



PARTNERSHIP FOR CLEAN INDOOR AIR

PCIA Bulletin

October 2007 Issue 13

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 **140** 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!

Interventions that endeavor to reduce household energy-related indoor air pollution (IAP) can be substantially strengthened by appropriate governmental policies and incentives, whether through subsidies, rebates, tax exemptions, or providing principal or complimentary funding for program activities; and when government entities can advocate for global action in international forums, or work to raise local and global awareness of the health risks of exposure to IAP and available solutions.

In this issue, you will read about government policies and incentives that support household energy interventions from the perspective of both a governmental agency, via PCIA Partner AEPC/ESAP in Nepal, and a non-governmental organization impacted by such policies; new PCIA Partner International Center for Networking, Ecology, Education and Reintegration (ICNEER).

You will also read about a U.S. State Department survey on governmental efforts to reduce IAP around the world, and suggested

actions governments can take to address indoor air pollution from household energy use in an integrated manner at national, regional and international levels.

This issue also includes updates on recent Partner activities, including an agreement between Aprovecho Research Center and Chinese Shengzhou Stove Manufacturer to manufacture high-quality, low-emission and very affordable cooking stoves; an update on the very successful PCIA Indoor Air Pollution and Household Energy Monitoring Asia Regional Workshop; the launch of the Biogas for Better Life Initiative; and the new global 'entity' that has been established between the Shell Foundation and US environmental nonprofit Envirofit International.

As always, we welcome your feedback, including for suggested future Bulletin themes, and urge you to share your own experiences through future issues.

Attention Africa Partners!

**PCIA Africa Regional Workshop on IAP and Household Energy Monitoring
October 29-November 2, 2007
Pretoria, South Africa**

Register Now!

Information and registration materials available at www.pciaonline.org

In This Issue

- **PCIA — Focus on Govt Incentives.....p. 1**
- **Partner Spotlight:**
 - AEPC in Nepal.....p. 2
- **Feature Articles:**
 - ICNEER in India.....p. 4
 - U.S. State Dept. IAP survey..... p. 5
 - Suggested Government Actions.....p. 6
- **Happenings.....p. 7**
- **What's New.....p. 9**

PARTNER SPOTLIGHT Alternative Energy Promotion Centre

Each quarter, the *PCIA Bulletin* highlights one or more Partners who are reducing women and children's exposure to indoor air pollution. This issue highlights the activities undertaken by AEPC/ESAP.

Improved Cooking Stove Programme in Nepal and its policies

By Karuna Bajracharya, Manager
Biomass Energy Component, AEPC/ESAP
karuna.bajracharya@aepc.gov.np
<http://www.aepcnepal.org/biomass>

The Alternative Energy Promotion Centre (AEPC) was established at the end of 1996, as an institution under the Alternative Energy Promotion Development Board (AEPDB) to promote and develop the use of renewable energy technologies to meet the energy needs in rural areas of Nepal. The activities of AEPC include formulating policies that are directed towards integration, promotion, and use of renewable energy in all activities requiring energy input. Commitment from donors and others to support this area has been reached with the Danish and Norwegian governments Energy Sector Assistance Programme (ESAP). The AEPC is also co-coordinating other energy support programmes implemented by various institutions and assisted by government as well as other donors including Bio-Gas Support Programme (BSP) with assistance from the Netherlands Development Organization (SNV) and German Development Bank (KfW), Rural Energy Development Programme (REDP) of UNDP, Rural Energy Project European Union (EU) and World Bank.

Improved cooking stove (ICS) programmes in Nepal at glance

Forest resources and other biomass (primarily fuel wood) are important sources of household energy in rural and even semi-urban areas all over the developing countries. Nepal relies heavily on fuel wood for its energy requirement. Nearly 90% of the energy requirement is still met by traditional biomass: fuel wood, agri-residue and animal dung.

The Indian stove models, the Hyderabad and Magan Chulo, were the first improved cooking stoves, introduced in Nepal, during the 1950s. In the 1980s, the Government of Nepal initiated dissemination of ceramic pre-fabricated stoves, supported by FAO and UNDP. The ceramic-insert stoves proved inappropriate to most areas of Nepal, since they often broke during long and

complicated transportation in hill areas and were difficult to replace. The development of the improved Tamang Stove by the Research Centre for Applied Science and Technology (RECAST) in the early nineties gave the stove programme a new look, which could be built on site by locally available materials.

