



PARTNERSHIP FOR CLEAN INDOOR AIR

April 2005 Issue 3

PCIA Bulletin

This quarterly newsletter provides updates on the activities of the Partnership for Clean Indoor Air (PCIA) and its Partners to improve health, livelihood and quality of life by reducing exposure to indoor air pollution, primarily among women and children, from household energy use. More than 95 governments, public and private organizations, multilateral institutions, and others are working together to increase the use of affordable, reliable, clean, efficient, and safe home cooking and heating practices. Visit www.pciaonline.org to join!

Partners Gather at Partnership for Clean Indoor Air Meeting

More than 55 Partners from around the world met in Marrakech, Morocco 23-25 on March 2005 to tackle the global health problem of indoor air pollution from household energy use which tragically results in more than 1.6 million premature deaths each year. Household energy and health experts from Bangladesh, Brazil, Canada, China, Germany, Ghana, India, Indonesia, Italy, Kenya, Mauritania, Mexico, Morocco, Nepal, Nicaragua, Nigeria, Philippines, Switzerland, Uganda, United Kingdom, and United States shared their experience and expertise improving the quality of life and livelihoods of the billions of people who still rely on traditional cooking and heating practices.

The meeting resulted in increased collaboration between governments and non-governmental organizations working on household energy and health, and strengthened partner initiatives and plans for 2005 and 2006. During interactive sessions, participants learned about effective approaches for increasing the use of improved stove and fuel technology by raising public awareness of the dangers of indoor air pollution; developing local markets for improved technologies; improving the design and performance of cooking technology; and monitoring indoor air pollution.

On the last day of the meeting, the Moroccan Center for the Development of Renewable Energy organized a field trip to their laboratory and training facility, a local "Hammam" public bathhouse with improved furnace, and an "Energy House" small business which sells improved household energy technologies.

Visit the Partnership website at www.pciaonline.org to view the presentations and meeting outcomes. We look forward to working with you to implement the activities identified in Morocco to increase the use of affordable, reliable, clean, efficient and safe home cooking and heating practices that reduce people's exposure to indoor air pollution!



Field trip to the Moroccan Center for the Development of Renewable Energy

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PARTNER SPOTLIGHT ◀◀

ASIA REGIONAL COOKSTOVE PROGRAM: a network in Asia addressing issues related to biomass energy use, indoor air pollution, and gender through a regional improved cookstove program

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The Asia Regional Cookstove program (ARECOP) is a network established in 1991 with the secretariat hosted at Yayasan Dian Desa, an appropriate technology group based in Yogyakarta, Indonesia. ARECOP addresses pertinent issues in the Asia region related to biomass energy with focus on improved cookstoves. While the network covers 14 countries in Asia, to have more effective results with the limited available resources, ARECOP focuses its work in 7 countries.

During the earlier stage of ARECOP's improved stove program, it was thought that the problems related to household fuel use were purely technical and that the solutions offered were consequently solely technical. The technically-driven approach relied on good engineering designs that are often the works of technical engineers. Aspirations of the intended improved stove users were consequently neglected in the process. Furthermore this approach often eliminated active participation of the community which maintains services necessary for improved cookstove dissemination. Such oversights have partly explained the low demand and poor sustainability of improved stoves.

While addressing improved cook stove dissemination, ARECOP found that due to the above mentioned conditions, relevant technical expertise lies in the hands of a limited number of individuals. In addition, language has been a big barrier to the dissemination of the skill and information related to improved stoves for any actor working with the community. In order to widely disseminate improved cookstoves to community groups using traditional biomass stoves and create as many actors as possible at the national and local levels in the network countries, ARECOP developed the "ICS Programmatic and Technical Development Manual." ARECOP is also applying a strategy through regional Training of Trainers to form national level trainer teams consisting of trainers with both technical and non-technical backgrounds. The manual is translated into local languages and national level trainings are conducted. This ensures that local actors can access both programmatic and technical skills in the development of an improved cookstove program.

