



Issue 125 December 6, 2013 | Focus on ICS Adoption in Bangladesh

This issue contains studies and reports from 2012 and 2013 on improved cookstove (ICS) adoption in Bangladesh. The studies discuss factors that influence and hinder the adoption of ICS, the prevalence of respiratory disease and consumption patterns among biomass fuel users, and the health and environmental benefits of ICS use. The studies are organized by publication date.

These studies plus earlier studies appear in [An Annotated Bibliography of Factors Influencing ICS Adoption in Bangladesh, 2006–2013](#) (pdf).

2013 Studies/Reports

Learning about New Technologies through Opinion Leaders and Social Networks: Experimental Evidence on Non-Traditional Stoves in Rural Bangladesh. 2013. G Miller. ([Full text](#))

This paper studies the behavioral underpinnings of low demand for improved cookstove technology and the substantial implications for population health and the environment. Overall, the findings suggest: 1) if women cannot make independent choices, public policy may not be able to exploit gender differences in preferences to promote technology adoption absent broader social change; and (2) marketing and persuasion techniques may only increase adoption temporarily and may be less effective for technologies that households can evaluate for themselves.

Knowledge of Health Hazards and Perception of Prevention Amongst Females Exposed to Biomass Fuel and Gas/Electricity Fuel in a District of Bangladesh. *Modern Medical College Journal*, 4(1) 2013. A Khan. ([Full text](#))

This cross-sectional study was designed and conducted from March to June 2007, in Madla, a rural area, and in Thanthania, an urban area, in the Bogra District of Bangladesh to see and compare the prevalence of respiratory disease among female biomass fuel users and gas/electricity fuel users. The biomass group exhibited a significantly higher frequency of respiratory problems compared to their gas/electricity counterparts.

Traditional Biomass Fuel Consumption by Rural Households in Degraded Sal (Shorea Robusta) Forest Areas of Bangladesh. *International Journal of Emerging Technology and Advanced Engineering*, Feb 2013. T Nath. ([Full text](#))

This study explored the availability and consumption pattern of various traditional biomass

fuels, preference of and expenditure for biomass fuels, problems with the uses of biomass fuels, and strategies to cope with biomass fuel problems. Decreasing forest resources impose threats on availability of biomass fuels. Although 27 percent of well-off households were using ICS, mass motivation and subsidized ICS can increase their uptake. The government may initiate trading carbon offsets from ICS programs on carbon markets (along with reforestation programs) as part of the Clean Development Mechanism.

Understanding Consumer Preference and Willingness to Pay for Improved Cookstoves in Bangladesh. WASHplus. 2013. J Rosenbaum. ([Full text](#))

This study uses qualitative and quantitative methods that draw from social marketing and social science to explore consumer perceptions of five of the most promising ICS potentially available for distribution in Bangladesh. The study complements other efforts by a range of stakeholders to strengthen market-based approaches and consumer choice for improving household air quality and reducing the environmental impacts associated with dependence on biomass fuels.

2012 Studies/Reports

Bangladesh Market Assessment Intervention Options. Accenture. Global Alliance for Clean Cookstoves. 2012. ([Full text](#))

This market assessment was conducted on behalf of the Global Alliance for Clean Cookstoves. It is intended to provide a high level snapshot of the sector that can be used in conjunction with a number of research papers, consumer surveys, and other sources (most published on the Alliance's website) to enhance sector market understanding and help the Alliance decide which countries and regions to prioritize.

Assessment of the Improved Stove Market in Bangladesh. 2012. United States Agency for International Development, Winrock International. ([Full Text](#))

The study helps explain the bottlenecks of the ICS sector to help develop effective models for the commercialization of efficient cookstoves and, in doing so, make a major contribution to meeting the targets of the Global Alliance for Clean Cookstoves.

Pilot Intervention of Improved Cook Stoves in Rural Areas: Assessment of Effects on Fuel Use, Smoke Emission and Health. 2012. BRAC. ([Full text](#))

This study aims to explore the impact of ICS on fuel expenditure (consumption), smoke emission, and health of women (cooking) in rural households of Bangladesh. The respondents reported that smoke emissions decreased 86.4 percent and soot production dropped 89 percent when ICS were used. This indicates the importance and potential of ICS in reducing indoor air pollution, lessening exposure, and lowering health impacts. However, impediments still remain to adoption, including overall stove design and maintenance, raising awareness of the importance of ICS, and provision of interim monitoring.

Up in Smoke: The Influence of Household Behavior on the Long-Run Impact of Improved Cooking Stoves. 2012. R Hanna. ([Full text](#))

This study contains new evidence from a randomized controlled trial conducted in rural Orissa, India (one of the poorest places in India), on the benefits of a commonly used improved stove that laboratory tests indicate reduced indoor air pollution and required less fuel. The study tracked households for up to four years after they received the stove. The results underscore the need to test environmental and health technologies in real-world settings where behavior may temper impacts, and to test them over a long enough horizon to understand how this

behavioral effect evolves over time.

An Analysis of Cross-Sectional Variation in Energy Consumption Pattern at the Household Level in Disregarded Rural Bangladesh. *J. Basic. Appl. Sci. Res.*, 2(4) 2012.

M Hassan. ([Full text](#))

This study aims to examine household energy consumption patterns in disregarded rural areas of Bangladesh. Because firewood supplies are limited, many rural households selected inferior types of biomass fuels, which were unsustainable and inefficient. Thus, the study recommends improving the current biomass fuel consumption pattern with more efficient and sustainable practices.

Low Demand for Nontraditional Cookstove Technologies. *Proceedings of the National Academy of Sciences*, 109(27) 2012. A Mobarak. ([Full text](#))

This study analyzes the determinants of low demand for nontraditional cookstoves in rural Bangladesh by using both stated preference and revealed preference approaches. The study finds consistent evidence across both analyses suggesting that the women in rural Bangladesh do not perceive indoor air pollution as a significant health hazard and prioritize other basic developmental needs over nontraditional cookstoves. They overwhelmingly rely on free traditional cookstove technology and are therefore not willing to pay much for a new nontraditional cookstove. Efforts to improve health and abate environmental harm by promoting nontraditional cookstoves may be more successful if nontraditional cookstoves are designed and disseminated with features valued more highly by users.

WASHplus Weeklies will highlight topics such as Urban WASH, Indoor Air Pollution, Innovation, Household Water Treatment and Storage, Hand Washing, Integration, and more. If you would like to feature your organization's materials in upcoming issues, please send them to Dan Campbell, WASHplus Knowledge Resources Specialist, at dacampbell@fhi360.org.



About WASHplus - WASHplus, a five-year project funded through USAID's Bureau for Global Health, supports healthy households and communities by creating and delivering interventions that lead to improvements in access, practice and health outcomes related to water, sanitation, hygiene (WASH) and indoor air pollution (IAP). WASHplus uses at-scale, targeted as well as integrated approaches to reduce diarrheal diseases and acute respiratory infections, the two top killers of children under five years of age globally. For information, visit www.washplus.org or email: contact@washplus.org.