The current National ICS/Biomass Programme, supported by ESAP, started improved cooking stove dissemination in 2000 in the middle hill districts of Nepal. The programme is primarily focused on rural women with the appropriate strategies to build capacity at local level. The promoters are paid by the end-user in cash or in kind. The approaches taken to disseminate are also flexible so that the programme could be collaborated with more NGOs, GOs and INGOs. The main marketing point for this programme is health benefits and quality ICS. Accordingly in all the information campaigns we have focused on a clean kitchen environment and reduction of indoor air pollution. All information materials developed include themes of health benefits, clean kitchen environment and time savings.



Improved cookstove in Nepal

National Policy on ICS Dissemination

Realizing the need to reduce fuel wood pressure from the forest, the Government of Nepal (GoN) has provided policy guidelines to encourage development and application of energy saving devices as well as promotion and dissemination of alternate energy technologies from its 9th Plan (1997-2002). GoN has given emphasis to further

(Continued on page 3)

(Continued from page 2)

development of alternative energy sources in particular the improved cook stove in the 10th Plan (2003-2007). Within the plan period, GoN has target to install 2,50,000 additional ICSs. The main consideration was given for mid hill areas.

Providing a complete range of biomass energy technology solutions that caters for various needs of households, industries and commercial enterprises in the rural areas is the effective way to ensure efficient and optimal use of biomass resources is felt need in case of Nepal. Therefore, GoN has developed policy on biomass addressing utilization of biomass in a more comprehensive way. To address the problems of high mountain people immediately GoN has the following subsidy policy for promotion and dissemination of biomass energy, mainly improved cook stoves.

No subsidy will be provided to households for mud improved cook stoves in Hills and Mid Hills regions of Nepal. A 50% subsidy (not more than NPR. 2,500) will be provided to improved cook stoves in the High Mountains region for cooking and space heating, as they are costly and unaffordable.

Results of the past six years

a) Progress: By now, under AEPC/ESAP alone, more than 213,000 ICS have been installed in 35 programme districts of the country with additional installations as spin-off whose information is not available. 90% of present users are satisfied and more than 95% ICS are in operation.

b) Sector Supports: Training support to more than 3000 ICS promoters (50% active of which 50% are women) among these 1500 promoters are certified as quality stove builders by programme. Provided more than 150 promoters training and refresher trainings, as well as information material support on National ICS/Biomass programme.

c) Standards, Quality Control and Monitoring: Monitoring system developed, 5% ICS installed by the promoters technically tested to assure quality of the stoves. In September 2007 we signed a contract agreement with Environment and Public Health Organisation (ENPHO) for the IAP study "Assessment of Effectiveness of Improved Cooking stoves (ICS) in Reducing Indoor Air Pollution (IAP) and Improving Health," to be completed by early

March 2008. The specific objectives of this study are: to establish data on levels of IAP in ICS user households before and after installing the ICS; to perform health impact assessment from the measured level of IAP, especially on women and children; and to document and show if installation of ICS has the expected benefits on health and environment.

With more than six full implementation years the programme has learnt that awareness and information are crucial for creating a demand for ICS. The programme has also proven that ICS could be disseminated even with no direct subsidy to the end users. The appropriateness of the stove, follow up and supervision are also crucial for the success.

The programme builds up both institutional and technical capacity at the local level as existing local structures are used as a basis for social mobilisation. The programme trains local promoters (especially women are encouraged) to identify the household needs, to promote and to construct different types of improved cooking stoves made out of local materials. The support of the programme is primarily being spent on building up a critical mass of skilled stove promoters and on creation of institutional capacity locally to ensure that the programme continues even after external support for training and technical backstopping ends.

PCIA Website Update

Please visit the website (www.PCIAonline.org) for information on PCIA activities!

New features on the website include:

- **IAP Monitoring Workshop web pages, including registration form and information packet**
- **New articles in Media Coverage**
- **Information on new partners**

We encourage you to visit the website and give us feedback on these new features. For any website related questions please contact Winrock International at PCIAModerator@yahoo.com.

☀️ FEATURE ARTICLES

Indian Government gives incentives to improve cooking technologies

By Louise Meyer, Co-Founder and Director, Solar Household Energy, Inc. (SHE) louise@she-inc.org; www.she-inc.org

About Deepak and Shirin Gadhia, Co-founders of the NGO, ICNEER and the Company Gadhia Solar Energy Systems Pvt. Ltd. www.gadhasolar.net

[Editor's note: ICNEER is a new PCIA Partner; welcome, ICNEER!]

