An Inexpensive and Easily Produced System To Reduce Indoor Air Pollution

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According to the World Health Organization, roughly 2.6 billion people continue to heat and cook using unvented open fires and stoves, fueled by kerosene, biomass (wood, animal dung and crop waste) and coal. Most of these fuels release airborne particulate. This creates Indoor Air Pollution (IAP, also Household Air Pollution), with high levels of tar, particulates, and carbon monoxide. Exposure causes the premature deaths of almost close to 4 million people annually and disproportionally affects women and children due to their primary roles of cooking and cleaning. While approaches exist to reduce Indoor Air Pollution, many of them are too expensive for those who need them the most. Hence, the goal of this experiment is to design and test a cooking system that uses origami-inspired simple fabrication methods to produce an effective and low-cost solution to the IAP problem. Using the experimental results, the per person cost and benefit of the unit system is calculated and then compared against existing solutions to determine its impact and usefulness per person benefited. The economic impact and usefulness of the cooking system is analyzed whether it is positively significant.

Awards Won:

Fourth Award of $500