Methodology for Participatory Assessment

Various efforts have been made to address the issue of sustainability of improved cookstove programs, although admittedly there has not been any

satisfactory answer that could provide practical solutions for program implementers. In an effort to address sustainability of its ICSP, ARECOP has borrowed substantially from the methodology for Participatory Assessment (MPA), developed by the World Bank Water and Sanitation program. ARECOP is also borrowing from a second methodology utilized in the water and sanitation sector, the Participatory Hygiene and Sanitation Transformation (PHAST).

ARECOP's resulting participatory methodology highlights the importance of participatory and demand responsive approaches in sustainability of improved cookstove interventions. Experiences in water and sanitation programs point out that successful projects are more likely to be sustained when the entire community actively participates in establishing, managing and maintaining the services offered. On the other hand, improved cookstove programs have yet to establish a reliable database to demonstrate that active community participation is a factor in sustainability. Nonetheless, many improved stove actors do acknowledge the need to mainstream participatory approaches in improved cookstove programs based on past experiences in program implementation.



*Community participation through MPA
Photo Credit: ARECOP*

ARECOP has adopted the MPA which combined with PHAST is being adopted in improved cookstove programs since 2001. Given limited resources, after undergoing several iterations of trial and improvement ARECOP initiated pilot projects in several countries (planned to be in 6 countries) through the regional training of trainers – the formation of a national level team. ARECOP has also developed a database system. At this point in time the pilot projects are still underway. From the first three trial runs in Cambodia, Indonesia and Vietnam, there is indication that the application of the MPA on

improved stove programs has positively impacted the sustainability of the programs in the trial community groups.

What is the Methodology for Participatory Assessment?

It is a comprehensive method for social assessment that can be used in all phases of a project cycle: planning, monitoring and evaluation. It recognizes the importance of gender and poverty sensitive approaches; it monitors key indicators of project sustainability and demand responsiveness.

The MPA is also a learning process for all stakeholders, using participatory tools at all levels and allowing for holistic analysis relating to institutional and organizational factors to outcome at the community level, it is global and can be applied in different settings provided it is adapted to local situations.



Photo Credit: ARECOP

Uniqueness of the MPA:

- ◆ It includes gender and poverty sensitive indicators while providing a mechanism for self-scoring by stakeholders.
- ◆ In addition to quantitative data the MPA includes statistical analysis of qualitative data from participatory methods. Although developed for the water and sanitation sector, its core principles are applicable across sectors: thus the methodology can be adapted for use with other basic services.

Important considerations:

- ◆ The method can be used at any area or region but the visuals used should be adapted to local tradition, conditions and situations.
- ◆ The MPA requires skilled facilitators who have a good understanding of the methodology, yet those with any participatory skill such as PRA (participatory rural appraisal) or PLA (participatory learning and action) will be fast learners.
- ◆ The community meetings should be conducted as it is essential to have all members involved in what is being planned.
- ◆ Typically the MPA requires at least two facilitators. A minimum of five days should be spent in a community group (village) and at least one day in a community meeting. What is most important is to align the activities with the time availability of the community. *For more information visit: <http://www.arecop.org>*

HAPPENINGS

Upcoming Events...

Green Microfinance Latin America Micro-credit Summit

April 19-22, Chile

The goal of the Summit is to foster partnerships between microfinance institutions and appropriate environmental technology (AET) suppliers. Green Microfinance is inviting AET manufacturers and distributors to attend the Latin America / Caribbean Regional Micro-credit Summit in Chile, from April 19-22. Green Microfinance's mission is to promote links between the environment and microfinance by encouraging microfinance institutions to consider providing loans for alternative, environmentally friendly, technologies including efficient stoves and ovens; biogas systems; biomass and renewables among others. To register for the Summit please visit www.microcreditsummit.org. For further information contact Green Microfinance a note at info@greenmicrofinance.org.

Household Energy and Indoor Air Pollution Monitoring Training Workshop May 2-6, Guatemala

WHO is planning three regional training workshops on indoor air pollution and household energy monitoring as a contribution to the Partnership for Clean Indoor Air. These 5-day training workshops are intended to empower governmental and non-governmental agencies to evaluate the impact of their intervention projects on indoor air pollution, health and wellbeing, and the socioeconomic situation of the household. Main target audiences are persons currently undertaking household energy intervention projects and "future trainers" willing to provide training and ongoing support to projects located in a given region.

