Household Air Pollution

What are the issues?

Exposure to harmful substances

Poorly ventilated kitchens combined with use of biomass and kerosene fuels increases exposure to household air pollution.

When burnt, the biomass fuel produces smoke that contains hazardous substances such as soot particles and gases that cause immediate and long term health effects.

Dangers to Health

- 18% Strokes
- 27% Ischemic coronary heart disease
- 27% Pneumonia
- 20% Chronic obstructive pulmonary lung disease
- 8% Lung cancer

Each year, close to 4 million people mostly children under 5, die prematurely from illness attributable to household air pollution caused by inefficient biomass cookstoves.

Close to half of deaths due to pneumonia among children under 5 years of age are caused by particulate matter (soot) inhaled from household air pollution.

Environmental impact

Use of biomass for cooking leads to deforestation.

Inefficient biomass stoves can result in incomplete combustion contributing to greenhouse gas production.

What are the measures to reduce and mitigate these impacts?

Emergency

- Request a technical partner to lead a fuel assessment
- Distribute efficient and safe cookstoves and fuels
- Introduce a Behaviour Change Campaign to improve ventilation in kitchens

Transition & Stabilization

- Promote outdoor cooking (where appropriate)
- Raise awareness on the dangers of household air pollution

Durable Solutions

- Work with appropriate partners to encourage competitively priced non-biomass fuel supply and fuel-efficient cookstoves

Lead an information campaign on the importance of cooking in well-ventilated spaces. Studies show this can cut down household air pollution by half.

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Figure 1: Percentage of disease attributed annually to household air pollution
Harmful effects of cooking in poorly ventilated spaces

- Half of the world’s population, mostly in developing countries, rely on cooking and heating using biomass on traditional stoves or open fires. However, burning these fuels produce smoke that has high levels of pollutants, contributing to household air pollution that is dangerous to health.

- In poorly ventilated spaces, the pollutants can exceed the acceptable concentration for Total Suspended Particles (TSP) by more than 100 times the daily recommended exposure rate.

- Four million people die every year from illnesses related to household air pollution. Close to half are pneumonia-related deaths among children under 5 years of age who inhale particulate matter such as soot, inhaled from household air pollution.

- Recent studies show potential direct danger to fetal health as these tiny inhaled particles can penetrate the placenta.

- Household air pollution also causes chronic diseases including stroke, ischemic heart disease, chronic obstructive pulmonary disease (COPD) and lung cancer.

- The concentration of pollutants and resulting damage to health depends on a number of factors such as cookstoves, fuel used, method of cooking, type of structure and ventilation in the kitchen.

- Without a substantial policy change to address these factors, the total number of people exposed to household air pollution arising from lack of access to clean fuels and technologies will remain largely unchanged by 2030.

What are the measures to reduce and mitigate the impact?

- Direct impact measure: Promote and educate ways to ventilate the kitchen during cooking. This measure is relatively low-cost as it involves meeting with the community to share the importance of opening windows and doors during cooking.

- Select and encourage the use of stoves and fuels adapted to the situation based on performance, usability, accessibility and affordability

- Identify targets for air quality and fuel use

- Identify the levels of usage, alternative cookstoves solutions, and ventilation needed to reach the identified targets with the selected technology

- Promote outdoor cooking (where appropriate)

- Avoid the use of unprocessed coal as a household fuel

- Avoid the use of kerosene as a household fuel, in light of concerns about emissions and safety.

- Work with relevant actors to encourage affordable non-biomass fuel supply and appropriate cookstoves

Useful links

- Clean Cooking Alliance HAPIT (Household Air Pollution Intervention Tool)

- WHO Clean Cooking Guidelines

- Quantitative Stove Use and Ventilation Guidance for Behavior Change Strategies