



Indoor Air Pollution

ENERGY AND HEALTH FOR THE POOR

A Regional Workshop on Household Energy, Air Pollution and Health was held on 9-10 May 2002 in New Delhi, India. The two-day event provided a forum to exchange information on the latest research, share experiences in mitigation strategies and strengthen commitments to future action programs amongst various stakeholders from fifteen countries.

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The workshop was linked to the completion of a multisectoral study, India: Household Energy, Air Pollution and Health, undertaken by the World Bank with the support of the joint UNDP/World Bank Energy Sector Management Assistance Programme (ESMAP) and the Government of Norway.

The World Bank and the Tata Energy Research Institute organised the workshop in collaboration with several agencies of the Government of India, including the Planning Commission, Ministry of Non-Conventional Energy Sources, Ministry of Environment and Forests and the Indian Council of Medical Research. The workshop was co-sponsored by the World Health Organisation (WHO), United States Agency for International Development (USAID), United Kingdom Department for International Development (DFID), Clean Air Initiative-Asia and the Shell Foundation. This issue — the last in this newsletter series — reports the highlights and recommendations of the workshop.

Regional Workshop on Household Energy, Indoor Air Pollution and Health, 9-10 May 2002, New Delhi, India

The Challenge Ahead

Facilitating improvements in household energy use for two billion poor households worldwide that rely on solid biomass fuels for cooking and heating is a daunting task. But development experts and practitioners around the world now accept that addressing the problem of household energy and related health and environment impacts should become an integral part of poverty eradication and development efforts. The Regional Workshop in New Delhi brought together over 150 experts, government officials and non-governmental representatives from India and several other countries (e.g., Bangladesh, China, Indonesia, Kenya, Mongolia, Nepal, South Africa, Sri Lanka, Thailand and Vietnam) to brainstorm mitigation strategies and the underlying research agenda required to achieve the maximum health and environment benefits of better household energy services. The overwhelming support for the workshop by several Government of India and

international agencies reinforced the growing commitment and interest of the key decision makers and other stakeholders to address the indoor air pollution problem. “The development challenge we confront today lies not in what we do, but in how we think about what we do”, said Mieko Nishimizu, Vice-President of the South Asia Region of the World Bank. Her keynote speech pointed to the need for developing an effective Indoor Air Pollution (IAP) mitigation strategy, which is based on the understanding of the needs and preferences of rural women, empowers communities, includes a variety of interventions ranging from economic and social policies to stove technologies, and promotes synergy among the possible benefits such as health, gender development and environmental impacts. Strategies, policies and investments for human development must be holistic, looking beyond health and education sectors to energy, rural livelihoods and environment issues, emphasised Ms. Nishimizu. In terms of cost per reduced incidence of illness and death, better

household energy services can be just as cost-effective in protecting the health of the rural poor as common medical interventions, such as treatment for childhood diarrhoea, or public health interventions, such as provision of clean water and sanitation.

Addressing the inaugural session of the conference, Dr. K. C. Pant, Deputy Chairman, Planning Commission of the Government of India, stressed the need to design effective health, energy and rural development programs to address IAP. He pointed out that the shift to clean fuels would involve not only the provision of alternative sources of energy but also additional income generating opportunities. Local micro-credit services for meeting the upfront costs would have to be provided to low-income households to accelerate the transition. Furthermore, improved biomass stoves and better ventilation conditions are likely to be most cost-effective options for alleviating indoor air pollution in the near to mid-term.

Prof. Kirk Smith, a leading expert and long-time advocate of mitigating the adverse health impacts of traditional household fuels, noted that acute respiratory infection (ARI) is the leading cause of death and lost years of healthy life in the developing world. ARI is strongly associated with exposure to smoke from fuel burning and mainly affects children under five. Highlighting the link between IAP and poverty, he stated that public health is the art of making people healthy before they are wealthy.

Dr. Dieter Schwela, World Health Organisation, Geneva, stressed the importance that WHO attaches to IAP as a major risk to child and maternal health. He said WHO would support activities to reduce child mortality and related risk factors to create safe and supportive environments for children.

Mr. M. Kannappan, Minister of State for Non-Conventional



Shri M. Kannappan, Minister of State for Non-Conventional Energy Sources, Government of India, addressing the valedictory session.