The first workshop will be held in Antigua, Guatemala from 2-6 May 2005 and is jointly organized by WHO, the Pan American Health Organization, the USEPA and the Center for Entrepreneurship in International Health and Development (CEIHD). The second workshop will be held in Uganda from 13-17 June 2005 and is jointly organized by WHO, USEPA, CEIHD and GTZ. The third workshop will be held in an Asian country in September 2005. For further information regarding these workshops please contact Eva Rehfues, Email: rehfues@who.int

Happenings continued on page 6...

☀ FEATURE ARTICLE

Social and Commercial Marketing Strategies for Generating Demand

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In November 2002, EnterpriseWorks Ghana (EWG) launched the "Gyapa" (meaning "good fire") improved charcoal stove (a variant of the Kenya ceramic Jiko) with funding from USAID and the Shell Foundation. With an initial target of 20,000 stoves, over 50,000 were sold by December 2004, equating to annual savings of 15,000 tons of charcoal (worth US\$1.7 million), 1500 hectares of forest, and about 45,000 tons of carbon oxides. With monthly sales now averaging 3,500 stoves, EWG shares its experiences on building sustainable markets for household biomass stoves.

EnterpriseWorks' unique approach combines information, education and effective communication to foster demand and motivate healthy behavior. Commercial marketing strategies help to achieve defined targets, while social marketing strategies facilitate influencing and changing overt behaviors of target audiences. EWG takes a market development approach to technology transfer with supply and demand-side interventions to achieve sustainability with little or no subsidies. This article elucidates these demand side strategies.

Demand Creation Strategies

Most charcoal stove customers are urban women or affluent rural women with families. Many women listen to the radio regularly, tuning in at specific times to favorite dramas, DJs or talk shows. Gathering information on their habits is valuable in designing an effective marketing strategy. This information can include when they do their shopping (mornings or afternoons), how they get their news (newspaper, informal conversations on the bus, at religious gatherings, the clinic), who makes household purchasing decisions (if the husband whether he watches TV with the family in the evening), what they watch and when. Much of this information can be collected during baseline surveys and verified during on-going project monitoring. EWG uses an aggressive marketing strategy, including branding, mass-media advertising, localized demonstrations (social marketing), trade exhibitions/fairs and many other dynamic and static promotional methods.

Branding: EWG builds strong brands by developing catchy and attractive brand names and logos and composing memorable jingles.



Newspaper advertisement

Photo Credit: EWG

Print: Colorful fun graphics and stove attributes are printed in popular women's periodicals and fliers to create surges in demand during festive occasions.

Radio: Catchy jingles creating product awareness convince new retailers and manufacturers to invest in selling and manufacturing the stove. Radio phone-in programs and competitions with prizes are used to highlight the benefits of the new products.

TV: Entertaining computer animated stove images are developed for spot ads and popular local evening dramas are sponsored to incorporate GYAPA attributes/benefits and educational campaign messages in their scripts. This type of product placement, especially when it involves well-known and well-liked actors, is very effective (view them on the Ghana Household Energy page at www.enterpriseworks.org). Many children in the operational areas now spontaneously sing the jingle when they see Gyapa events, stickers or stoves.



Market demonstration crowds

Social Marketing (localized demonstrations):

Demonstrations in urban or rural markets are a cost-effective way to hit a large audience and generate tremendous interest. The seller can both market the



*Agriculture Minister giving out first prize
Photo Credit: EWG*

product to potential customers and gain information about the customer useful for other marketing activities and to fine-tune the product. Timing these events during or directly after a block of TV or radio advertisements has resulted in high audience participation, and quizzes and competitions based on the contents of the advertisements reinforce understanding the benefits of a new stove.

Some especially effective demonstrations include:

- ◆ Cooking demonstrations where prospective customers can see or try out the stoves and give feedback;
- ◆ Public dance competitions with stoves, t-shirts or caps as prizes that attract crowds of spectators;
- ◆ Live quizzes held by well-known local radio presenters or local TV soap opera stars, adding credibility to the stoves;
- ◆ Eating competitions in which the winner answers a few easy questions about the stove and wins a free stove t-shirt and a free lunch;
- ◆ Roaming agents asking questions and giving out caps, paper hats, balloons, leaflets;
- ◆ Introducing manufacturers to the crowd to encourage their involvement; and
- ◆ Inviting retailers to make sales and gauge demand.

