



Cookery lessons:

an engineer's observations on the role of participation
in the uptake of improved cook stoves
in sub-Saharan Africa

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What's the difference between an engineer and a social scientist?





“Lacking fuel for cooking, many people in the Niger Delta resort to using the heat from pipeline gas flares. A child dries cassava over burning gas.”

“Gas is flared at a flow station owned by Italian oil company Agip in the Niger Delta, near the Akala-Olu community. As well as causing health problems and distress for people living nearby, gas flaring in Niger Delta is a also major source of CO₂ emissions.”





“The Delta State government is working closely with HydroChem of Linde AG, a technical partner on the Project Gaia team, to develop a natural gas-to-methanol plant to capture this untapped energy. **Project Gaia is working with the NEPAD Pan-Africa Cassava Initiative to convert flared gas to methanol** by building a methanol plant to provide alcohol fuel for alcohol stove users.”



Solar Cookers International (SCI), an American NGO, is one of Practical Action's 'partner' organisations working to promote alternative cooking technologies such as this solar box cooker displayed in front of the Practical Action exhibition stand

The men in particular were very interested in SCI's solar dish cooker. I thought it might have something to do with the fact that the dish looked like an oversized technical gadget. The locals manning the Practical Action stand saw it differently – someone thought the crowd was simply mystified by the 'magic' of the idea that the sun could cook



What's so bad about cooking on wood stoves?

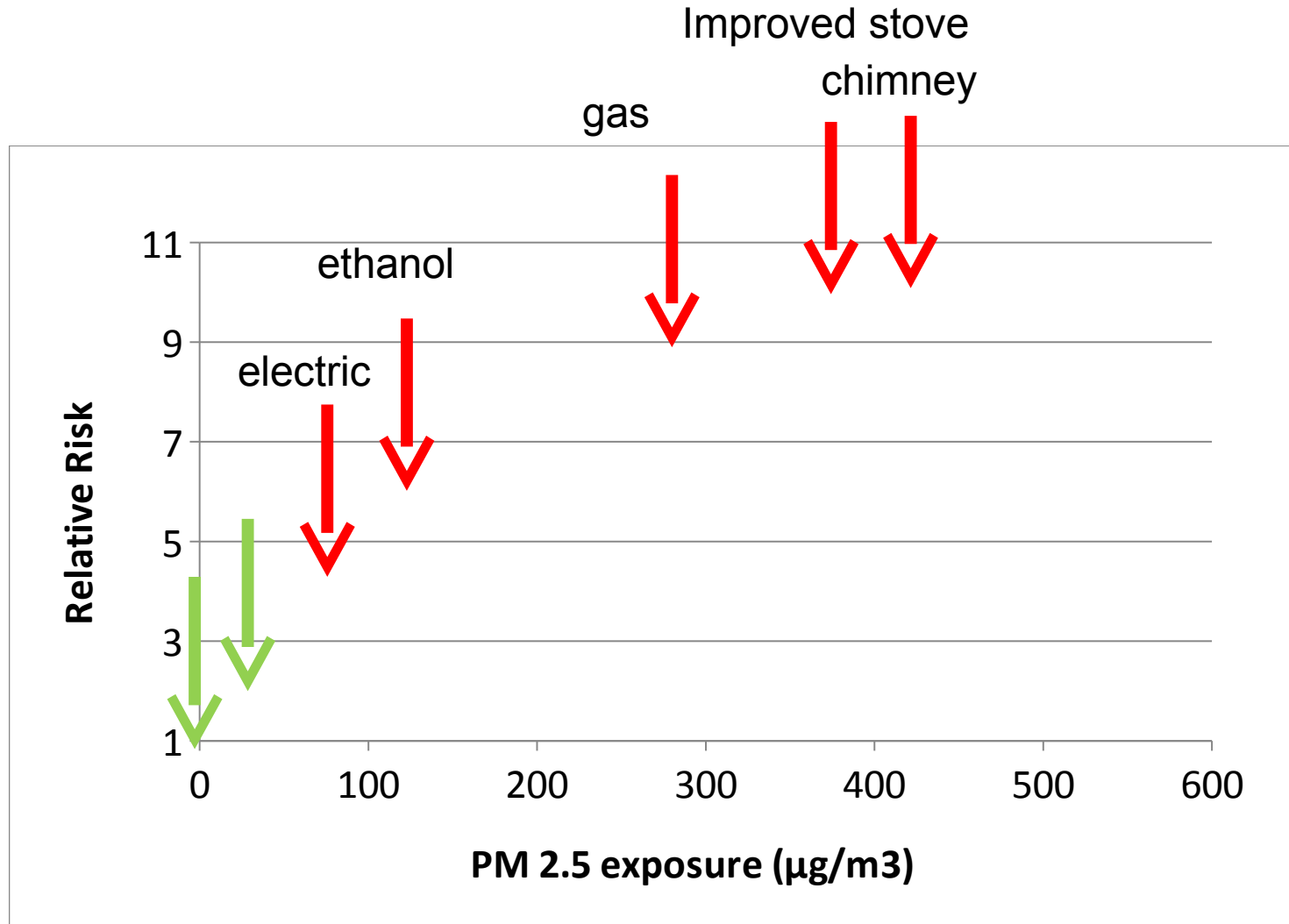
- Deforestation
- Indoor air pollution
- CO2 emissions  climate change



