

INDOOR AIR POLLUTION AND HEALTH FORUM

VOL 1 ■ ISSUE 6 ■ SEPTEMBER 2009

A QUARTERLY NEWSLETTER OF INDOOR AIR POLLUTION AND HEALTH FORUM

Energy poverty in Nepal

Energy poverty is defined as a lack of quantitative and qualitative access to minimum energy required to satisfy the basic needs like cooking, boiling drinking water and lighting. In Nepal, energy poverty is very high with 81 per cent Households (HHs) under poverty for cooking energy, 61 per cent for lighting and 83 per cent for water boiling as of 2006 (Practical Action Nepal Office, 2009).

The energy poverty and biomass reliance are contributing to external economic cost such as deforestation, green house gas emission, drudgery and ill health of women and children. Last year the country faced 16 hours of daily load shedding which led to a decline in overall productivity of the country. The Government of Nepal (GoN) has recognised electricity shortage as a matter of serious challenge in the context of moving the economy forward.

To alleviate energy poverty in Nepal, increased investment in energy sector is crucial. Further, intensive intervention of alternative energy technologies is mandatory to reduce energy poverty in half by 2016 and completely eliminate by 2026. An estimated €182.4 million (2006-2011), €185 million (2011-2016), €169.7 million (2016-2021) and €191.3 million (2021-2026) are necessary to scale up interventions considering the overall alternative energy programme cost. Additional investment in grid expansion is a must which is estimated at about €1.5 billion.

In addition, current sectoral activities must be increased by identifying different energy sources and technologies which will require substantial institutional strengthening and expansion of Nepal's energy stakeholders. Lack of harmonisation and coordination among the existing energy development institutions and organisations will have to be addressed sincerely. Coordination gap among stakeholders involved in handling commercial energy sources and alternative energy technologies must be streamlined to

increase service delivery efficiency of these institutions. Private sectors and INGOs need to be involved in a larger scale to support the GoN in implementing the renewable energy technologies in rural as well as urban areas as per their specific demand. Extension of grid based electricity and scaling up of Nepal Oil Corporation's (NOC) infrastructures are other key rudiments.

Besides the targeted subsidy, introduction of innovative financing schemes like



micro-credit is pertinent in order to overcome the initial cost barrier. Kyoto Protocol's Clean Development Mechanism (CDM) offers an opportunity to generate additional financing resources to invest in cleaner cooking and lighting programmes. A clean energy fund must be established with the main objective to help poor HHs to increase their access to clean energy.

Capacity of private sectors, NGOs and other service providers must be increased in terms of quality as well as quantity for service delivery. Similarly, consumer based knowledge sharing programmes is significant along with women empowerment to increase awareness on technologies and to address the issue of energy management.

Women's participation will help guide and improve the decision making process to achieve the desired goals.

(Extracted from the report on 'Study to Determine Outline Plans for Eliminating Energy Poverty in Nepal', Practical Action Nepal Office, 2009)

Project: Improving HH Energy Management Practices in Sacred Himalayan Landscapes

IAP and Health Forum Nepal received US\$ 37,000 from UNDP GEF Small Grants programme to implement 'Improving HH Energy Management Practices in Sacred Himalayan Landscapes (Langtang National Park)' project for two years starting from April 2009. The project is implemented

in Sharamthali VDC of Rasuwa District with the aim to protect the local environment and reduce the health burden caused by IAP through implementation of energy management initiatives. It is expected that people will adopt energy efficient technologies which will help reduce firewood

consumption and emission of carbon. The project's outcome is expected to improve indoor air quality which will lead to improvement in health condition of women and children directly contributing to achieve MDGs (4 and 7). Additionally, the project envisages to establish self functioning income generating activities.