All participants are ideally uniformed in stove T-shirts and caps.

Trade Fairs/Exhibitions: EWG has participated in 8 national and 5 local trade shows, exhibiting all product lines. Large cloth banners are displayed for the products and EWG as an organization. Stove sellers (retailers or manufacturers) are invited to sell their wares and compete in contests. Lists of stove

retailers and manufacturers (name, location and phone) organized geographically are distributed to the general public. Trained marketing staff assists the retailers in interactions with potential customers. Radio and TV ads are aired to direct potential customers to the stand.

Event sponsorship/Public relations: EWG identifies, selects and sponsors high-profile events that appeal to stove target audiences. In 2003/2004 EWG co-sponsored the Ghana Tourist Board's Local Restaurants and Inter Schools Cook Competitions at the Regional and National levels in return for free commercials on TV, radio and print. Competitors used the Gyapa stoves to gain a feel of how it works, which generated large demand afterwards. Prominent national figures (politicians and celebrities) at these gatherings endorse the stoves. A cookstove was donated to a weekly cooking show program on Saturday afternoons for free weekly publicity.

Stove display cages at fuel filling stations: bearing a large rendition of the product logo visible from afar.

Retailers/Vendors: EWG uses private market vendors with the following profile:

- ◆ **Conspicuousness** – located in popular markets, on main roads, at busy intersections, etc;
- ◆ **Compatible merchandise** – cook pots, traditional stoves, kitchen items, charcoal; and
- ◆ **Capital** – vendors should have the liquidity to buy stock and replace at least 5 stoves.

EWG also encourages and ensures wide distribution and high density of retailers (presence in all project area commercial districts); and 5-6 vendors per local market to create cost competition and allow quality comparison. EWG encourages a distribution channel between manufacturers, wholesalers and retailers, with direct sales to end users from each. To keep a project's financial involvement in stove sales to the minimum necessary for enlisting retailers, EWG recommends:

Initial stocks on credit/Sale or return: The vendor pays the project for the wholesale stove costs only after selling (and keeps the profit), otherwise the project can retrieve the stoves anytime either party wishes; Free first-time transport, combined with the Sale or Return Strategy; and Promotional aids to accompany a new stove stock.

Happenings continued...

Global Forum for Sustainable Energy: Biomass May 11-13, Austria

This meeting will explore possibilities for enhancing international cooperation on biomass issues, with special emphasis on building up institutional capacity to promote South-South cooperation on biomass. The program is available at: http://www.gfse.at/gfse5_preannouncement.htm

Air Pollution 2005 May 16-18, Spain

The thirteenth annual International Conference on the Modeling, Monitoring and Management of Air Pollution aims to develop experimental as well as computational techniques to achieve a better understanding of air pollution problems and to seek their solution. The goal of this conference is to bring together researchers who are active in the study of air contaminants and to exchange information through the presentation and discussion of papers dealing with a wide variety of topics such as indoor pollution; aerosols and particles; health effects; air pollution modeling; air quality management; atmospheric chemistry; urban air pollution; and monitoring and laboratory studies among others. For more information on the Conference please visit <http://www.wessex.ac.uk/conferences/2005/air05/>.

Recent Partner Activity...

First Annual Conference on "Sustainable Development of Indoor Environment Technology" in Korea

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Since its inception in March 2004, the Korean Society for Indoor Environment (KOSIE) has grown very rapidly. The more than 300 members are experts in three major categories: indoor environmental measurement and analysis; health effects and risk assessment; and indoor air pollution control and management. Each year KOSIE organizes an annual conference and many specialized seminars on a wide variety of indoor environment topics.

In September, KOSIE held its 1st Annual Conference on the subject of "Sustainable Development of Indoor Environment Technology" with approximately 400 members and guests in attendance. The Ministry of Environment, Samsung and other private companies

were major sponsors of the conference. This highly successful conference featured parallel sessions of technical presentations, oral presentations and poster displays, and a large exhibition of products. The next Annual Conference will be held at Hanyang University in Seoul, Korea on 7 October 2005.