In April 2007, I spent a week with [Deepak and Shirin Gadhia](#), co-founders of the nonprofit [Eco Center ICNEER](#) (International Center for Networking, Ecology, Education and Reintegration), located in Valsad, Gujarat, India. I was able to visit ICNEER thanks to the U.S. Environmental Protection Agency's generous invitation to attend the 3rd biennial Partnership for Clean Indoor Air Forum held in Bangalore.

I learned about India's first "[Scheffler solar steam cooking system](#)" — located in Mount Abu, Rajasthan at the World Social Summit 2000 held in Geneva, Switzerland. I was amazed to hear that it could cook for 1,200 people! Little did I know that, seven years hence, I would see the world's largest solar steam cooking system at the Tirupati Temple, which cooks 30,000 meals per day and the world's first "smoke-free village" Bysanivaripalle nearby, both in Andhra Pradesh.

Deepak and Shirin met and married while studying in Berlin. After returning to India in 1985, Shirin became concerned about the environmental deterioration she was witnessing. She dreamed of setting up an eco center that promoted natural living, organic farming and conservation of natural resources, in 1988 her dream was realized. It was through Shirin's work in rural India, that Deepak



This Scheffler Community Steam Cooking System mounted on the rooftop of a school cooks 500 solar meals/day for students and faculty

discovered the need for alternative sources of energy, especially for cooking. (70% of India's population lives in rural villages, where most cooking is done with wood and cow dung.)

Dr. Dieter Seifert, a former colleague from Germany, inventor of the K-10 and K-14 parabolic solar cookers encouraged them to promote these domestic solar cookers. He helped them by supplying the anodized aluminum reflector plates and the training on how to manufacture and assemble them. Deepak built the steel support framework.

Through Dr Seifert, Deepak was introduced to [Wolfgang Scheffler](#), a frequent traveler to India who was experimenting with large parabolic solar dishes that would allow for cooking within the kitchen inside a building. (The dishes reflect sunlight into the kitchen through a port hole size opening in the wall.) Indoor cooking appealed to Indian women, who preferred to cook in the shade.

By the late 90's they built over 100 of these large solar cooking dishes and installed them in rural schools where they could cook for 60-100 children and save tons of firewood. The dishes paid for themselves in three to five years.

India's Ministry of Non-Conventional Energy Sources (MNES) offers 50% subsidizes to schools, hospitals, ashrams and nongovernmental organizations for installing solar cooking systems. The manufacturer sells the system to the customer at this subsidized price, obtains a signed certificate from the customer confirming that he bought it at a subsidized price, that its working properly and that he was properly trained how to use and maintain it. At the year's end the manufacturer submits the list of solar cookers sold along with the customer's signed certificated to get reimbursement from the government. Only after a government agent inspects these sites, does the manufacturer get reimbursed. Every year, MNES changes the amount of subsidy and the number of solar cookers on which subsidy will be given. Manufacturers compete on a first come, first serve basis.

By 2000 a further breakthrough occurred when they transformed the individual Scheffler dish

(Continued on page 5)

(Continued from page 4)

designed for one kitchen into a true industrial-sized kitchen with multiple dishes that produce steam for cooking. The Mount Abu prototype used 24 large dishes and 12 heat exchangers, and it replaced the diesel generator that consumed 70-80 liters of kerosene daily. The Tirupati system has 106 reflectors, saving almost 400 liters of diesel per day

Early 2006, the India government's Ministry of Non-Conventional Energy Sources (MNES) sponsored a meeting organized by the Non-Conventional Energy Development Corporation of the State of Andhra Pradesh (NEDCAP) to learn about solar concentrating systems for steam generation that can cook thousands of meals daily.

Deepak Gadhia, the key-note speaker, detailed how solar concentrating systems work and mentioned other industrial uses in addition to



Parabolic Solar Cooker

U.S. Department of State government survey on IAP

[Submitted by Dano Wilusz; Office of International Health and Biodefense; Bureau of Oceans, Environment and Science; Department of State; WiluszDC@state.gov]

In 2006-2007 the United States Department of State asked officers based in embassies overseas to survey host government efforts to reduce indoor air pollution. In total, officers reviewed over 20 countries where a large percentage of people burn solid fuels at home for cooking and heating. We are using the results to inform our diplomatic strategy to raise awareness about and spur action to mitigate this global health threat.