Technology: SCORE stove

- Paul H. Riley,
School of Electrical and Electronic Engineering,
The University of Nottingham

The SCORE stove is designed to improve the life of 2.4 billion people that use biomass for cooking and heating. It reduces harmful smoke and generates electricity which can be used for lighting and operating various electronic devices. Early trials have shown that it significantly improves health, wealth and education of the rural poor. The £2m research project is led by the University of Nottingham in the UK along with The University of Manchester, City University London, Queen Mary University of London and Practical Action. The Stove uses thermo-acoustics that can convert heat from burning bio-mass into sound. The sound is then converted to electricity by a large microphone.



Started in 2007, the project aim is to produce over 1 million stoves per year after 2012 at a very low and affordable price. Practical Action is planning to introduce Score stoves in Kenya, Nepal, Sudan, Ethiopia and Bangladesh to test the acceptability of SCORE stoves.

Endorsement of National Standards and Guidelines

IAP was once a neglected environmental health problem - it is now a national concern for policy debate in Nepal. The endorsement of NIAQSG 2009' by the GoN technically supported by Practical Action Nepal Office and the National Forum of IAP and Health exhibits the evidence based policy thrust from local to central level. The NIAQSG was published in National Gazette on 4 May 2009.

The NIAQSG 2009' aims to improve public health and environment by maintaining the indoor air quality. According to NIAQSG 2009, 24 hours average of particulate matter (PM10) should not be more than 120 µg/m³ and the level of carbon monoxide (CO) should not exceed 9 ppm in an average of 8 hours. NIAQSG 2009' has suggested

Technical Support to Iran's IAP programme

Mr. Min Bikram Malla, Project Manager, Practical Action Nepal Office visited the Islamic Republic of Iran from 25 April to 4 May 2009 as the Technical Officer representing WHO-EMRO to support the IAP programme and its strategy in Iran. During the visit, Malla provided training on i) burden of IAP calculation; ii) successful scaling-up model for IAP alleviating technologies; and iii) cost benefit analysis of IAP alleviating efforts to the senior officials from Environmental and Occupational Health Center and Ministry of Health and Medical Education, Iran. While in Iran, Malla provided support to draft the national strategies to mitigate IAP problem in Iran.

Indoor Air Quality Standards (NIAQSG) by the GoN

various measures to improve indoor air quality including monitoring procedures to ensure whether the indoor air quality is in accordance with the set standards. It also clearly defines the roles of different stakeholders in improving indoor air quality.



WHO workshop on IAP in Bangladesh

WHO Bangladesh and German Technical Cooperation (GTZ) jointly organised a 3 day workshop on IAP from 15-17 June 2009 at Dhaka, Bangladesh. The focus was on health impacts of IAP, experiences of interventions, linkages with climate change and broader development issues. In the workshop, Practical Action raised the need for NIAQSG and a regional network for massive scaling up of improved cook stoves in rural poor HHs and a need for a PCIA's



regional chapter which could be used for frequent knowledge sharing and mutual learning across the region.

General Assembly of IAP and Health Forum

The general assembly of the IAP and Health Forum was organised on 30 April 2009 at Practical Action Nepal Office chaired by Dr. Mrigendra Raj Pandey, President, IAP and health Forum. Jun Hada, General Secretary briefed the activity progress and three years plan (2008-2010) of the Forum. Mr. Bhupendra Basnet, Treasurer presented the financial report of F/Y 2064/2065.



Renewable Energy in 2066/67 Budget

The GoN has announced BRIGHT NEPAL CAMPAIGN in the 2066/067 fiscal year budget. Under this campaign, around 27,480 remote HHs will receive electricity services from the 2,748 kW power generated from the micro hydro systems which has upto one Megawatt capacity. The Rukum Ujyalo programme will continue its delivery and expansion of similar programmes in other districts will follow. Wind energy generation will be initiated in feasible areas with participation from the private sectors.

Additional 18,000 biogas plants will be constructed benefiting the poor dalits; conflict affected and marginalised groups as well as ethnic communities with the increment of prevailing subsidy. Further, the Jatropha cultivation and processing industries will be promoted for the production of bio-diesel from Jathropha within the country as an alternative to the imported petroleum products. The emphasis will be given to the research and development (R&D) of other options of the bio-fuel.