KOSIE also publishes a quarterly journal on Indoor Environment Technology. The first edition was published on 20 October 2004. The second issue was recently completed and delivered to members and specialists. An English website is under construction and expected to be launched in the 1st half of this year. Members can access web journals and upcoming events at www.kosie.or.kr.

ETHOS Conference Outcomes

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ETHOS '05 again brought together a great mix of folks from the field and from labs, from offices directing funding, and from refugee camps desperately in need of assistance. The mission of ETHOS is to create dialogue which then improves coordination between all the good hearted people trying from so many places in life to help families who use solid fuels for cooking and heating. This year I thought that we were especially lucky that so many participants, almost 100, came to Seattle and shared their needs and lessons learned. Information from the field invigorates and directs the researcher. Hopefully better directed research assists the stove builder!

ETHOS participants came to Seattle from China, Africa, Central America, India, and Asia. This year's meeting was the most successful yet in bringing together so many representatives from around the world. Scientists from U.S. research centers heard directly about the concerns of field workers and what needs to be done.

This year has been very active as the Partnership for Clean Indoor Air, Shell Foundation, USAID and others have funded more than 20 stove projects. Projects are in all stages of maturation, all striving to address the technical, cultural, market and health factors so critical to long-lasting solutions. It is especially important to collaborate as the stove community rides a 'third wave' of interest in household energy and health, galvanized by the World Summit on Sustainable Development's resolution that women and children around the world must be saved from the damaging effects of breathing smoke. Stoves have had a checkered past. Projects have

failed, exaggerations have been made, and there have been few good studies showing clear evidence of success. The intention of ETHOS is to help in all phases of stove projects: from the technical side, marketing and commercialization routes, all the way up to informing the funders, governments and private foundations that the poor are well served by a new generation of truly improved stoves. To be successful, truly improved stoves need to be in use, and the worth of the intervention carefully measured. In turn, that information has to be brought to policy makers.

Although the task seems complicated, ETHOS '05 shows incredible progress year by year toward these multi-faceted goals.

ITDG's Smoke in the Kitchen Awareness Campaign: Aiming for High Visibility

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House of Commons

Every year indoor air pollution kills five times as many people as died in last December's earthquake and tsunami in Asia, according to the UK development minister Hilary Benn. The Secretary of State for International Development was speaking at ITDG Practical Action's Smoke in the Kitchen reception at the House of Commons in London, on February 23, 2005. He said that he would never forget the moment when he realised that indoor air pollution was a problem, when he was invited by a woman to go into her home in Northern Ethiopia just over a year ago: "I remember the blackness inside the home and the stench of wood smoke which was overpowering. That brought home to me exactly why this is such an important problem and why we need to do something about it."

The event was attended by British Members of Parliament, and experts on indoor air pollution, including Eva Rehfuess of the World Health Organization (WHO), ITDG's Practical Action East Africa smoke field officer Hellen Owalla spoke of her experiences growing up surrounded by smoke pollution in the home, and the work that ITDG's Practical Action is doing to design affordable and accessible solutions that can be scaled-up worldwide.

Seminars at the United Nations, USEPA, and WHO

In early February this year, the USEPA, UNDP and ITDG combined efforts to present the issues associated with indoor air pollution in a seminar series in New York and Washington. With speakers including Eva Rehfuess from WHO, Kirk Smith from Berkeley, Vijay Modi from Columbia University, Dominique Lallement from ESMAP, and USEPA, the high class of presentation, and the overwhelming evidence for the need to act on indoor air pollution around the World did not go unnoticed.

ITDG and WHO coordinated a similar seminar held in March at WHO headquarters in Geneva, with Nigel Bruce from the University of Liverpool, Brenda Doroski from the USEPA, and Liz Bates of ITDG presenting to an audience of WHO environmental officers from Africa, the Western Pacific, and South-East Asia, the Departments of Child and Adolescent Health and Development and the Department for the Protection of the Human Environment. The seminars aimed to bring a new audience to understand the urgent need to act to reduce smoke exposure in the home, and to re-enforce the commitment of a number of existing partners. For more information visit: http://www.itdg.org/?id=smoke_westminster

Indoor Air Pollution Session for Society of Environmental Journalists in Nepal

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Winrock International Nepal and Kathmandu Electric Vehicle Alliance organized a session for environmental journalists during the 11th Anniversary of Society of Environmental Journalists - Nepal to highlight issues of air pollution. Jiwan Acharya of Winrock Nepal presented on indoor air pollution highlighting the seriousness of the issue; ways to reduce indoor air pollution levels by using clean cooking technologies and fuels; and the need to create awareness among different stakeholders.