Ms. Mieko Nishimizu, Vice-President, South Asia Region, World Bank, addressing the inaugural session of the Regional IAP Workshop. Seated (left to right) are Mr. Richard Ackermann, Sector Director, South Asia Environment and Social Development Unit, World Bank, Dr. R. K. Pachauri, Director-General, TERI and Dr. K.C. Pant, Deputy Chairman, Planning Commission, Government of India.

Energy Sources, Government of India, emphasised in his valedictory address that rural energy strategies should combine sustainable production and use of traditional energy with appropriate technological and policy support for promoting cleaner forms of energy.

Multisectoral Approaches to IAP

Given the multidimensional nature of IAP, there is no single intervention that can make a substantial impact in isolation. In a speech on multisectoral approaches, Dr. R. K. Pachauri, Director-General of TERI, provided a comprehensive picture of the linkages between IAP, household economy and energy development. He said that an integrated technological approach, enhanced local capacities to implement energy supply decisions, financial arrangements, and greater involvement of government and non-government agencies can help to solve the IAP problem.

We are dealing with one of the vicious problems of poverty. The ultimate answer lies in improving the livelihood of the poor and ensuring that they have options in terms of how they spend their time and also in respect of the incomes they are able to generate. Unless technology can give us some of the answers to this problem, the poor will remain beyond the pail of economic possibilities.

R. K. Pachauri, Director-General, TERI, New Delhi



Increased International Commitment and Support Towards IAP Mitigation

Multinational and bilateral development agencies are increasingly concerned about the problem of IAP. Apart from the strong support for the Regional Workshop on Household Energy, Indoor Air Pollution and Health, the growing commitment and interest of the donor community is evident from the variety of activities being implemented worldwide. Together, these activities are expected to create a solid basis for addressing IAP in the long term.

Within the World Bank, increased attention to IAP is reinforced by a sharpened focus on poverty reduction and commitment to achieving Millennium Development Goals. IAP is considered a priority issue from the perspective of three different sectors – energy, public health and environment. The joint UNDP/World Bank Energy Sector Management Assistance Programme (ESMAP) has supported several initiatives in India, China, Mongolia, Guatemala, Nicaragua, Kenya and Sub-Saharan Africa. These efforts have focused on a range of issues, such as assessment of the health impact of household fuel use, sustainable use of biomass, commercialisation of improved biomass or coal stoves, and development of community-based holistic IAP mitigation strategies that may include housing improvements, several fuel options and new income opportunities.

WHO considers IAP a top priority in its programs on air quality and health, and child health. The key focus of the indoor air quality programs of WHO includes fostering knowledge of burden of disease due to IAP, developing health-based air quality guidelines for indoor pollutants including biological agents, establishing proactive partnerships and supporting training for health risk assessment and management. WHO has also prepared a report for the Commission on Macroeconomics and Health, calling for strengthened donor coordination and support to scale-up IAP mitigation measures.

The United States Agency for International Development (USAID) has added IAP to its environmental health agenda. It also supports Environmental Protection Agency (U.S. EPA) in conducting an international program on Integrated Environmental Strategies (IES) to promote the analysis of, and develop implementation plans for, integrated solutions that provide local and global benefits, such as health improvements, air pollution reduction and greenhouse gas (GHG) mitigation.

The United Kingdom Department for International Development (DFID) actively supports interventions in the energy-poverty nexus, such as its Rural Livelihoods Program in India, and IAP as its part.

As part of a broader Sustainable Energy Program, the Shell Foundation, in collaboration with the Chinese Centre for Disease Control and some Chinese universities, is undertaking a comprehensive assessment of the Chinese Improved Stoves Program to apply the lessons learned to the next generation of rural energy programs in China and other countries.

The World Bank Study on Household Energy, Air Pollution and Health in India has reinforced the following set of issues and needs for combating the health impacts of IAP in a holistic manner:

- ◆ The need to have better information on exposure levels and related health risks for population sub-groups, as well as to be able to assess the effectiveness of various interventions in reducing these risks;
- ◆ The need to find ways to deliver effectively better energy services (cooking fuels and methods) to rural households, including the poor;
- ◆ The need to adopt multiple mitigation strategies that would include a range of technical options and their combinations—such as cleaner fuels, better stoves, improved kitchen ventilation and housing types—targeted at different population groups;
- ◆ The need to involve various actors in mitigation efforts—for example, to clarify responsibilities of government departments at different levels, provide the right incentive framework and business environment for the private sector, and empower communities, especially women, to improve the ways in which daily energy needs affect their lives;
- ◆ The need to raise awareness of the problem and cost-effective solutions among all actors and stakeholders.

