

Addressing climate change through clean cooking

By Kofi Ahovi

Millions of women, in developing countries, breathe in harmful smoke daily while cooking their families' meals and walking far distances to secure fuel in order to cook those meals. Exposure to smoke from traditional cookstoves and open fires, the primary means of cooking for nearly three billion people in the developing world, causes nearly four million premature deaths each year, including 18,000 annual deaths in Ghana, and millions more suffer from cancer, pneumonia, heart and lung disease, blindness, and burns.

More than 70 percent of Ghana's population relies on solid fuels for their household cooking needs. Reliance on biomass increases pressure on local natural resources, leading to environmental degradation, and forces women and children to spend many hours each week collecting wood. Inefficient cooking also contributes to climate change through emissions of greenhouse gases such as carbon dioxide and methane, and aerosols such as black carbon.

Exposure to smoke from cooking contributes to a range of chronic illnesses and acute health impacts such as early childhood pneumonia, emphysema, cataracts, lung cancer, bronchitis, cardiovascular disease, and low birth weight. Women and young children are the most affected, with more than 2,200 children in Ghana dying every year as a result of acute lower respiratory infections caused by the use of solid fuels.

Studies have shown that burning solid fuels in inefficient cookstoves releases toxic pollutants into the air leading to levels of household air pollution which often far exceed World Health Organization health-based guidelines. Unfortunately, the potential for harm does not stop when smoke leaves the home. Instead, in many areas, fine particulate emissions from household cooking with solid fuels are a major source of ambient (outdoor) air pollution. Household air pollution accounts for 12% of ambient air pollution globally and up to 30% of ambient air pollution in areas of South Asia and China. The ambient pollution which occurs as a result of household cooking with solid fuels has major implications for both human health and the environment.

The National Coordinator for Ghana Alliance for Clean Cookstoves and Fuels (GHACCO), Mr. Raymond Kusorgbor indicated that, in addition to air pollution, burning solid fuels releases emissions of some of the most important contributors to global climate change: carbon dioxide, methane, black carbon, and other short-lived climate pollutants (SLCPs). Unsustainable wood harvesting also contributes to loss of biodiversity and forest degradation, reducing carbon uptake by forests.

Black carbon, which results from incomplete combustion, is estimated to contribute the equivalent of 25 to 50% of carbon dioxide warming globally, and residential solid fuel burning accounts for up to 25% of global black carbon emissions, about 84% of which is from

households in developing countries. In South Asia, for example, more than half of black carbon comes from the use of inefficient cookstoves.

When produced from sustainably managed woodlots, charcoal production can play a positive role in an agroforestry system. However, the unsustainable harvesting of wood for charcoal production can contribute to forest degradation. In some countries, the reliance on wood fuel – in the form of wood or wood charcoal - for cooking has led to a decline in the quality of forests. Degraded lands lead to losses in biodiversity, erosion control, and storm flow regulation (flood protection). Forest degradation contributes to climate change and can also lead to desertification.

Clean Cooking Can Help

But if families are purchasing fuel, an improved cookstove or fuel that is 30 percent more efficient than a traditional stove can save enough money to send two children to school. Also, the time spent collecting fuel and preparing and cooking food can take hours, a reduction of which can allow women to complete other responsibilities and pursue income-generating opportunities, education, and rest as they wish.

The Programme Manager for the Voice for Change (V4C) Partnership programme being implemented by the Netherland Development Organization, Mr. Eric Banye, noted that the use of clean, safe, and efficient cookstoves can dramatically reduce fuel consumption and exposure to harmful smoke, can provide myriad economic opportunities for Ghanaians, and can provide many environmental and climate benefits. “More efficient stoves also reduce the time people, usually women and girls, need to spend collecting fuel, allowing greater time to devote to income generating activities or schoolwork,” he noted.

Many of today’s more efficient cookstoves have been shown to reduce fuel use by 30-60%, resulting in fewer greenhouse gas and black carbon emissions and reducing impacts on forests, habitats, and biodiversity.

Recent evidence also demonstrates that advanced (efficient and low emission) cookstoves and fuels can reduce black carbon emissions by 50-90%. Since the atmospheric lifetime of black carbon is only a few days, reducing black carbon emissions can bring about a more rapid climate response than reductions in carbon dioxide and other long-lived greenhouse gases alone. In addition to having an immediate impact on the climate, reducing black carbon emissions would have a regional effect.

Studies show that controlling both short-lived climate pollutants and long-lived greenhouse gases can increase the chances of limiting global temperature rise to below 2°C, a long-term international goal for avoiding the most dangerous impacts of climate change.

Prominent people join campaign

Prominent people have joined the campaign for a clean cooking system and Ghana's second lady H.E. Mrs Hadjia Samira Bawumia is the latest Ambassador to join the Global Alliance for Clean Cookstoves. Mrs. Bawumia joins former UN Secretary General Kofi Annan, Academy Award-winning actor Julia Roberts, and Grammy-nominated musician Rocky Dawuni to work with the Alliance and its partners to raise awareness of household air pollution and encourage broader adoption of clean cooking solutions in developing countries.

In Ghana, eight out of ten people cook with solid fuels such as wood and charcoal, leading to significant impacts on health, gender equality, and the environment. The toxic emissions from cooking this way leads to nearly 20,000 premature deaths each year.

“Across Ghana, I have seen the widespread impacts of cooking first hand, especially among girls and women,” said Mrs. Bawumia when she was made ambassador for clean cookstoves. “I look forward to using my voice and passion to help the Global Alliance increase the use of cleaner cooking solutions and to ensure that cooking no longer kills.”

Policy needed

Mr. Dramani Bukari, Energy Advisor to SNV, on his part noted that in spite of the fact that there were civil society organizations like GHACCO advocating clean and efficient cooking methods, there was the need for a coherent policy for the sector to streamline and coordinate activities of partners to optimize impact.

Mr. Bukari further suggested that government should consider providing improved cookstoves to public schools so that it would help reduce emissions, and check atmospheric and thermal levels. He added that LPG should not be the only alternative for cooking for people living in communities; hence improved stoves with less concentration on heat and reduced smoke that use less wood should be promoted.

Addressing unemployment

Mr. Kusorgbor noted that the sector, when given the needed support, has the potential of engaging majority of the unemployed youth in the production of improved cookstoves and fuels. “The production of these clean cookstoves is labour intensive and when given the necessary boost can employ almost half of the jobless youth in the country.