Information on the Partnership for Clean Indoor Air was also shared with the participants. Outdoor air pollution issues were covered by Rakshya Thapa from Kathmandu Electric Vehicle Alliance. There was an overwhelming response from the 125 journalists who attended the event and it is hoped that this will lead to further awareness raising about the dangers of indoor air pollution in Nepal.

Update from ARTI

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Appropriate Rural Technology Institute (ARTI) has been engaged in promoting wood and biomass burning improved cookstoves and improved biomass fuels like charcoal and biogas for several years. Under a project funded by Shell Foundation, ARTI has formed a network of ten NGOs in Maharashtra state of India to commercialize the improved biomass based household energy products. Till March 2005, ARTI has created over 130 rural enterprises manufacturing and selling improved cookstoves and/or improved biomass fuels. Collectively, these enterprises have sold their products to more than 40,000 rural households in the state. Simultaneously, ARTI is also engaged in studying the impact of indoor air pollution on health, and

quantification of the mitigation of the problem through use of improved biomass fuels and cookstoves.

ARTI has also received funding from USEPA for market testing of its new concept of compact biogas plant. ARTI is currently doing this work through a network of eight NGOs but the number is slowly increasing. Since January 2005, 100 biogas plants have been installed in households and commercial establishments in different parts of rural Maharashtra. A variety of locally available starchy waste materials are being tried out as potential feed-stalks for the biogas plants. ARTI is planning a meeting of the trained and active rural energy entrepreneurs in Maharashtra to discuss the market potential and possibility of self sufficiency. To be held at ARTI's Rural Entrepreneurship Development Center in Maharashtra state, in May 2005.

International Workshop in China

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On 14-16 January 2005, the International Workshop on Rural Energy, Stoves, and Indoor Air Quality in China, was held in Beijing. This workshop, supported by the Shell Foundation, brought together representatives and experts from universities, research institutes, non-government organizations, provincial and national government agencies, rural energy industries, and international organizations from China, South Asia, Europe, North America, and Africa to discuss the results of an independent study and evaluation of the Chinese National Improved Stove Program (NISP) conducted by the University of California, Tsinghua University, Renmin University, and the Centers for Disease Control of China.

The Ministry of Agriculture and its affiliated agencies as well non-governmental organizations briefed the participants of the workshop on the achievements in extending improved stoves and other advanced rural energy technologies in China. Demonstrations of high-efficiency stoves with crop stalks and wood residues as fuel were given. Participants from India, Nepal, Kenya, Tanzania and The Nature Conservancy of the United States briefed the workshop respectively on relevant issues of their own. Workshop participants agreed that the NISP, which operated from the 1980s through the 1990s, was the largest and most successful improved stove program ever implemented anywhere in the world, benefiting nearly a billion rural Chinese citizens. Biomedical research in recent years in China and elsewhere, however, indicates that indoor pollution caused by incomplete burning of solid fuels, both biomass and

coal, needs to be brought down further to reach health standards.

Improved solid-fuel stoves and widening access to higher-quality forms of energy are key parts of an updated rural energy strategy. Advanced biomass stove technologies, developed largely by the private sector in China, should be encouraged, and new policies are needed to deploy such technologies on a larger scale. Appropriate roles for government include development and enforcement of energy efficiency and environmental standards, protection of intellectual property of advanced technologies, public education regarding health hazards, training of technicians, and support for focused health and environmental studies. The poorest areas may also require direct support.

Unlike other developing countries, a significant portion of Chinese rural households use coal for cooking and/or heating. Many use coal stoves without chimneys, which cause even more serious indoor air pollution than the current generation of biomass stoves. It is thus necessary to accelerate the development and dissemination of improved coal stoves with chimneys.