The survey revealed that responsibility for indoor air pollution in the countries examined is held by a variety of government ministries, including

solar cooking. Representatives from hotels and educational institutions attended this event held in Tirupati.

The Vice President of Sanghi Employee Welfare Association, told of how installing such a system has helped reduce costs, improve efficiencies and protect the environment. He said that the \$12,500 invested after 50% government subsidy was recouped in two years.

Initially, business houses and industries interested in installing solar steam systems from Gadhia Solar were not entitled to MNES subsidies. However, things are changing due to high demand.

On my last day, I met a youthful entrepreneur — the owner of TAPI Foods, a company that makes jams and jellies. He was visiting the Gadhia Solar to place an order for a solar steam system to meet his industrial process steam requirement. After soliciting MNES for three years he finally received a subsidy and was now able to pay for the system. He will be able to save one ton of firewood per day by using clean solar energy!

ICNEER and the Gadhia's technical company, [Gadhia Solar Energy Systems Pvt. Ltd.](#), share the same premises and the same goals: to promote sustainable development, taking both economic and ecological issues into full consideration, changing human behavior from environmental parasites to responsible citizens of planet earth.

ministries of environment, health, and energy. Some governments demonstrated commitment to reducing indoor air pollution by supporting programs that distribute more efficient stoves, encourage cleaner fuels, and educate people about the dangers of smoke exposure. Often governments were seeking funding to do more.

Examples of Government commitment include the Government of Nepal's Rural Energy Policy and the Ministry's Alternative Energy Promotion Center (AEPC) which are highlighted on page 2 and a recent study by the Environmental Council of Zambia that noted a higher incidence of non-pneumonic respiratory illness in rural areas that tend to rely more of firewood and charcoal for cooking. Finally, PCIA Partner, the Ghanaian Environmental Protection Agency, has been an active advocate of global action in international

(Continued on page 6)

(Continued from page 5)

forums and collaborates with local NGOs to raise local awareness of IAP and available solutions.

In other cases, however, governments gave indoor air pollution a low priority, even in countries where exposure was very high according to World Health Organization estimates.

Furthermore, the survey revealed that most countries lack a detailed national plan to address indoor air pollution. These findings highlight the importance of PCIA's efforts to offer technical assistance and build capacity to encourage more government commitment and action to address this important global health concern.

Government Actions to Improve Household Energy and Health

Indoor air pollution from household energy use is a major threat to human health and the environment that Governments can address in an integrated manner at national, regional and international levels. The following list outlines some suggested actions:

- Integrate reduction of indoor air pollution into National Sustainable Developments Strategies (<http://www.un.org/esa/sustdev/natlinfo/nsds/map2002.htm>), Poverty Reduction Strategy Papers (<http://www.imf.org/external/np/exr/facts/prsp.htm>) and other national development plans, emphasizing access of women and the poor to clean cooking and heating technologies and fuels;
- Accelerate the switch from traditional solid fuels such as biomass and coal to cleaner fuels, including liquid fuels such as LPG for cooking and heating, and support efforts to promote commercial markets for clean, improved cook-stoves;
- Address gender-specific aspects of air pollution and improve women's access to modern energy services;

- Improve knowledge on health effects of indoor air pollution as well as health benefits of reducing exposure to indoor air pollution, and provide financial resources to prevent adverse health impacts due to indoor air pollution in developing countries;
- Cosponsor regional Partnership for Clean Indoor Air workshops on priority issues such as social marketing, technology design and performance, commercialization, and monitoring indoor air pollution and household energy use;
- Replicate and scale-up successful approaches and best practices on indoor air pollution (www.PCIAonline.org/partners.cfm); and
- Support the Partnership for Clean Indoor Air and all its partners' efforts to identify successful commercial models to achieve scalable solutions to reducing indoor air pollution.

Encourage your country Government to join the efforts of the Partnership for Clean Indoor Air to improve health, livelihood and quality of life through reduced exposure to indoor air pollution from household energy use. Visit [PCIAonline.org](http://www.PCIAonline.org) for more information and to join.

