



Arresting a silent killer



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Nearly three billion people — almost one in every two people on the planet — are exposed every day to smoke emitted from traditional cooking stoves and open fires. Two million die every year as a result, just from cooking for themselves and their families. The victims are predominantly women and children.

The toxic smoke produced from burning such fuels as coal, wood, dung or charcoal in inefficient stoves in homes with little or no ventilation

causes disease, injury and pollution. It can lead to such life-threatening illnesses as cancer, diseases of the heart and lungs, pneumonia and tuberculosis: it increases, for example, the risk of contracting the acute lower respiratory infections, including pneumonia, that account for a fifth of all child mortality around the globe. World Health Organisation (WHO) research has concluded that such household air pollution is the fifth greatest health risk in developing countries, and the

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time spent gathering fuel could be better spent on income generation, educational opportunities and other productive activities.

Thus cooking with toxic and polluting fuels over open fires and inefficient stoves is part of a vicious and complex cycle that impacts the environment, human health and economic development significantly. But the cycle can be broken. The benefits of affordable, accessible and culturally-appropriate clean cooking stoves are clear enough: cleaner air, increased environmental sustainability, improved safety, enhanced livelihoods, and better health.

The Global Alliance for Clean Cookstoves — with over 175 partners and growing — was formed last year to save lives, improve livelihoods, empower women and combat climate change by creating a thriving global market for clean and efficient stoves and fuels. It has prioritised its work in Africa, where exposure to household air pollution is particularly severe: WHO discovered, analysing 2009 data, that 95 per cent or more of the population in over 20 nations throughout the continent rely on solid fuels. So far almost a third of the Alliance’s national partners are in Africa

The Global Alliance is co-funding an evaluation by WHO and the US Centers for Disease Control and Prevention of the acceptability, health impact and sustainability of clean cooking stove and fuel options in the Nyanza Province of Kenya, where mortality for infants and children under the age of five is twice the national average. It has also commissioned market analyses around the world — including assessments in Ethiopia and Nigeria — to identify opportunities for interventions that

leading risk factor for non-communicable diseases among non-smoking women. It also increases the chance of giving birth to babies with low birth weights who — if they survive — are themselves more likely later to develop non-communicable diseases.

Black carbon and methane emitted from such inefficient cooking, have long lasting consequences for the climate. Over a quarter of emissions of black carbon worldwide come from homes. Dr. Veerabhadran Ramanathan estimated in a 2009 UN Environment Programme

(UNEP) bulletin that it contributes the equivalent of a quarter of the global warming provided by carbon dioxide worldwide, reaching as high as 60 per cent in some regions. Meanwhile, the 730 million tonnes of biomass burned each year in developing countries emits more than a billion tonnes of carbon dioxide. Furthermore, women and children typically travel long distances each day, sometimes taking hours and jeopardising their safety, to collect fuel for cooking. The deforestation that results from removing wood can cause landslides that devastate towns and ruin arable soil. And the

can help build commercially-sustainable clean stove businesses. This should, over time, assist a move away from donor-dependent initiatives towards thriving local, regional and global businesses.

The World Bank has launched the Africa Clean Cooking Initiative to stimulate the development and commercialisation of a new generation of clean cooking stoves in sub-Saharan Africa. It will be designed to leverage new technology and market developments, partnerships and financing mechanisms that could lead to consistent improvements in stoves' design, performance, and affordability, focussing on adaptability and local needs.

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In Uganda, Impact Carbon is working to shift the country towards widely adopting efficient, healthy cooking stoves that reduce charcoal and wood use by 35 to 65 per cent and save families more than US\$75 per year. Carbon finance has provided hundreds of thousands of dollars in subsidies to poor consumers, so far facilitating the distribution of more than 95,000 efficient stoves, while supporting the development of local, sustainable manufacturing enterprises and spurring the growth of small and medium retail ones.

The Maasai Stoves and Solar Project — created by the nonprofit International Collaborative for Science, Education, and the Environment (ICSEE) — emphasises incorporating women into its efforts to deploy clean cooking stoves in northern Tanzania. Involving local residents in making, distributing and installing stoves has brought together women, craftspeople, small businesses and merchants. US\$40 of the about US\$55 cost of a stove goes to brick makers, steel merchants, materials suppliers and transport costs, while the team of women who build and install them — and train others on how to use them properly — gets the other US\$15, in a scheme designed to create jobs and significantly stimulate the local economy. Monitoring for particulates and carbon monoxide show that the new stoves cut indoor smoke by 90 per cent. They also need 60 per cent less wood and so save the women and children of each household 12 to 15 hours a week that would otherwise be spent gathering it.

Led by the United Nations Foundation, the Alliance — which celebrated its first anniversary in the autumn — has set a ‘100 by 20’ goal, for 100 million homes to adopt clean and efficient stoves and fuels by 2020 as a step towards universal adoption. It facilitated the Lima Consensus, a groundbreaking agreement on developing a tiered, interim health and efficiency cookstove standard; enhanced the technical capacity of regional stove testing centres in Ethiopia and China; supported the formation of regional alliances in Africa, Asia and Latin America; and worked to develop a monitoring and evaluation framework. It is uniquely positioned to address and arrest this silent killer in Africa and throughout the world.