An astonishing finding reported to the workshop was that tens of thousands of households in dozens of poverty-stricken counties in China still rely on local coals that are heavily contaminated with toxic elements, such as fluorine and arsenic, which pose serious health hazards. Even as the Ministry of Health is making efforts to introduce improved stoves to areas where such coals are used, use of these contaminated fuels is expanding. There is an urgent need to address this through an inter-ministry effort of the Chinese Government in the short term by immediately providing improved stoves with chimneys, and by, as soon as possible, banning sale of coal from the most poisonous coal deposits and providing access to alternative clean fuels.

China's experience in developing and deploying improved rural energy systems make it uniquely qualified to work collaboratively with other developing countries to assist them in achieving similar successes, including providing an ongoing compendium of new biomass and coal stove technologies and working to share those technologies and lessons for organizing development and dissemination programs. Chinese and English versions of presentations and other workshop materials are available at: <http://ehs.sph.berkeley.edu/hem/page.asp?id=29>

☀ WHAT'S NEW...?

..in Resources?

Study of Energy and Health in Africa

A study by Rob Bailis, Dan Kammen, and Majid Ezzati from the University of California, Berkeley, and the Harvard School of Public Health, finds that promoting cleaner, more efficient technologies for producing charcoal in Africa can save millions of lives and have significant climate change and development benefits. The findings appear in the April 1, 2005 issue of the journal *Science*.

The study has also found that smoke from wood fires used for cooking will cause about 10 million premature deaths among women and children by 2030 in Africa and release about 7 billion tons of carbon in the form of greenhouse gases to the environment by 2050.

The best situation in Africa would be to transition from biomass fuels to petroleum-based fossil fuels such as kerosene and liquid propane gas, which can prevent between 1.3 and 3.7 million premature deaths, depending on the speed of transition. The authors argue, however, that current economic conditions and energy infrastructure in Africa make petroleum-based fossil fuels an unlikely option. For more information on the article please visit: <http://www.sciencemag.org/>

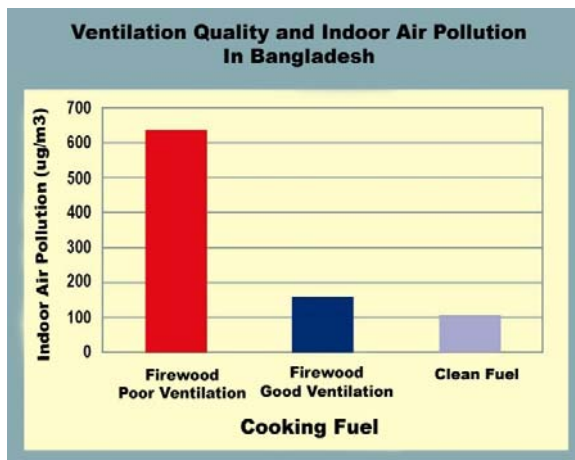
Update on PCIA Website!

Please visit the website for information on PCIA activities!

New features on the website now include:

- ◆ A 'Media Coverage' page which is dedicated to press articles related to household energy, indoor air pollution, and health.
- ◆ PCIA fact sheet. Please visit the 'PCIA Resources' page to access this and other documents.
- ◆ Household energy, indoor air pollution and health overviews for China and Nepal
- ◆ Videos for Trees, Water, & People and Appropriate Rural Technology Institute in the 'Photo and Video Gallery.'

FACT BOX



Poor households in Bangladesh depend heavily on wood, dung and other biomass fuels for cooking. A World Bank study found that fuel choice significantly affects indoor pollution levels. However, household-specific factors apparently matter more than fuel choice in determining PM₁₀ concentrations. In some biomass-burning households, concentrations are scarcely higher than in households that use natural gas. The results suggest that cross-household variation is strongly affected by structural arrangements: cooking locations, construction materials, and ventilation practices.

Source: Dasgupta et al., 'Who Suffers From Indoor Air Pollution? Evidence from Bangladesh,' March 2005, World Bank.

Your comments are welcome!

For comments, suggestions, or news that you would like to share please email us at PCIAonline@yahoo.com. The deadline for contributions to next quarter's bulletin is **June 30 2005**.