

REDUCING KITCHEN SMOKE

What is this Action Sheet about?

Most people in Africa cook with wood or charcoal, fuels which can produce a lot of smoke. Everyone knows how uncomfortable it is inside a hot and smoky kitchen. The bad news is that breathing in too much smoke can also cause serious lung diseases. If your kitchen is smoky and you or your children are coughing and wheezing, this Action Sheet is for you. Fortunately, as you will discover, there are many things you can do to improve the air inside your house.

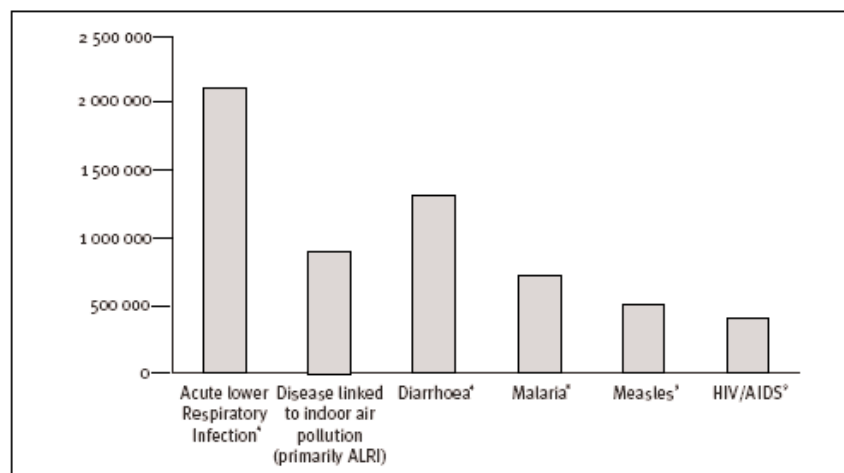
What is the problem?



(Image: Sarah Watson, PACE)

When solid biomass - wood, charcoal, husks of maize, straw, sticks and wood shavings - is burnt, smoke, soot and gases are produced. When tiny particles of soot get into your lungs, they can make you ill. Breathing too much smoke every day can lead to pneumonia, bronchitis and emphysema. Smoke and soot also make your house, your children and your clothes dirty, adding to the burden of everyday life.

It's a serious problem. Each year, more than 2 million people die from indoor smoke pollution worldwide. Women and children who spend a lot of time in the kitchen suffer the most.



Deaths in children under five by various causes
(Image: ITDG, Source: World Health Organisation)

Why is it worth taking action?

Whatever you can do to reduce smoke in your kitchen will:

- Help improve your family's health
- Make your kitchen a nicer place to work
- Let children do their homework inside without getting a headache

Less smoky cooking often means using less fuel, so you could also save time and money!

What can people do about smoky houses?



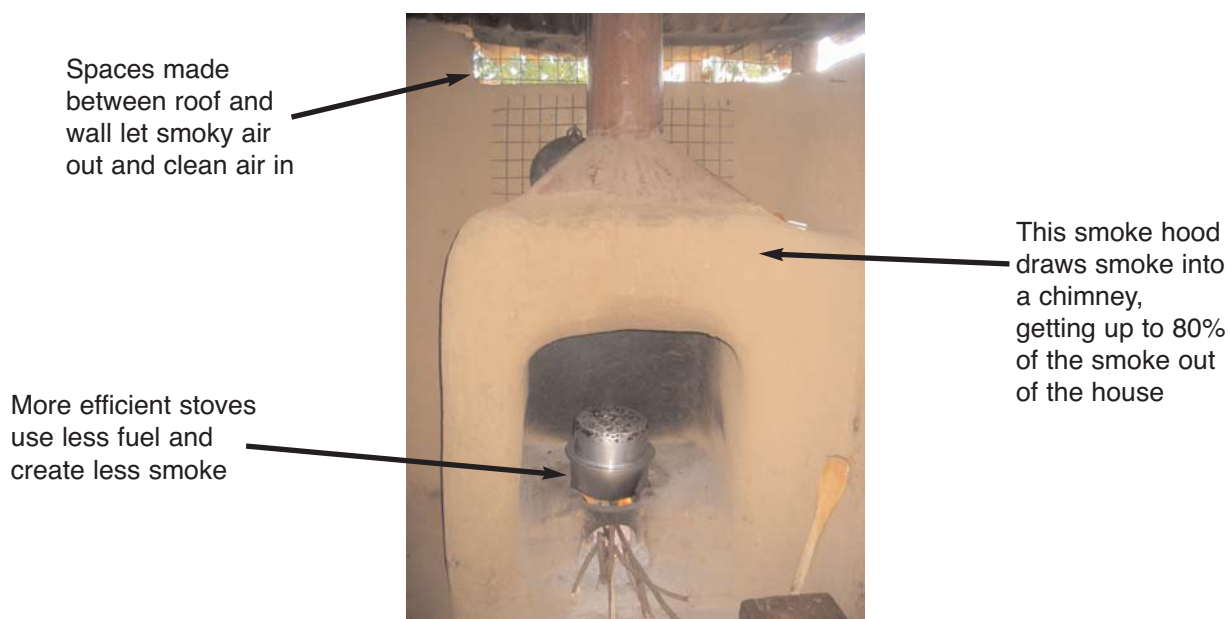
Baby in cradle near to the eaves, away from the smoke

