Solutions to Reduce Negative Health Impacts of Household Air Pollution

Health need

More than one-third of the world's population uses biomass (wood, crop residue, charcoal, and dung) to cook their meals and heat their homes. Household air pollution (HAP) from burning these fuels results in approximately 2 million deaths each year, which disproportionately affect women and children.[1] Improved cookstoves and clean fuels have the potential to positively impact the health of women and children, produce less smoke, lower fuel costs, and reduce time spent collecting fuel. Various improved cookstoves have been available for several decades but have not been readily adopted or met the expected benefits, and use of clean-burning fuel is rare among poor and rural families in many developing countries.

Technology solution

To lessen the negative health impacts of HAP, PATH is working to: (1) understand what motivates users to purchase and correctly use improved cookstoves; (2) test several market-based approaches to increase cookstove sales; (3) analyze available HAP monitoring tools to identify the most promising technologies for future advancement; and (4) investigate the barriers to greater adoption of clean cooking fuel. In addition, we are investigating market-based approaches to the introduction of a set of durable goods—including clean cookstoves—bundled in a package called the Healthy Household Box Set.

Current status and results

We have conducted a landscape analysis of technologies (e.g., exposure monitors, biomarkers, sensor-based tools, etc.) used to detect human exposure to air pollutants. Presently we are assessing several of the most promising particulate matter monitoring technologies to identify investment areas and partners for advancement in the particulate matter technology category.

We are building on community input to establish market-based approaches and behavior change interventions, focusing on female entrepreneurs to increase purchases of an efficient, locally made cookstove and firewood in Uganda. Baseline and final assessments measured fuel consumption, indoor air quality, and stove usage. Formative research collected through key informant interviews and focus group discussions has been used to inform approaches to increase acquisition and correct use of an improved cookstove in Uganda.

1. World Health Organization (WHO). *Air Quality and Health.* September 2011. Available at: http://www.who.int/mediacentre/factsheets/fs313/en/index.html. Accessed July 26, 2012.

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Exploring improved cookstoves in Uganda.

"Globally, indoor air pollution from solid fuel use accounts for more than 39 million DALYS (disability-adjusted life years, a measure combining years of life lost due to disability or death.) every year."

World Health Organization. *Indoor Air Pollution, Health, and the Burden of Disease*. Available at http://www.who.int/indoorair/info/briefing2.pdf.

Availability

For more information regarding these projects, contact Nancy Muller at nmuller@path.org.

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