

### **What is a cookstove?**

- Each day nearly 3 billion people rely on solid fuels, such as wood, charcoal, animal dung or crop residue, to cook their food, using traditional cookstoves or open fires in households with little or no ventilation.
- Over 40% of the world's population still burns these various unhealthy forms of fuel.
- Cookstoves commonly used in developing countries involve open fires, which emit dangerous fumes.

### **The Problems**

- This can cause various issues related to health, the environment and women's rights.
  - 4 million people die worldwide each year from exposure to cookstove smoke. A life is claimed every **8 seconds**.
  - The World Health Organization (WHO) estimates that exposure to smoke from the simple act of cooking is the **5th** worst risk factor for disease in developing countries, and causes almost **2** million premature deaths per year – exceeding deaths attributable to malaria or tuberculosis.

### **The Solution**

- Clean cookstove technologies, fuels, equipment, and practices can decrease the health and environmental impacts associated with traditional cookstoves.
- Solutions range from basic cookstoves that burn solid fuels such as biomass or dung more efficiently to much more advanced cookstoves that burn ultra-clean fuels such as ethanol or liquid petroleum gas, and those that use fuels with no environmental or health impact such as solar.
- Clean, efficient, durable, safe, and affordable stoves are – along with clean fuels and other products like chimneys and heat retention cookers – central to decreasing the health, environmental, and other risks inherent in cooking with fire.

## **Women**

- Women are disproportionately impacted by the risks caused by use of open fires and traditional cookstoves because women are generally responsible for cooking and fuel collection in developing nations. In fact, cooking has become one of the most dangerous daily activities for women in the developing world.
- Women and girls are also typically responsible for collecting fuel to cook the family meals. They often travel long distances alone to search for firewood and other traditional fuels, putting them at increased risk of gender-based violence, particularly in conflict areas and in vulnerable living situations.
- Furthermore, time spent collecting fuel decreases the time women and girls have for income-generation, education or other activities that would contribute to improving their living situations.
- Because women are the main users of cookstoves, they can play crucial roles in the adoption and use of clean cookstoves.
- Because women and girls use 90 percent of their income in ways that benefit their families and communities – compared to 30 - 40 percent for men – their significant capacity to reduce global poverty is chief among the aggregate economic benefits associated with the use of clean cookstoves.

## **Health**

- Chronic exposure to smoke from traditional cooking practices is one of the world's biggest – but least well-known – killers.
- Penetrating deep into the lungs of its victims, smoke causes a range of deadly chronic and acute health effects such as:
  - child pneumonia, lung cancer, chronic obstructive pulmonary disease, heart disease, and low birth-weight in children born to mothers who breathe smoke from open fires and traditional cookstoves during pregnancy
  - Exposure to smoke is greatest among women and young children, who spend the most time near open fires or traditional cookstoves tending to the family meal.

- Rudimentary wood-fired cookstoves and open fires emit fine particles, carbon monoxide, and other pollutants at levels up to 100 times higher than the recommended limits set by WHO .
- Burns from open fires and unsafe cookstoves are another risk faced by poor households dependent on kerosene, open fires, and unstable cookstoves, contributing to a substantial percentage of the estimated 300,000 burn deaths that occur annually.

## The Environment

- Nearly 3 billion people each day cook on open fires or rudimentary cookstoves that are fueled by coal or solid biomass such as wood. Reliance on polluting cookstoves and fuels leads to a wide variety of environmental problems.
- Using wood or coal as fuels depletes forests, which weakens the soil causing mudslides and destroying agricultural land; and jeopardizes human health and household and community air quality through toxic smoke emissions.



Credit: University of California, San Diego