(Image: ITDG, Sudan)

These are simple things that you can do straight away to help you breath more easily. They cost very little money but may take time to get used to.

Change your cooking area	Change your fuel preparation	Change your habits
Cook outside on a sheltered fire	Use less fuel (See Action Sheet 58 – Fuel Savers). For example, dry your fuelwood and do not burn 'green' wood*	Keep away from the fire as much as possible Keep children out of the smoke by avoiding carrying them on your back when cooking or having them stay away from the kitchen.

*This is because damp fuel reduces the heat within the fire as energy is used to heat up the water in the wood before it burns, so more wood is burnt to heat the same amount of food, and more smoke is produced.



Ways to stop smoke - the silent killer (Image: Sarah Watson, PACE)

If you want really healthy indoor air, investigate the following options.

Cost	Changes to the cooking area	Changes to fuels used	Changes in daily life
Medium	Use an improved stove (eg. Upesi stove, rocket stove) and improve the flow of air through the house by enlarging the eaves space Total cost (\$16) See Action Sheet 62	Use a fireless haybox cooker or solar cooker (\$0 - \$9) <i>A fireless cooker can be improvised from easy to find materials</i> See Action Sheets 59 and 60	Identify a safe place for children and babies to stay away from the cooking fire
Higher	Build an improved kitchen, including an improved stove and smoke hood (Total cost: \$39 - \$70) See Action Sheet 63 <i>If you live in a place where you need to keep the heat in the house at night, investigate insulating your house with locally available materials (See Action Sheet 69)</i>	Cook with an LP gas stove (\$46) or solar stove (costs vary) Charcoal is less smoky than firewood, but important forest resources can be threatened by charcoal production	Get used to cooking with different fuel types and equipment Spend less time in the kitchen – <i>this will be easier with better fuel burning techniques as food will cook more quickly hence reducing your exposure to smoke</i>

(The costs in brackets were the average costs in Kenya in 2004, converted into US\$).

Doesn't opening a hole in the eaves space let insects into the house?

People who have made a small window between the roof and walls of their house do find that mosquitoes get into the house more easily. If people sleep in the kitchen, this can make them more likely to catch malaria. Rain and cold air can also get in through the eaves space. The solution to this is to attach shutters, which can be closed at night after the fire dies down.

Where can I find out more?

Now that people recognise the dangers of indoor smoke, you may find that local health organisations are willing to advise on kitchen improvements. People can get together to set up a revolving fund or other credit system to pay for the costs of installation. When the first household has paid the costs back, the next household gets a loan for installation, and so on.

ACKNOWLEDGEMENTS: This Action Sheet was prepared by Nancy Gladstone, and reviewed by Liz Bates and Hellen Owala of Practical Action, and is based on Practical Action (formerly known as ITDG) Report on Indoor Air Pollution SMOKE – THE KILLER IN THE KITCHEN www.itdg.org/?id=smoke_report_home

FOR MORE INFORMATION

CONTACT

Practical Action (formerly known as ITDG) - www.practicalaction.org

WEBSITES

World Health Organization – www.who.int/indoorair/en

Sparknet - sparknet.info - Knowledge network on Energy for Low Income Households in Southern and East Africa

HEDON - hedon.info

BOOKS

Appropriate Household Energy Technology Development Training manual by Lydia Muchiri and May Sengendo, IT Kenya, 1999 (Available from www.developmentbookshop.com)