The Ashden Awards for Sustainable Energy are seeking entries from inspirational and innovative local sustainable energy projects from Asia, Africa and Latin America to compete for a share of £160,000 (\$320k) in prize money. **The closing date for entries is November 13, 2007.**



Entries should be from initiatives that have radically improved the lives of local communities and can demonstrate significant environmental benefits through the use of renewable energy and/or energy saving measures; awards will reward existing achievements and provide funding for future expansion.

For further information and to download an application form, please visit <http://www.ashdenawards.org>.

☀ HAPPENINGS

Recent Partner Activity...

Aprovecho and Chinese Factory Agree to Mass-Produce Improved Cook Stoves for International Market

High-quality, low-emission and very affordable cooking stoves will soon be available around the world, thanks to a long-term agreement signed by Aprovecho Research Center and Shengzhou Stove Manufacturer in Shengzhou, China, on August 24, 2007. Shengzhou Stove will manufacture the



Aprovecho Household Stove

stoves according to Aprovecho's specifications. Shengzhou Stove will produce three wood-burning stoves for Aprovecho: a household Rocket stove, an institutional Rocket stove with a 60 liter stainless-steel pot, and an extremely low-cost refugee stove. All of Aprovecho's stoves reflect cutting-edge design that minimizes fuel consumption and harmful emissions, as part of its commitment to improve indoor air quality and reduce global warming.

Shengzhou Stove will manufacture the stoves to meet Aprovecho specifications for performance, fuel efficiency, durability, emissions, and price. The stoves will be shipped from a port near Shanghai to customers all over the world. Shipping to farthest ports will add about 30 cents



Shengzhou stove combustion chambers

per stove to the final cost. The factory is well set up for mass production. The design calls for using high-quality, durable ceramic combustion chambers, which the factory can produce at very reasonable prices. Similar coal-burning stoves that Shengzhou currently manufactures retail in China for the equivalent of

U.S. \$1.50 to \$3.00, depending on the size. Shengzhou Stove currently produces and sells 2 million combustion chambers for stoves each year. The factory also makes and sells 500,000 coal-burning improved cooking stoves each year. In the last five years, the factory has made and sold approximately 10 million combustion chambers and 2.5 million improved cook stoves.

Aprovecho is working closely with the Shengzhou Stove owners to ensure that manufacturing conditions are safe and that the materials used are high quality and nonhazardous.

Measuring Change: Indoor Air Pollution and Household Energy Monitoring Asia Regional Workshop

More than 40 household energy practitioners from 10 Asian countries participated in the workshop "Measuring Change: Indoor Air Pollution and Household Energy Monitoring" in Hanoi, Vietnam August 7 - 11, 2007. During interactive and hands-on sessions, participants learned how to select study design, calculate sample size, administer socioeconomic impact surveys, and collect and analyze carbon monoxide and particulate matter samples to assess the impact of their household energy interventions.

Local organizers from the Asia Regional Cookstove Program and Hanoi Architectural University arranged a field visit during which participants deployed carbon monoxide and particulate matter monitors in five rural kitchens for a 24-hour period. The data was collected and analyzed by participants in subsequent sessions.



Monitoring workshop participants cleaning equipment

(Continued on page 8)

(Continued from page 7)



PCIA Indoor Air Pollution and Household Energy Monitoring Asia Regional Workshop participants

The workshop also included three case studies from participants Mrs. Tran Thi Hong of the Vietnamese Women's Union, Dr. Priya Karve of Appropriate Rural Technology Institute in India, and Mr. Tom Owino of Pioneer Carbon. Many participants also shared program information during poster sessions throughout the workshop. Twenty-three organizations developed and presented their monitoring plans at the conclusion of the workshop. Workshop presentations and materials will soon be available on the PCIA website at <http://www.pciaonline.org/events>.

Biogas for Better Life Initiative Launch Conference

The Biogas for Better Life Initiative was launched at a conference in Nairobi in May, 2007. This African initiative aims to improve the health and

Breaking news!

A new global 'entity' has been established between the Shell Foundation and US environmental nonprofit Envirofit International, promising to "ramp up the battle against the 'Silent Killer In The Kitchen." It aims at a US\$25m investment over 5 years to reduce indoor air pollution.

Envirofit has the task of handling the scale-up and spin off of the Shell Foundation's Breathing Space program, which was founded in 2002 to achieve significant global reductions in IAP. This new partnership is part of the Foundation's mission to see 10 million clean-burning stoves sold in five countries over the next five years.

living conditions of men, women and children; to reduce the use of firewood and charcoal for cooking; to improve soil fertility and agricultural production; to reduce greenhouse gas emissions; and to create new jobs, through the development of a robust biogas-related business sector in Africa. Founding initiative partners include PCIA Partners GTZ, ENERGIA, Practical Action, Shell Foundation and Winrock International. More information about the initiative can be found at <https://www.biogasafrica.org>.