Unless we are prepared, mentally at least and preferably in real life, to squat down next to a choking fire to cook and feel that rasp in our throats, we may just piece together a wrong strategy – for the energy, environment, and health sectors. Indeed, we may piece together an entirely wrong development strategy.

Mieko Nishimizu, Vice-President, South Asia Region, World Bank, USA



An Agenda for Action

Reflecting the need for multisectoral solutions, the Workshop explored a variety of IAP-related issues, such as exposure and health assessment, gender and community development, promotion of improved stoves, policy framework for improving modern energy services in rural areas and global co-benefits of addressing IAP.

Drawing lessons from the experiences of the different countries represented at the workshop, as well as the findings of the World Bank Study on Household Energy, Indoor Air Pollution and Health in India, the workshop participants formulated an extensive set of recommendations for policy, research and action in each of the following working groups:

- ◆ Improved stoves, cleaner homes, healthy villages
- ◆ Moving up the energy ladder: kerosene and LPG

WHO's key activities in IAP include a comparative evaluation of experiences in different settings with a view to developing concepts for effective interventions and supporting policies

Dieter Schwela, Air Pollution Scientist, WHO, Geneva



- ◆ Exposure and health research
- ◆ Addressing IAP through gender and community development
- ◆ Integrating local and global benefits of IAP mitigation.

Overall recommendations of the workshop are summarised below. Specific recommendations of the working groups are summarised in separate boxes (for the full text of the recommendations see websites – <http://www.worldbank.org/cleanair/caiasia> or <http://www.teriin.org/indoor/iap.htm>).

The magnitude of health effects from traditional household energy use calls for immediate action

While there are research gaps and uncertainties about the exact levels of exposure and specific health outcomes, there is sufficient evidence that the health impacts of traditional household energy use are significant enough to justify immediate action. Economic development and poverty reduction are among the key factors for improvements in household energy use, environment, and related health effects; however, the links are complex, multidirectional and with significant time lags at the household level. Thus, certain measures to prevent the death of young children and improve the health of rural women can and should be undertaken before a change in the economic status triggers better health indicators. Furthermore, better health, especially of women and children, is not only an outcome but also a critical input to economic growth and poverty eradication; thus, addressing the health impacts of household energy and IAP should now be an integral part of poverty eradication efforts.

Support a range of mitigation options in a holistic manner

Switching completely to cooking with clean fuels, such as LPG or biogas or electricity, is the most certain way to lower exposure to indoor air pollution dramatically. However, the incremental costs of switching over to modern and superior fuels are prohibitive for many rural households. For example, in India, the economics of LPG service, with its relatively high operating cost, are not favorable to the rural poor who cannot afford to pay for refilling an LPG cylinder every month or two.

Improved stoves, cleaner homes, healthy villages
(Specific recommendations)

- ◆ **Promote commercialisation of improved stoves** (i.e., biomass or coal stoves having higher efficiency and lower emissions) and low-polluting processed solid fuels, as a critical factor to achieve the sustainability of these IAP mitigation options.
- ◆ **Develop innovative ways of delivering services to the poor.** While it should be possible to retain targeted financial support for stoves to the poorest of the poor families (with clear and broadly accepted identification of eligible beneficiaries), it must be accompanied by operation and maintenance support.
- ◆ **Combine dissemination of stoves with interventions to improve housing design and behavioral change** so as to minimise exposure, particularly by children.
- ◆ **Support research and development** to increase the effectiveness of improved stoves to reduce indoor smoke. Key areas of R&D include design of low-emission stoves, piloting financing mechanisms for local entrepreneurs, assessment of exposure and health impact of improved stoves, research of 'software' issues (e.g., cooking practices, diet and habits) and better stoves for space heating.

People were given options. We maximised decision-making by drawing on indigenous knowledge and local technologies considering a combination of sustainable options rather than any single option.

Some women decided to have chimneys, some to have windows and some to have eaves on the walls.

