

Technical Consultation: “Advanced Cook Stoves for Improved Health of Women and Children”

Advanced Cooks Stoves

To address the adverse health and environmental outcomes associated with the use of traditional open fire cook stoves, the United States Agency for International Development (USAID) convened a Technical Consultation today to bring experts from civil society, academia, business, and government to discuss the potential and opportunities for moving forward with improved, cleaner, and healthier cook stoves in India.

Opening the Technical Consultation, **U.S. Ambassador Timothy J. Roemer** said, “India and the U.S. are working together on initiatives spanning the full range of human endeavor including a Green Partnership to develop clean technologies, which will provide us all with an environmentally-sustainable, healthier future while creating job opportunities for the citizens of both our countries.”

Urging everyone present at the consultation to work together to find a way forward for the health of the communities and the planet, Ambassador Roemer said, “today’s conference brings us one step closer to developing safe and affordable cook stoves that honor the cooking traditions so important to families throughout India while protecting the health and safety of these families and our environment.”

Facts about *chulha* use in Indiaⁱ

- Nearly three-fourths of Indian households use open fires or *chulhas* (with or without chimneys) and depend on solid fuel (wood, charcoal, coal, dung cakes, etc.) for cooking.
- Two-thirds of Indian households (including 3 out of 10 urban households and 8 out of 10 rural households) use open fires or *chulhas* without a chimney. This is not just a rural issue.
- 44 percent of households use open fires or *chulhas* without a chimney inside the house, exposing women and children to high levels of toxic smoke from solid fuels.

Impact of indoor air pollution (IAP) on maternal and child health

- Open fires or *chulhas* without a chimney, used inside poorly ventilated houses are a major contributor to indoor air pollution (IAP). The majority of those exposed to IAP are women, who are normally responsible for food preparation, and their infants and young children, who are usually with their mothers in the cooking area.ⁱⁱ
- In India every year exposure to smoke from solid fuels may be responsible for nearly 400,000 deaths to children under 5 years of age and 34,000 deaths to women due to chronic respiratory disease.^{vii}
- Substantial evidence has been generated associating IAP with health hazards such as childhood acute lower respiratory infections, chronic obstructive pulmonary disease (COPD), lung cancer, perinatal mortality, low birth weight, and cataracts.^{ii,iiiiv,v,vi} It has been estimated that IAP contributes to 3- 5 percent of the national burden of disease in India.^{vii}

Impact of open fires/*chulhas* on the environment

- *Chulhas* are a source of black carbon, which is being recognized as a significant contributor to global warming. Black carbon has been implicated in accelerating the melting of the Himalayan glaciers.^{viii}
- Wood is the most commonly used solid fuel. The use of firewood results in significant pressure on local forests and woodlands, contributing to deforestation, soil erosion, and desertification.ⁱⁱ
- Globally, approximately one-third of net black carbon and carbon monoxide emissions come from household fuels.^{ix}

Reference list

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ⁱⁱ CMH Working Paper Series. Addressing the Impact of Household Energy and Indoor Air Pollution on the Health of the Poor – Implications for Policy Action and Intervention Measures. Paper No. WG5 : 12; 2001

ⁱⁱⁱ Smith KR, Mehta S, Mausezahl-Feuz M. Indoor smoke from household solid fuels. in Ezzati M, Rodgers AD, Lopez AD, Murray CJL (eds) Comparative Quantification of Health Risks: Global and Regional Burden of Disease due to Selected Major Risk Factors. Geneva: World Health Organization, Vol 2 pp. 1435-1493, 2004.

^{iv} Bruce N, Perez-Padilla R, Alablak R. Indoor air pollution in developing countries: a major environmental and public health challenge. WHO Bulletin 2000, 78: 1078-1092.

^v Lan Q, He XZ, Yang RD, et al. Retrospective cohort study on the relationship between indoor air pollution from coal burning and lung cancer. Tumor 1995; 15(S1):186.

^{vi} Stanton D and Harding M. Health and Environmental Effects of Cooking Stove Use in Developing Countries.

^{vii} Smith K. National burden of disease in India from indoor air pollution. Proceedings of the National Academy of Science, 2000, 97: 13286-92.

^{viii} <http://www.treehugger.com/files/2009/10/black-soot-himalayan-glaciers-accelerates-melting.php>

^{ix} Smith K. Stoves, health and climate. Where are we now? Presentation made at USAID, New Delhi September, 2009.