Saving millions of lives and protecting our climate through clean cooking options

November 28 2011

For many people in the developing world getting enough food to eat is a persistent challenge. However the challenge does not stop there. A new issue of the international journal *Energy Policy* details the human and environmental cost of cooking food using the only energy source available to many people, woody biomass.

The Special Issue explores the type of decision frameworks that are needed to guide policy development for clean cooking fuels and to ensure that the provision of clean energy becomes a central component of sustainable development. Additionally, it presents a research agenda and an action agenda to facilitate the development and adoption of cleaner cooking fuels and technologies and analyses why past programs to improve access to clean cooking fuels have succeeded or failed.

Universal access to clean energy is a stated goal of the United Nations and is a key entry point for reducing emissions of black carbon and other particulates - known to negatively impact the climate. The scale of the issue and opportunity to minimize emissions through adoption of clean cooking fuels and stoves was highlighted in a new report from the UN Environment Program released Friday 25th November and will be a focus of discussions at the UNFCCC climate talks commencing in Durban today.

While the use of biomass for cooking is in itself not a cause for concern, it is the unsustainable harvesting and dirty and inefficient burning of the wood that inhibits social and economic development, harms the

environment, and takes a significant toll on human health. Latest estimates from the International Institute for Applied Systems Analysis (IIASA) indicate that in 2005, over 2 million people, mostly woman and children, died prematurely due to household air pollution – soot and other particles that are emitted when biomass is burned indoors in poorly ventilated environments.

"The collection and burning of woody biomass to cook food has consequences on many levels," says co editor of the Special Issue and a lead author Shonali Pachauri from IIASA. "It traps women [in particular] in poverty, as they must devote much of their time to wood collection. It affects the environment and climate due to deforestation and the emission of black carbon and greenhouse gases that result from burning, and tragically it is costing the lives of many woman and children in the developing world, predominantly in India, sub-Saharan African nations and China."

The articles presented in the Special Issue consider the options for transitioning the nearly 2.7 billion people globally who are reliant on traditional biomass fuels to cleaner cooking fuels, such as LPG, biogas, ethanol and biodiesel, as well as electricity. "Much of the emphasis to date has been on increasing access to electricity, which while important may be too slow a path and may not address cooking energy needs (electricity is rarely used for cooking in many developing countries). Providing improved cooking stoves to households will have an immediate positive impact on people and the environment.

The issue presents new research findings on many issues associated with resolving the challenge of improving access to clean fuels and cookstoves including; how to measure and monitor energy poverty; an evaluation of the health and climate benefits of cookstove replacement options; how to improve the likelihood of adoption and sustained use of cleaner cooking stoves and fuels, and a cost - benefit analysis of

reducing indoor air pollution. The research draws strongly on case studies conducted in India, Nepal, Kenya, Sudan, Indonesia and Mexico.

The issue also refers to several significant and recent initiatives established to raise awareness and improve access to clean cooking options and explains why they may or may not succeed. One example is the Global Alliance for Clean Cookstoves, an international program established in 2010 with a goal of equipping 100 million homes with clean cooking stoves and fuel by 2020. The program is based on the idea that carbon credits will encourage the adoption of clean cooking stoves. However, experience to date suggests that only international players with good contacts to international institutions will be able to access this money. This raises questions about how likely the program is to be adopted and persist at the community level, but also raises the more important issue of how business and the policy communities must work with communities to facilitate change.

The articles included in this Special Issue reflect discussions that were held at an Istanbul Workshop in 2008 as part of the annual conference of the International Association for Energy Economics. Participants included the public and private sector as well as NGOs and donor organizations representing Asia, Africa and OECD countries. The Workshop brought energy economists and policy makers together to better understand the knowledge deficit when it comes to overcoming energy poverty and the enormous opportunities for the business, research and international development communities to work together to overcome this pervasive and harmful issue.

Universal access to clean energy remains a key goal of organizations like the United Nations and is a significant impediment to attainment of the UN Millennium Development Goals. It is also key to achieving other global objectives with regards to climate change mitigation and ecosystem management. The research presented in this issue helps to

inform how to achieve access for all.

More information: *Energy Policy* Vol 39 (2011) Household cooking fuels and technologies in developing countries. Shonali Pachauri, Hisham Zerriffi, Wesley Foell, Daniel Spreng (Editors).

Provided by International Institute for Applied Systems Analysis