Upcoming Events...

Measuring Change: Indoor Air Pollution and Household Energy Monitoring Africa Regional Workshop

October 29 - November 2, 2007, Pretoria, South Africa

[Registration deadline is October 8, 2007]

This workshop is designed for members of the Partnership for Clean Indoor Air who are currently, or will soon will be implementing a household energy intervention to reduce people's exposure to indoor air pollution (IAP). The primary objective of the workshop is to develop an understanding of the most commonly used approaches and techniques for monitoring and evaluating the impact of household energy interventions. By the end of the workshop, participants will have developed sufficient familiarity with these tools to design a monitoring plan for their own interventions. A secondary objective is to offer participants an opportunity to network and share best practices with other household energy and health experts. For more information, and to access the online registration form please visit <http://www.pciaonline.org/2007AfricaWorkshop/>.

Improved Woodfuel Stoves Workshop and Exhibition

Abuja, Nigeria, November 5 – 6, 2007

The workshop and exhibition is aimed at senior policymakers, potential manufacturers, distributors, retailers, financial institutions, foundations, donor agencies and non-governmental organizations. The overall objective of the workshop is to generate ideas and build partnerships in launching Nigeria's first major efficient woodfuel stoves project. Specific objectives include assessing national baselines,

(Continued on page 9)

(Continued from page 8)

policy and market for efficient woodstoves; sharing international best practices on stove design and dissemination; contributing ideas to developing an efficient wood stove initiative for Nigeria; and showcasing international and Nigerian improved woodstoves. For more information and to register please visit: <http://iceednigeria.org/ImprovedWoodstoves.htm>.

ETHOS Conference 2008

January 25-27, Kirkland, Washington, USA

Engineers for Technical and Humanitarian Opportunities for Service (ETHOS) will hold its annual conference in Washington in January, 2008. The conference covers advances in lab and field experiences with improved cooking technologies, as well as other crucial aspects of

sustainable household energy and health interventions. As always, ETHOS encourages participation of southern partners, international stoves experts, and development specialists with field experience in the transfer of cooking technologies. This year, a discussion on stove testing standards and testing methods will be held on Friday afternoon, prior to the traditional evening social gathering in anticipation of the weekend's busy agenda. Please visit <http://www.vrac.iastate.edu/ethos/conference.php> to learn more about the conference or to register.

REMINDER: November 14, 2007 is World COPD Day. Activities are planned in several countries; visit the website to see check on events in your country or look for ideas to plan your own COPD event! <http://www.goldcopd.com/WCDIndex.asp>.

WHAT'S NEW?

... In Resources

Retained Heat Cooker Guide

The U.S. Environmental Protection Agency has published The Guide to Designing Retained Heat Cookers, written by Don O'Neal, Vice President and Special Projects Director of [HELPS International](#). The purpose of this Guide is to demonstrate how to effectively design, test, and distribute a retained heat cooker in a field setting. Included in the guide are the benefits of using this form of improved cooking technology, its typical components, equipment necessary to test its performance, lessons from high performing retained heat cookers, and tips on marketing and distributing a retained heat cooker in the field. To download a copy, please visit <http://www.pciaonline.org/resources.cfm>.

China: Household Energy, Indoor Air Pollution and Health: A Multisectoral Intervention Program in Rural China.

The Energy Sector Management Assistance Program (ESMAP) recently published this study, which tested the viability of behavioral and technological solutions to mitigate indoor air pollution in poor rural areas. The editors focused on a multisectoral approach, incorporating concerns from the fields of education, energy, environment, health and poverty reduction. To obtain a free copy of the book please send an email to esmap@worldbank.org, with your name and complete mailing address. The report can

also be downloaded at <http://www.esmap.org/>.

How to reduce indoor air pollution through cost-effective solutions by the Disease Control Priorities Project, July 2007. Includes discussion on interventions that can be grouped as those acting on the source of pollution, those improving the living environment, and those changing user behavior.

Available at <http://www.dcp2.org/file/123/DCPP-IndoorAirPollution.pdf>.