Indoor Air Pollution Levels

Stove Type / intervention	PM 2.5 µg/m ³
Open fire	1000+
Chimney	400
Improved stove	380
Gas	280
Ethanol	120
Electric	80
WHO short-term exposure guideline	35
WHO annual air quality guideline	10



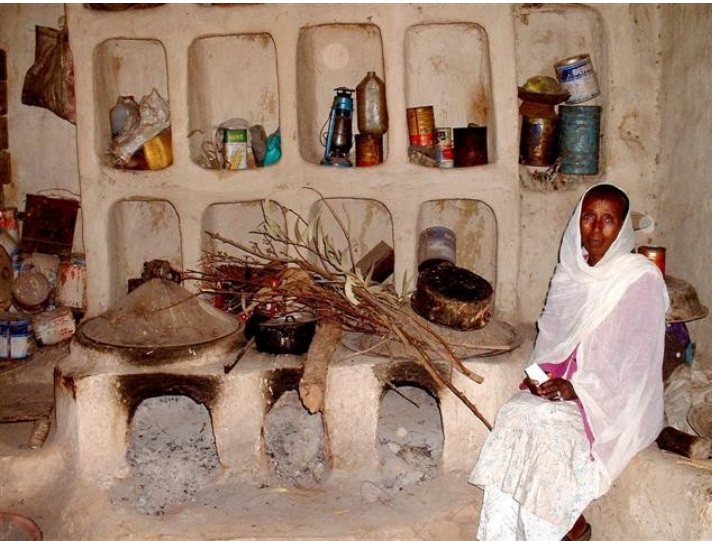
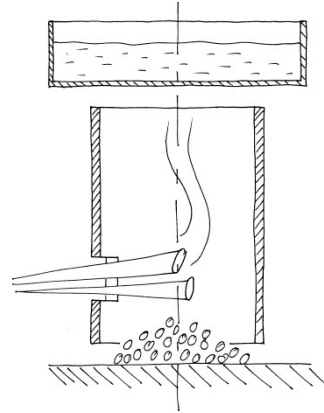


WHO Air Quality Guidelines

What's not so bad about cooking on wood stoves?

- Sustainable fuel
- Culturally appropriate
- “Free” resource





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Understanding the barriers to the introduction and uptake of clean/ improved Cookstoves in southern Africa

Mike Clifford, Sarah Jewitt, Charlotte Ray

Project Partners

- Practical Action
- Energy Research Centre (ERC)
- Centre of Energy and Environment, University of Zambia (CEEZ)
- Lilongwe University of Agriculture and Natural Resources (LUANAR)
- Ashden
- HEDON
- Centre of Petroleum, Energy Economics and Law (CPEEL) University of Ibadan, Nigeria



"No society has ever yet been able to handle the temptations of technology to mastery, to waste, to exuberance, to exploration and exploitation. We have to learn to cherish this earth and cherish it as something that's fragile... We have to use our scientific knowledge to correct the dangers that have come from science and technology."

Margaret Mead

