

Brief Report
on
South Asia Regional Workshop on
Indoor Air Pollution, Health and Household Energy
(27 – 28 February 2006, Kathmandu, Nepal)

The South Asia Regional Workshop on Indoor Air Pollution, Health and Household Energy was held on 27-28 February 2006 in Kathmandu, Nepal to exchange information on successful technologies, model and challenges in reducing indoor smoke and associated health burden in South Asia. The workshop was organized jointly by Practical Action Nepal and Indoor Air Pollution and Health Forum Nepal.

The government officials from health, environment, energy and rural development sector; donors; practitioners from non-government and private sectors working in the area of household energy and health; academicians, researchers and medical professionals from South Asia met together and discussed about appropriate ways to mitigate the problem of silent killer in the kitchen (the indoor smoke). The workshop was participated by more than 90 people representing countries of South Asia and Asia Pacific regions including Bhutan, Bangladesh, India, Pakistan, Sri-Lanka, Nepal and Indonesia. The other participants were from Practical Action United Kingdom, United States Environment Protection Agency (USEPA), and The Massachusetts Institute of Technology (MIT), USA.

The workshop was inaugurated by the Chief Guest Honorable Member of National Planning Commission of Nepal, Dr. Champak P. Pokharel. Mr. Ram Chandra Man Singh, Secretary of Ministry of Health and Population chaired the inaugural session, Mr. Achyut Luitel, the Country Director of Practical Action Nepal, welcomed all the participants and the distinguished guests on the occasion.

The Chairman of Indoor Air Pollution and Health Forum Nepal Dr. Mrigendra Raj Pandey delivered the key note speech during the session. Dr. Pandey highlighted the importance of attention that is needed for the neglected issue of indoor air pollution which is killing millions of children and women in the world. Similarly, Mr. Ananta Raj Pandey, Secretary of Ministry of Environment, Science and Technology of His Majesty's Government of Nepal highlighted the issue of indoor air quality as forty times worse than that of ambient air in Kathmandu valley. Mr. Pandey emphasized the importance of the event to share the experiences between the countries in the region to learn to tackle with this neglected but important issue. Mr. Han Heijen, Advisor for Environmental Health, World Health Organization has reflected on the study findings which consistently set the relationships between the diseases and use of bio-fuels. Mr. Heijen further stressed on the use of cleaner fuels and look for ways to minimize its burden on health of women and children. Dr. Liz Bates, Expert on Household Energy and Indoor Air Pollution from Practical Action UK, emphasised on the energy poverty and its link with the exposure of people to indoor air pollution. Dr. Bates identified the constraints of Millennium Development Goals (MDGs) as they are very silent on energy poverty which is one of the important means for life to all. She therefore analysed and highlighted the issue of access to clean energy services and its link with improved health and well-being.



Address by Chief Guest, Dr. Champak P. Pokhrel, Hon. Member, National Planning Commission, Nepal

The Chief Guest, Dr. Champak P. Pokharel shed lights on the linkage of indoor air pollution measures with the attainment of MDGs. Dr. Pokharel stressed need of investment environment for the clean indoor air including better policy reforms and enhancement of effective programme implementation for the clean indoor air. He highlighted the importance of this regional event for collective efforts to share the experiences, send right messages to development partners, getting organized regionally and lobby for the right to claim what has been agreed internationally to benefit the poor. The Chairperson, Mr. Ram Chandra Man Singh focused on the importance of indoor air pollution issues and their health burdens. Mr. Singh expressed the willingness of the Ministry of Population and Health to coordinate with different Ministries and stakeholders to support initiating policy dialogues and work together for enabling policy environments for the cleaner indoor air. Finally, The Vice chairman of Indoor Air Pollution and Health Forum Nepal, Mr. Jagannath Shrestha revisited the evolution of Indoor Air Pollution and Health Forum Nepal and the initiations it has been taking since then. He invited all the participants to be members of the Forum so that the national forum can work towards fighting for better indoor air even more efficiently and effectively.

Paper presentations:

Altogether seventeen working papers from the region and abroad were presented in the workshop in different issues covering partnership, health, indoor air quality monitoring, gender and energy, poverty, economics & finance, awareness raising, scaling-up model and policy issues.

Partnership & International Experience: Ms. Brenda Doroski from Partnership for Clean Indoor Air, United States Environment Protection Agency (USEPA) made a brief presentation on USEPA's efforts globally to increase partnerships on promotion of clean indoor air. She invited everyone to share and join hands in the activities and feed into the system of global partnerships to reduce indoor air pollution. Dr. Liz Bates from Practical Action UK shared Practical Action's efforts in indoor air pollution alleviation. She highlighted the Practical Action's participatory approach to work with the communities of Sudan and Kenya to identify the ways of addressing the issue. Dr. Bates emphasized on the need of national and international fora and networks to bring together a range of stakeholders including NGOs, researchers, private sector, and governments to lobby for favourable policy environment leading to further scaling up the alleviation of indoor air pollution.