Justin Nyaga, Special Projects Manager,
Energy Program, International Technology Development
Group (ITDG), Kenya



Improved biomass stoves (and cleaner biomass-based fuels) will thus continue to be an option for reducing exposure for a large majority of the rural poor. In those countries where coal stoves are extensively used for heating such as China and Mongolia, improved coal stoves (and better, processed coal) are an important option to improve the health impacts of household energy use.

Improvements in cooking and heating technology need to be complemented with simple housing improvements, such as kitchen configuration and ventilation conditions, which could be among most cost-effective measures to reduce exposure. Facilitating behavioral changes among women, children and other household members offers another opportunity to reduce exposure and alleviate the associated health impacts. Improving the status of women can be one of the most effective means of promoting markets for better stoves and other household energy use services.

An effective IAP mitigation strategy should include all these options and attempt to match specific interventions

(and/or their combinations) with the right segments of the market. Such a strategy should also take into account the multidimensional nature of household energy use and promote synergy among a variety of possible benefits, such as health, gender development and impacts on the local and global environment.

Mainstream IAP and related issues in national/state policies and programs

One of the central issues is to facilitate integration of IAP issues in health, energy, infrastructure and rural development programs. For example, it is important to integrate indoor air pollution into the existing maternal and child health programs as well as to address IAP in other home-related health programs (e.g., hygiene, water and sanitation). There are already some examples of successful household energy initiatives integrating IAP with projects and programs in agriculture, forestry, nutrition, family planning and empowerment of women.

National energy policies and planning should include specific household energy goals as well as recognition of the importance of gender-sensitive participation processes in formulating household energy programs. These need to be reflected in institutional frameworks for integrated stakeholder participation in household energy policy at the national, regional and local levels.

Combine market-based approaches with effective government interventions

The government has an important role in guiding and facilitating actions that alleviate the problem of indoor air pollution. To ensure a sustained effect of mitigation measures, there is a need to promote market mechanisms for distribution of improved stoves and commercial fuels. Programs that disseminate improved stoves on a commercial basis enjoy greater financial sustainability and respond better to user demand, including the production of more durable stoves. Similarly, a liberalised market for commercial fuels with a level playing field for all operators with proper regulations would lower costs and increase the quality and availability of service to consumers. Therefore, government interventions should be reoriented towards creating a sound regulatory framework and incentive structure that works with, not against, the market.

One critical area for government interventions is the design of innovative incentives and mechanisms to deliver better energy services (and housing) to the poorest of the poor customers. For example, there is evidence from India that large subsidies for stoves do not ensure increased and sustained use of improved stoves,

Moving up the energy ladder: kerosene and LPG (Specific recommendations)

- ◆ **Promote a fair, transparent and competitive market for petroleum fuels.** This would enable better quality services to be provided to larger number of customers at lower costs.
- ◆ **Experiment with small size LPG cylinders using a market-based approach.** Small size cylinders could enable poorer households to purchase LPG more regularly, especially in rural areas where cash income is less reliable. However, international experience with small cylinders is mixed: negative aspects include a much higher cost for cylinder management and hence higher LPG prices on a unit weight basis, and the need for households to refill more frequently. Therefore market forces, and not government policy, should guide the size of cylinders to be made available on the market.
- ◆ **Re-evaluate the need for, and the delivery mechanism of, the LPG price subsidy,** which vastly benefits better-off urban residents. Attempts to design an alternative targeted subsidy should take into account the lessons of evaluating the Deepam scheme in Andhra Pradesh (India) that highlighted the challenges of promoting the use of LPG amongst the rural poor in low-income countries (see IAP Newsletter No 6).
- ◆ **Examine effectiveness of alternative subsidy schemes for kerosene.** The supply of low-cost kerosene for use by the poor should receive more attention considering: (a) the ease of distribution and delivery compared to LPG; (b) its importance as an energy source for lighting in rural areas; and (c) its potential as an intermediate fuel between biomass and LPG. Areas of further research include different subsidy delivery mechanisms to reduce the currently high level of diversion to the automotive sector and more work on kerosene stove design to lower emissions.

nor result in greater participation by the poor in stove programs. LPG price subsidies are heavily biased towards more affluent urban households and result in diversion of LPG intended for household use to the commercial sector. There is a clear need for developing new and more effective strategies to reach the poorest, complementing market-based approaches to service delivery.

