in addressing the challenge of the ever increasing exposure of millions of people to indoor smoke from the burning of solid fuels. These efforts will lead to greater awareness and a subsequent reduction in indoor air pollution and health damaging air borne pollutants.

What are you most looking forward to about the upcoming 2009 PCIA Forum? I'm looking forward to sharing our experiences from the past two years and learning from others doing similar work.

Do you have any results you'd like to let PCIA members know about? We've had good improvement in sales due to a good demand focus and a stream-lined production effort. Also, until last year, Uganda Stove Manufacturers Ltd (UGASTOVE) was called Urban Community Development Agencies Ltd (UCODEA). Our name change was done to increase recognition and distinction as we move towards branding/patenting our stoves. UGASTOVE has greatly increased the quality control in the stove production process and also increased the sustainability of our business model by implementing a warranty system for replacement and repair which has also been used to gather customer information.

Who is one person (or what is one organization) you hope attends the 2009 Forum? Why? Kan International Consultancy Research Centre - this organization has played a good role in creating awareness of the improved energy saving stoves to households through the door-to-door system (selling house to house) that we are undertaking.



Award - Worldwide Stove Design and Performance Improvement

In appreciation and recognition of your ground breaking efforts in assisting others to promote the development of clean and efficient cooking technologies.

Interview with Dean Still

Aprovecho Research Center - Global

Mission: Bring modern engineering design principles to NGOs building stoves around the world, disseminating and studying stoves and household energy use.

What accomplishments are you most proud of?

To address pollution, global warming, and other environmental issues it is not going to take 100,000 stoves, or a million stoves – it will take 1 billion stoves, so manufacturing a great quality stove in an efficient manner is essential. To that end, we have been working with a factory in China to make rocket stoves. In the last 2 years, we've increased capacity from 10,000 to 40,000! The factory has built 3 huge new buildings (as big as football fields) and is automating production, using waste energy to dry the combustion chambers. The factory president is Mr. Chen, an engineer, and his wife is a business manager. Both are very committed to producing a high-quality product for export. He does extra steps in the process to make sure every stove is quality checked. He's built a dust collection system to protect his workers, and has improved efficiency in the stove assembly building so they can now make 18 combustion chambers per minute. We know stoves and Mr. Chen knows manufacturing and efficiency, so this is a great partnership with which we hope to keep accomplishing great progress.

Also, we've had success developing the Portable Emission Monitoring System (PEMS) that can determine the total emissions released during a cooking task to be used in the field. The PEMS consists of a hood structure blower and flow measurement system, and sampling system for the emissions. Use in the field has been great – it allows people to finally see the invisible gases, tune their stoves, and make changes so that they work better and decrease fuel use. We took it to the factory in China and by testing stoves in the factory lab with the PEMS, Mr. Chen was able to dramatically decrease the carbon monoxide emission.

How has being a PCIA Partner helped you in your work? Being a PCIA partner allowed me to go to Indonesia and meet and work with many other partners. The sharing of experiences and technology, and building consensus has been fantastic. There really isn't any other entity that is working to facilitate such a network, so they've vitalized the stove movement and been a major force to create collaborations. NGOs



Dean Still (left), Nordica McCarty, and Mr. Chen (right)

usually work in isolation, so it is helpful to belong to this network.

What is the most useful thing you learned at the 2007 PCIA Forum that you were able to implement in your program? In Bangalore I met so many people that I wouldn't have known and was able to learn, realize, and acknowledge the huge number of stoves that are needed to make a difference. Meeting the big players like Shell and BP and seeing that they were getting involved inspired us at Aprovecho to push and figure out realistically what it would take to make those stoves. It helped us focus on our course with manufacturing and efficiency.

What are you most looking forward to about the upcoming 2009 PCIA Forum? A lot of people in Uganda, and Africa in general, are making rocket stoves, so I'm looking forward to meeting them, seeing what they do, and learning from their experiences. I'm going to "check in with the rocket stove family!"

What are your program's goals for the coming 1-2 years? Facing a world recession as we are, it's already affecting NGOs such as ourselves who depend on private gifts from people. Deforestation, indoor air pollution, and global warming are not getting any better, so it will be interesting to see which commercial approaches succeed in the next year. We'll be learning if stove projects can succeed on a commercial basis. We know it takes adding business acumen, learning about the market, and access to customers and that's what we're doing. The goal is to crack this difficult problem of creating a successful commercial project that brings appropriate technology to biomass users.

What advice do you have for others in the household energy and health field? In terms of stoves, how to make a good one is well-known. We can make good fuel and have less emissions. I hope standards of performance can be crafted that assist really good stoves being made available. Testing of stoves in the field is key to make it efficient and effective.



Award - Ambitious Targets

In appreciation and recognition for leadership and commitment in setting bold future goals.

Interview with Ravi Kumar Dhulipala

BP, Emerging Consumer Markets Division - India

Mission: To develop and deploy innovative business and technological solutions to meet current need gaps in the emerging consumer space and to incubate new businesses by matching their needs to existing technology.



Oorja stove - basic version

What accomplishments are you most proud of? BP's endeavor in emerging consumer markets has sold 375,000 stoves in the last 3 years! We are so proud to have reached such a large population of almost 2 million people and be ahead of our goal. We're also pleased with the 2 stoves in our portfolio of products – one is our first to have a flame control mechanism (allowing for specific heat adjustment) and the second now has the ability to last 1500 cycles, or a minimum of 2 years. We've also been able to focus on stabilizing the product quality of the fuel and have distributed 20,000 tons of agricultural pellets.

How has being a PCIA Partner helped you in your work? Being a Partner has given us the insight and understanding of the different practices and methods that others are using. We've been able to hear differing opinions, take from a variety of best practices and implement them.

How has winning a PCIA Award helped you to promote your program? While winning the award was great, it has also placed more responsibility and pressure on us from within the company to achieve our goals. This helps motivate us to do even more!

What did you find most useful about the 2007 PCIA Forum? Meeting so many people with the same goal of reducing IAP. Also, the PCIA Forum brought to light market approaches of different companies (such as Shell, and Bosch and Siemens). Seeing their approaches, and that of many others, gave us confidence that we are on the right track with our work.

What are you most looking forward to about the upcoming 2009 PCIA Forum? Capturing the learning of other people, in terms of failures and success, and being able to understand and learn from them. We want to understand what else we can do, what we can learn from failures. We are trying to build a sustainable business, so we look forward to learning from everyone about what has succeeded and what has failed, so we don't make the same mistakes along the way.

What new breakthrough/insight has your program achieved since winning your award at the 2007 Forum? Our team feels strongly that IAP reduction shouldn't be seen as a "stove program." It should instead be framed as a marketable business proposition and that is how we are focusing our work, as you can see from the business results we have achieved in the last one year.

Who is one person (or what is one organization) you hope attends the 2009 Forum? Why?
I hope that Bosch and Siemens attends so that we can learn about their work on a liquid fuel biomass stove, to see what success they are having with it.

What advice do you have for those still deciding whether to come to the 2009 PCIA Forum? The PCIA Forum is a great venue to meet a variety of individuals who are doing many great things. If you want to meet some enthusiastic colleagues doing things on great fronts, you should come!