Indoor Air Pollution and Health: Two papers were presented on the theme. Dr. Sunil Kumar Joshi, Consultant from Nepal Health Research Council (NHRC) outlined the Health effects due to biomass fuel smoke in Nepal. The research was based on health survey conducted in 11VDCs and 4 municipalities in Kathmandu Valley – 98 households having 792 people using cleaner fuel and 168 households having 2418 using biomass fuel. The research outcome highlighted the level of pollution in the traditional Nepali kitchens and the prevalence of higher rate of respiratory problems associated with increased exposure to kitchen smoke.

Similarly, Dr. K. R. Ranjith Mahanama shared research findings done in Sri-Lanka on low birth-weight of infants due to exposure to smoke from biomass fuel during pregnancy. This research covered a lot of information on exposure of women to levels of CO and Hb. The study outlined the issue of low household incomes, unavailability of separate room for a kitchen, use of biomass fuel and lack of proper ventilation in the kitchen, all of which contributed to high exposure of pregnant women in the kitchen smoke resulting into low-birth weights of infants.

Indoor Air Pollution Monitoring: Ms. Shubya Pandey from The Energy Research Institute (TERI), India presented on the indoor air pollution monitoring methods undertaken in Madhya Pradesh, India. The research findings of 150 household survey proved the high concentration of CO among the users of biomass and coal and the 24 hours average CO concentration exceeded the 8 hours ambient air quality standard for CO (2 ppm) in India. Likewise, the average CO levels among urban households were found higher compared to rural households.

Ms. Jun Hada gave a presentation on Practical Action Nepal's experience on indoor smoke monitoring and researching pathways to alleviate smoke in the hilly regions of Nepal. Ms. Hada explained the methodology and demand driven participatory approaches adopted to address the smoke issues in Rashuwa district.

Following the presentation, Mr. Yagya Raj Bhatt, student from University of Stuttgart presented a desk research on Indoor air pollution from open fires. The paper provided information about chemicals, emissions and toxicity.

Technology and Scaling up: Mr. Habibur Rahaman from Practical Action Bangladesh presented a paper on "Dissemination of improved cook stoves and its contribution to reduction of green-house gas emission in Bangladesh". Mr Rahaman shared about the ICS technology they have been promoting and elaborated its benefits. According to Mr. Rahaman the demand for ICS is increasing in villages of Bangladesh due to increased awareness about Likewise, Mr. Erwan Kowe from Asia Regional Cookstove Programme (ARECOP), Indonesia presented the Asia Regional kitchen improvement experiences. The presentation highlighted the holistic approach taken by ARECOP in improving kitchen taking into consideration of health, hygiene, energy efficiency, comfort and safety of the users. Mr. Kowe emphasized the importance of the ARECOP approach on national and regional technical backstopping and facilitation, national and Regional ICS networks, and regional resources for wider dissemination of cook-stove programmes.

Mr. Alex Zahnd from Kathmandu University gave a presentation on Indoor air pollution and appropriate cooking and lighting solutions for the poorest mountain communities in the higher hills of Nepal. He focused on the two pronged approach taken by Kathmandu University to address the issue of IAP in Jumla by linking sanitation, household lighting with improved stoves. He highlighted the effectiveness of the design of cook-stoves considering the cooking and eating practices. He focused on the cost-effectiveness of the stoves. In addition, Mr, Zahnd elaborated how the white LEDs have addressed the lighting issue of households in Jumla using solar energy.

Finance: Three papers were presented on this theme mainly focusing on financing aspect of the interventions on household energy and IAP mitigating efforts. Dr. Krishna Prasad Pant's paper looked at the most critical and determining factors such as education, price of fuel, fuel availability, awareness, income level etc. on fuel and technology choice. According to Dr. Pant, in addition to price and income (~assets), female education, awareness about the pollution and access to credit facilities are important determinants of the demand for clean fuels and ICS. Likewise, male education is important for kitchen improvement while female education is important for averting behavior.

Mr. Jiwan Acharya from Winrock International Nepal shared idea on Clean Development Mechanism (CDM) funding for stove projects and other pollution mitigating technologies. Mr Acharya stressed on the importance of monitoring to be very robust and well recorded to show that the number of stoves installed actually matches with the project targets, and that they are being well-maintained and will contribute to emission savings.

Dr. Ram Bhoj from Center of Environment Education, Lucknow, India presented a paper on cleaner energy options for indoor air pollution control in rural India. The paper stressed on the need of community participation, technical training and awareness raising of the people as major inputs to supplement with the credit facilities and subsidies in availing viable technologies for mitigating IAP.

Gender: Dr. Indira Shakya from Royal Nepal Academy of Science and Technology (RONAST), presented a paper on "Addressing gender concerns in indoor air pollution mitigation strategies: Policy direction". According to Dr. Shakya, women do two-thirds of the world's work, earn one tenth of the world's income, comprise two-thirds of the world's illiterates and own less than one hundredth of the world's

property. They have limited access to and control over resources. Despite their contribution on cooking, fetching water, fodder, agricultural labour, and home-based micro-enterprise, they bear the burden of drudgery in water and energy arrangement and indoor air pollution leading to opportunity losses to reach their potential. According to Dr. Shakya, there should be a policy to improve biomass use efficiency by focusing on cooking as primary energy end-use, to look beyond 'going up the energy ladder' by providing energy services for women's multiple tasks and to give high priority to drudgery reduction technologies.