Among other areas for government intervention highlighted by this workshop are:

- ◆ Paying greater attention to the health dimension in programs that disseminate improved cooking stoves and cleaner fuels (as well as programs that provide other rural infrastructure services, such as housing, water and sanitation);
- ◆ Establishing quality assurance programs for services and products delivered by LPG retail outlets;
- ◆ Considering innovative financing schemes that combine housing finance with improved kitchen and/or stove design; and

Exposure and health research

(Specific recommendations)

- ◆ **Develop rapid and robust methods for exposure assessment**, focusing on three main objectives:
 - Estimating exposure to indoor air pollution by national/state/local level monitoring of exposure levels and health risks.
 - Assessing the impact of interventions on exposure levels and health risks for cost-effectiveness analyses.
 - Using health studies to strengthen links between exposure levels in rural settings and health end-points.
- ◆ **Improve understanding of key linkages between health and IAP**

While there seems to be sufficient evidence on the linkages between IAP and acute respiratory infection, lung cancer (from coal only) and chronic obstructive pulmonary disease (COPD), stronger evidence through additional research is required for health outcomes, such as asthma, heart disease, tuberculosis and infant mortality.
- ◆ **Strengthen intervention and operational research** in the following areas:
 - The effectiveness of IEC (information, education, communication) activities, e.g., use of mass media.
 - Exposure reduction and health benefits (effectiveness) of various mitigation strategies involving behavioral and/or technological changes, or a combination.
 - Economic, institutional, regulatory and socio-cultural feasibility of IAP-related interventions to improve health, in addition to mere technical feasibility.
- ◆ **Increase support for priority areas of immediate policy relevance**

While gaps in research should not be used as an excuse to delay action, there are some critical areas mentioned above, where better knowledge is needed to help design effective interventions. Given that household fuel-related IAP research was significantly under-funded in the past, these priority areas warrant an increased level of support by local governments and donor agencies.

Upper respiratory infection in seven counties of China is as high as 81 per cent in children under five. Chronic headaches are very common among middle age women, possibly due to high indoor concentrations of carbon monoxide.



Linhong Wang, Deputy Director, Women and Children's Health Centre, Peking University, Beijing, China

- ◆ Actively supporting R&D in several multidisciplinary areas related to IAP that are critical for designing more effective programs and interventions, including exposure and health research in priority areas.

Increase public awareness

One of the most important elements of a strategy to mitigate IAP is to facilitate behavioral change, including greater demand for cleaner cooking. This requires awareness raising among rural families about the health impacts of traditional household energy and providing specific information on the range and effectiveness of mitigation options. Various methods – from including IAP issues in basic hygiene education by primary schools and health centers to mass media – should be utilised. Improving knowledge of the IAP problem and possible solutions among all major stakeholders, including the medical community, is as important.

The awareness campaigns should provide a balanced overview of a number of options, pointing to the

associated costs and benefits. Specifically, it could include the following topics:

- ◆ Different fuel options;
- ◆ Cleaner use of biomass (improved stoves, as well as improved biomass-based fuels);
- ◆ Pollutant emissions from different stove types using the same fuel (for example, kerosene wick stoves are polluting but pressurised kerosene stoves which gasify kerosene are considerably cleaner) and different fuels (for example, gaseous versus liquid versus solid fuels); and
- ◆ Incremental costs and benefits of cleaner options (LPG versus kerosene and wood, kerosene versus wood, wood versus other biomass, improved biomass stoves versus traditional stoves).

Facilitate involvement of communities and energy users, especially women

Effective implementation of household energy programs requires extensive involvement of end-users from the design stage to implementation. No central scheme – whether at the national or the state or provincial level – can do justice to what *communities and individuals really need and want*. Women are the mainstay of household energy programs and it is, therefore, important to empower women to make the choice and influence household decisions regarding the use of fuels. Activities to target women for

Addressing IAP through gender and community development

(Specific recommendations)

- ◆ **Address livelihood and poverty needs of rural communities in IAP/household energy programs.** To make IAP reductions effective, household energy programs should address a range of livelihood and poverty needs of both women and men, for example, by providing opportunities for income-earning for women, as well as for men, in stove-building, in tree nurseries or other activities.
- ◆ **Empower women to make household fuel choices.** In the Indian stoves program, even though women were never the focus except as a market segment, there is evidence to show that programs in which women were involved in stove-making and dissemination fared better. Empowerment is needed in some places to effectively disseminate improved stoves but in areas where women are already reasonably empowered, other barriers need to be addressed.
- ◆ **Undertake research to understand and facilitate the role of gender in energy programs.** The barriers and constraints faced by men and women in adopting certain technologies arising from cultural habits and traditions need to be much better understood and factored into program design.

