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Up in Smoke

Improved cookstoves in India did not reduce smoke exposure, improve health, or reduce fuel usage of recipients because they were not used regularly and recipients did not invest to maintain them properly.

Nearly half of the world's population continues to rely on solid fuels, including wood, dung, agricultural waste, and coal, for its energy needs. The smoke released from using such fuels has been shown to lead to respiratory diseases and lung cancer. The World Health Organization (WHO) lists indoor air pollution as the "leading environmental cause of death in the world," stating that it contributes to two million deaths annually. Cooking with biomass fuels also contributes to climate change: Using biomass fuels releases carbon dioxide (CO₂)

and black carbon into the atmosphere and also plays a role in deforestation.

Improved cooking stoves have been promoted as a simple solution to these problems. Based on their technical design, improved stoves have the potential to reduce emissions, fuel use, and the incidence of pneumonia and other lung diseases. The stoves have gained considerable international attention, and the Global Alliance for Clean Cookstoves has announced a goal of having 100 million households adopt clean cooking technologies by 2020. A randomized evaluation in Guatemala found substantial reductions in smoke exposure indicators when free improved cooking stoves were distributed to 500 women and children, as well as improvements in some dimensions of health (Smith-Sivertsen et al. 2009). However, those results derived from a controlled setting in which households' usage was closely monitored and repairs were provided weekly at no cost. The evaluated stove was also too expensive for households to purchase or for it to be practical for large-scale distribution. Evidence was still needed from real-world conditions: How much would households use and maintain the stoves? Given that level of use, what impact would these stoves have on household health?

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