Policy: Three papers were presented in the session. The first paper was presented by Prof. Jagan Nath Shrestha from Center for Energy Studies (CES), Institute of Engineering, which was jointly written with Mr. Ram Prasad Ghimire of Water and Energy Commission Secretariat, Nepal. Prof. Shrestha identified various policy barriers as - no priority in policy regarding biomass energy; no integrated/comprehensive energy policy; no incentives on bio-energy technologies except in biogas; information barriers; financial and fiscal barriers; and social barriers. He added that for these to be addressed, a comprehensive integrated policy needs to be formulated to incorporate environmental and health concerns for strategies on energy supply, conversion and use. The stress was given on the important role of biomass and bio-liquid fuels that should be recognized in the national policies in various social and economic sectors; e.g. in rural development and health sectors, in order to develop and support coordination of different sectoral policies. Similarly, Prof. Shrestha also added that barriers to technology transfer from developed to developing countries and within the developing countries should be overcome to ensure access to clean biomass energy technologies for all.

Mr. Abdul Shakoor Sindhu from Rural Development Policy Institute, Pakistan presented a paper on "Indoor air pollution: A case of Pakistan". The paper reveals the fact that IAP has not been taken as a major policy issue in Pakistan, therefore there is no national standard available for the air quality whereas attention is much on ambient air quality. The paper concludes with a set of recommendations which deals with enforcement of fuel specifications, promotion of cleaner fuels, financial support for technology up-gradation and adoption and tax incentives to energy efficient and gender sensitive technologies.

Professor Henry Jacoby of MIT, USA presented paper on "Interaction of climate policy with ambient and indoor air pollution". The paper dealt with greenhouse gas mitigation and air pollution, effects of air pollution on human health and effect of air pollution on the carbon cycle and global warming. Prof. Jacoby highlighted on the estimate of non-market effects of climate policy and its feedbacks on the economy and approaches on cost-benefit estimation.

Group Discussions

Four different groups were formed and group discussions were held in four topics as (i) Technology; (ii) Air Quality and Health; (iii) Finance; and (iv) Policy. The groups identified key issues and gaps in the four areas and came up with recommendations to build on them so that indoor smoke problem is addressed at the policy levels throughout the South Asia region.



Synthesis of the Workshop:

This regional event came up with concrete outputs for increasing awareness at the regional level on the health burdens of indoor air pollution and policy improvement. It was decided to have a regional level networking to make indoor home environments free of pollution, and thus improving the quality of life of the poor people. Moreover, the outcomes of the workshop pointed out to expand the knowledge on

indoor air sciences and technologies by strengthening capacities of stakeholders and addressing policy gaps. It has identified following potential areas for future interventions:

- Create a regional level partnership/network of stakeholders involved specially in indoor air pollution and household energy
- Share regional best practices and experiences on technologies
- Establish a common protocol for air quality monitoring and methodological aspects and regional indoor air quality standards
- Focus the issues both in urban and peri-urban areas as well apart from rural areas
- Raise awareness on different kinds of proven technologies to control indoor air pollution
- Design and implement health impact study awareness programs
- Identify the most vulnerable and risk groups
- Multi-sectoral approach should be promoted to counter burdens of indoor air pollution and health
- Share impact studies on interventions at the regional level
- Focus on financing through establishment of effective mechanism at different levels
- Wide replication of successful community financing models for IAP reduction
- Focus on partnerships between public, private and civil society
- Make collective effort among the region on carbon trading
- Develop a regulatory framework by designing a KIT box (Knowledge Information Technologies)
- Build capacity of central and local level policy makers

The workshop felt need of inter-linkages and partnership among relevant engineers, medical practitioners, architects and social scientists. The workshop felt need for sharing of research findings, success case-studies, technical designs etc. among the organizations and individuals committed for indoor air pollution alleviation in South Asia. Considering the need, the workshop decided to form a South Asia Network on Indoor Air Pollution, Health and Household Energy under the Chairmanship of Prof. Dr. Mrigendra Raj Pandey, the Chairman of Indoor Air Pollution and Health Forum Nepal, with the Secretariat support from Practical Action Nepal.

The workshop was successful in achieving its objective - in creating awareness on the burden of indoor air pollution amongst the regional stakeholders. During the workshop the existing policy provisions and best practices in South Asian countries were shared and discussed. In addition, it was successful in sharing knowledge on available technologies and cleaner fuels options to reduce the effect of indoor air pollution. Similarly, best practices of scaling-up approaches and new concept in this area were shared at the workshop. Most importantly, the regional policy gaps were identified and the key stakeholders showed their commitments to address the issues related to indoor air pollution and implement sustainable mitigating measures.