If we use the number of stoves disseminated as an indicator of health, there is no room for gender and community development. If we start looking at the per cent of stoves maintained or replaced, per cent that is used and whether the type of use is hygienic and of low emissions, this is where the gender and community development issues come into the picture that will ultimately deliver the health output we want.

Elizabeth Cecelski, Director of Research and Advocacy, Energy, Environment and Development (EED), The Netherlands



Coordinate and expand support by the donor agencies

Given the multisectoral nature of IAP, there are different sectoral avenues for addressing the problem and providing external support (see *Box on Page 3–Increased International Commitment...*). Nonetheless, the donor assistance allocated to IAP and household energy remains miniscule compared to the amount spent on other rural energy programs, such as promotion of photovoltaics for rural electrification. To maintain the momentum of these new initiatives and achieve maximum benefits from the activities by various agencies, there is a need for a more coordinated effort. The workshop pointed to the importance of establishing a common agenda for the near to medium term, which could serve as the basis for effective partnerships that are built on comparative advantages of different donor agencies. A working group with representatives of a number of agencies to guide and facilitate the process is one option.

training, capacity and skill building to use and maintain better stoves (using improved biomass, kerosene or gas), as well as for awareness raising of the detrimental impacts of traditional energy, should be strengthened. Innovative financing schemes (e.g., micro-credit) should also be explored to support local entrepreneurs, both female and male, as well as communities in the manufacturing and dissemination of stoves and other suitable technologies.

Integrating the local and global benefits of IAP mitigation

(Specific recommendations)

- ◆ **Attach priority to local health benefits.** Given the magnitude of the health impacts, household energy strategies in poor countries should be driven by local health benefits.
- ◆ **Explore synergies to develop win-win strategies,** such as promotion of more efficient coal stoves or high combustion efficiency stoves using processed gaseous biomass, for example, biogas. It is further recommended that the Inter-governmental Panel on Climate Change (IPCC) consider creating a sub-committee to explore the co-benefits of interventions in terms of global warming and local health benefits, including (but not limited to) household energy options.
- ◆ **Assess, and where possible, tap opportunities provided by international climate change financing for cleaner household energy.** Win-win strategies could help local governments mobilise additional international financing for the benefit of global environment and local users. For example, the World Bank helped Mongolia prepare a project where the GEF supports market development for more efficient coal stoves that are expected to reduce exposure and improve the health of users. The GEF also supports activities involving gaseous biomass. While assistance should be provided to local governments to develop the capacity to use existing international financial mechanisms for household energy, attempts to obtain GEF or other “global” financing should ensure that transaction costs are not excessive relative to possible financial support, and that the attention of local institutions is not diverted from the main local health and development issues.

From the Newsletter Team

With the completion of the World Bank study on Household Energy, Air Pollution and Health in India, this is the last issue in this newsletter series. The team hopes the newsletter helped raise awareness of the health risks of cooking and heating with unprocessed solid fuels that is prevalent in rural settings of developing countries; highlighted a web of linkages between household energy and health, gender, environment and development objectives; expanded a worldwide network of professionals concerned about the IAP issue; and facilitated commitment to take action. We look forward to all of us – together – continuing to work in this area to achieve better health and environment for millions of families that still have no choice but to rely on traditional biomass and coal to meet their daily needs in food and shelter.

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Indoor Air Pollution Newsletter Series:

1. Health effects of IAP.
2. Reports of two international conferences in India related to IAP - on respiratory illness and household energy.
3. Women and energy.
4. Household energy and poverty.
5. Review of the India's National Programme of Improved Stoves.
6. Evaluation of an LPG promotional program—the Deepam Scheme—in Andhra Pradesh, India.
7. Assessment of exposure to IAP and its determinants in Andhra Pradesh, India.
8. Report of the Regional Workshop on Household Energy, Indoor Air Pollution and Health.

If you would like to obtain an electronic copy of any of these newsletters, please email to Sadaf Alam at salam@worldbank.org, or the same can be obtained off the internet at <http://www.worldbank.org/sar/sa.nsf>.

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