

Opinion

Cleaner air for every household

By Bjorn Lomborg

COOKING over an open fire or with traditional stoves is widely practised in Ghana, but these common methods carry serious risks. Emissions caused by the use of solid fuels such as wood, coal and charcoal are one of the leading health concerns in many developing countries.

Globally, more than 1.6 million people died in 2017 from diseases related to poor household air quality and in Ghana, 10,000 lives are lost to this cause annually.

As much as 78 per cent of the population relies on charcoal and wood as primary cooking fuels, only 21 per cent use liquefied petroleum gas (LPG),

a much cleaner cooking method.

Reliance on solid fuels is even greater in rural areas because of the large distances to refill stations: while 35 per cent of people in urban settings use LPG, the same is only true for six per cent of the rural population.

Using solid cooking fuels also affects surrounding households, given that smoke is vented out which pollutes the outdoor air. All of this makes improved cooking methods an important public health issue that should be addressed now that Ghana is on a path of continuous economic growth and development.

Role

The government's role is to direct public spending in ways that improve the lives of the population. However,

there are many areas where spending could be increased, and it's crucial to define which initiatives would have the biggest impact on health and quality of life for each cedi spent.

That is why Ghana Priorities, a collaboration between the National Development Planning Commission and the Copenhagen Consensus, set out to identify the most cost-effective policies for the country.

With so many possibilities from education to poverty reduction to health services, where would improvements have the biggest impact on well-being? Since the beginning of last year, 28 teams of renowned national and international economists have studied different initiatives to increase the cost-effectiveness of public spending and their analyses are being published in the following weeks.

To reduce the use of harmful cooking methods in Ghana, Maxwell Dalaba from the Navrongo Health Research Centre, independent consultant Bjorn Larsen and Brad Wong from the Copenhagen Consensus evaluated the costs and benefits of three policy interventions to improve household air quality for all Ghanaians: cylinder recirculation and a new distribution system of LPG in rural areas, elimination of taxes on LPG and promotion of Gyapa stoves, improved fuelwood and charcoal cookstoves.

Estimates

In rural Ghana, clean cooking fuels are often difficult to access. The study estimates that for rural Ghanaians, having to travel to refill stations effectively increases the costs of LPG by 50 per cent. The researchers studied the effect of introducing a cylinder recirculation model which would enable operators to transport LPG cylinders from the city so that they could be sold in local stores in rural areas.

The initiative would expand the proportion of the rural population using clean cooking fuels from six per cent to 17 per cent, equivalent to nearly

800,000 households. This would save 181 lives per year and deliver economic benefits from fuel savings along with reduced cooking and travelling time.

The benefits are worth almost GH¢ 5,000 per household over 10 years. The costs are estimated at GH¢ 2,300 per household, mostly in the form of LPG fuel. This means every cedi spent on this initiative will bring a return twice as high in social and economic benefits.

The researchers also studied the effect of removing the 23 per cent value-added tax, which serves to reduce the affordability and use of LPG. The intervention would lead to 391,000 urban households and 80,000 rural households switching to LPG. This change, in turn, would help reduce deaths by 193 per year, while delivering

significant time and fuel savings for the beneficiaries.

The health improvements, savings and reduced cooking time are estimated to be worth GH¢ 12,500 per household over 10 years. However, the intervention would cost GH¢ 6,400 per household, including lost government revenues of nearly GH¢190m annually. Overall, the initiative would generate benefits 1.9 times higher than the

original investment.

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Gyapa stoves

The researchers finally investigated the effect of changing from traditional cookstoves or open fire to improved, more energy-efficient Gyapa stoves that generate less smoke. They found that if 565,000 households switched to improved stoves, 186 deaths would be avoided per year.

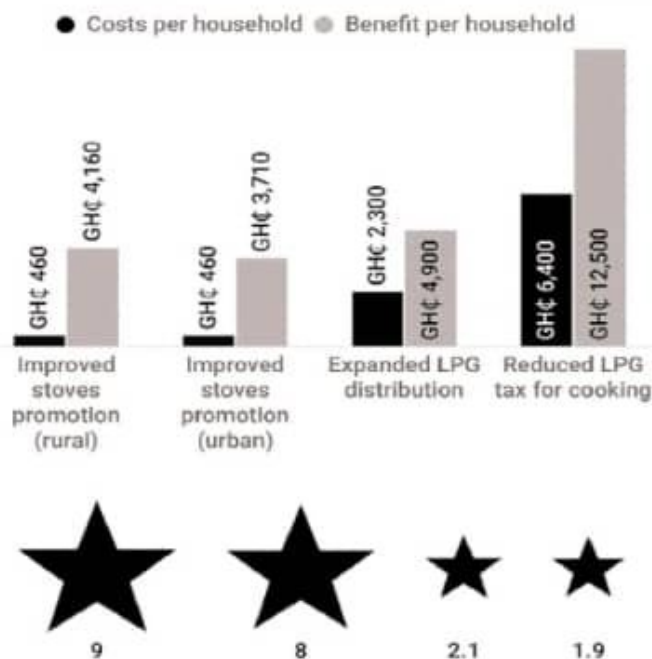
The savings made in fuel, time and improved health for this initiative are estimated to be GH¢3,710 for an urban household switching to an improved charcoal stove and GH¢4,160 for a rural household currently using traditional wood stoves or open fire, eight and nine times the modest initial investment of GH¢460 per beneficiary.

Promotion of improved charcoal and fuelwood cookstoves deliver the highest benefits from each cedi spent and it is a good intermediate solution, thanks to its low cost.

LPG or other clean cooking solutions can deliver larger health benefits per household, but at much higher costs. Overall, these initiatives offer decision-makers, valuable new options to effectively improve air quality and save lives.

The writer is the President of the Copenhagen Consensus and a Visiting Professor at Copenhagen Business School.

Reduce household air pollution



Value for money (benefit-cost ratio)

Source: Author's paper