News

- IAP and Health Forum Nepal and Gender, Energy and Water Network (GEWNet) managed by Centre for Rural Technology Nepal (CRT/N) received grant from ENERGIA to carryout advocacy for gender sensitive energy policy in Nepal from June 2009 to November 2010.
- A consultative workshop on Gender Audit was held on 4 August 2009 with Rural Energy Development Programme's (REDP) initiation. A study carried out by Rural Women's Development and Unity Center (RUWDUC) was presented with recommendations to modify the policy and strategy to further enhance gender mainstreaming in the rural energy sector. (Source: REDP)
- Bhairab Darshan Jatropa Promotion Centre distributed Jatropa oil lamp to 70 poor HHs in Palpa District with financial support from Alternative Energy Promotion Centre (AEP). Jatropa oil is regarded as a good alternative source of fuel for Nepal. AEP has been supporting the private sectors by providing training on Jatropa cultivation and to establish modern nurseries for Jatropa seedling and biofuel processing plant. (Source: Kantipur, 18 August 2009)
- A workshop on "Renewable Energy" was organised by DDC:DEES Rolpa with REDP's support on 25 June 2009 at Libang, Rolpa to highlight the importance and process of decentralised rural energy planning and management in Rolpa District. (Source: REDP)
- Signe Pedersen and Rikke Premer Petersen from Technical University of Denmark (DTU) successfully completed their Master's thesis on "Challenging IAP in Nepal." Based on their research findings, the duo propose an improved stove design called "Sapana Stove" for the Terai region. For detail visit <http://www.innoaid.org>.
- Regional workshop on mainstreaming gender in energy projects: ENERGIA – an International Network on Gender and Sustainable Energy organised the "Asia Regional workshop on Mainstreaming Gender in Energy Projects" in Colombo, Sri Lanka from 13 – 16 July 2009. Staff from BSP and REDP participated in the workshop where the participants received in-depth information on mainstreaming gender issues in energy projects by developing holistic projects.
- AEP/REDP organised a National Consultative workshop on "Implementation of 'Smart' Financial Mechanism" on 11 June 2009 in Kathmandu. The study was conducted by SAPPROS-Nepal with technical and financial assistance from REDP/ UNDP.
- Biomass Energy Support Programme (BESP), ESAP/AEPC carried out a study on "Assessment of ICS in reducing IAP and improving health" through a consulting firm ENPHO. The study aims to establish the effect of long term use of ICS on IAP reduction, health assessment and changes in the key dimensions of ICS after one year of use.
- BESP, ESAP/AEPC has developed a construction manual for institutional stove for the promoters which contain technical description of institutional ICS models. (Source: AEPC)
- Practical Action Nepal Office and Winrock Nepal organised a three days training on "Business Development and Marketing" to the smokehoods manufacturers from Dhading and Gorkha from 18 – 20 August 2009 in Gorkha.
- CRT/N has initiated a project entitled "Efficient Fuel wood Cooking Stoves in Foothills and Plains of Central Development Regions of Nepal" to develop it as a CDM project with the aim to disseminate 37,000 efficient fuel efficient stoves in six Terai districts.
- CRT/N along with RRAFDC Bara organised a "Local Level Stakeholders' Consultation Meeting on Efficient Fuel wood Cooking Stoves in Foothills and Plains of Central Development Regions of Nepal" on 2 August 2009 at Birgunj, Parsa District. A similar type of central level stakeholder meeting was also organised on 8 September 2009 in Kathmandu.
- CHEC Nepal (Centre for Health and Environment Conservation Nepal) organised one day "Interaction cum Orientation Session on ICS dissemination and Jatropa Farming through Women Saving Groups" in Parsauni, Basatpur and Pipradhi VDCs of Bara District from 15-17 August 2009.

FOR FURTHER INFORMATION

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