... In Research

Pneumonia case-finding in the RESPIRE Guatemala indoor air pollution trial: standardizing methods for resource-poor settings; Nigel Bruce et al; Bulletin of the World Health Organization. 2007 Jul;85(7):535-44. Trials of environmental risk factors and acute lower respiratory infections (ALRI) face a double challenge: implementing sufficiently sensitive and specific outcome assessments, and blinding. This study evaluates methods used in the first randomized exposure study of pollution indoors and respiratory effects (RESPIRE): a controlled trial testing the impact of reduced indoor air pollution on ALRI, conducted among children 18 months in rural Guatemala. <http://www.who.int/bulletin/volumes/85/7/06-035832-ab/en/index.html>.

(Continued on page 10)

(Continued from page 9)

Indoor air quality and the risk of lower respiratory tract infections in young Canadian Inuit children;

Kovesi T et al; Canadian Medical Association Journal. 2007 Jul 17;177(2):155-60.

Inuit infants have the highest reported rate of hospital admissions because of lower respiratory tract infections in the world. We evaluated the prevalence of reduced ventilation in houses in Nunavut, Canada, and whether this was associated with an increased risk of these infections among young Inuit children. Available at <http://www.cmaj.ca/cgi/content/full/177/2/167>.

Indoor air pollution and its impact on children under five years old in Bangladesh; Khalequzzaman M, et al; Indoor Air. 2007 Aug;17(4):297-304.

Indoor air concentrations of volatile organic compounds (VOCs), carbon monoxide (CO), carbon dioxide (CO₂), nitrogen dioxide (NO₂), and dust particles were measured for biomass and fossil fuel users in urban slums of Dhaka, Bangladesh. The health impacts of these pollutants were assessed on children under five years old from families who use biomass and fossil fuel as main source of energy. These results suggest a significant association between the biomass fuel-using population and respiratory symptoms. Findings suggest that pollution can be higher with fossil fuels than with biomass fuels, and indicate that a switch in fuel from biomass to fossil does not necessarily improve the children's health. Available at <http://www.blackwell-synergy.com/doi/abs/10.1111/j.1600-0668.2007.00477.x>.

The baseline report of the Honduras Lorena Stove Project

in Honduras has been posted on the Hedon news page referenced below. This ongoing indoor air pollution and respiratory health monitoring study is a cooperative effort between the Indiana University School of Medicine (IUSOM), Department of Family Medicine (DFM) and the IUSOM, Department of Public Health (DPH). A brief outline of the study and a link to the detailed report are available at <http://www.hedon.info/goto.php/view/1017/news.htm>.

Chimney stove intervention to reduce long-term wood smoke exposure lowers blood pressure among Guatemalan women;

McCracken JP, et al; Environ Health Perspect. 2007 Jul; 115(7):996-1001.

RESPIRE, a randomized trial of an improved cookstove, was conducted in Guatemala to assess health effects of long-term reductions in wood smoke exposure. The between-group comparisons provide evidence that the chimney stove reduces blood pressure, and the before-and-after comparisons are consistent with this evidence. Available at <http://www.ehponline.org/docs/2007/9888/abstract.html>.

... In the Press

Indoor Air Pollution Widespread in Asia

The Associated Press, September 13, 2007
Up to 3 billion people around the world rely on solid fuels for indoor cooking and heating. The resulting smoke ranks as the fourth-biggest health risk in the poorest countries, yet it is typically overlooked. The Lancet medical journal highlighted the problem in a series on energy and health. Earlier this year, the World Health Organization for the first time estimated the effects of indoor air pollution on health within individual countries. In 2002, nearly two-thirds of all global deaths linked to burning solid fuels were in the Asia-Pacific region. Afghanistan, Pakistan and Bangladesh had the highest percentage of death and disease linked to indoor air pollution in Asia, followed by India and Laos. Combined, more than half a million deaths occur annually in those countries alone.

The full article is available at <http://ap.google.com/article/ALeqM5izu6hsACdEgpgL1FkmOy6xZ- YXw>.

Your comments are welcome!

This newsletter is published by Winrock International on behalf of the Partnership for Clean Indoor Air. To share comments, suggestions, news, and article contributions please email PCIAonline@yahoo.com. The deadline for contributions to next quarter's Bulletin is **November 15, 2007**.

DISCLAIMER: Unless otherwise stated, information contained in this Bulletin is not necessarily the opinion of and/or endorsed by all Partners.