Burning banana peels to provide clean indoor cooking and heating

Spotlight on Uganda

Issue

In Uganda, especially in rural areas where communities cannot afford to buy propane gas or electricity, cooking often requires long hours spent collecting increasingly scarce and therefore expensive wood. More than 95% of Ugandan households rely on wood and charcoal for lighting and cooking.\(^1\) Aside from the rapid rate of deforestation and desertification to which using wood for indoor cooking and heating produces—one of the key environmental degradation issues affecting the continent of Africa—smoke caused indoor air pollution is detrimental to the environment and children’s health. Indoor air pollution is the single largest environmental risk factor for female mortality and the leading killer of children under the age of 5 worldwide. As many as half a million sub-Saharan African women and children die prematurely each year due to respiratory disease cause by smoke inhalation.\(^2\) It is estimated that charcoal and wood burning across Africa will contribute as much as 7 billion tons of greenhouse gases into the atmosphere by 2050.\(^3\)

Action

In order to protect children’s health and improve environmental sustainability, UNICEF Uganda has partnered with scientists at the Ugandan Industrial Research Institute (UIRI) to produce clean charcoal briquettes from dried banana waste. Briquettes are man made alternatives using agricultural—in this case, bananas--waste sawdust and soil. They are a low cost alternative to environmentally damaging fuels. They are similar in appearance to regular charcoal and can be used in exactly the same manner.

More than 75% of all farmers grow bananas, the country's staple food.\(^4\) Uganda is the world’s second largest banana producer. Bananas also have high caloric value and burn efficiently. These facts help make the case for scientists and UNICEF to use bananas as fuel briquettes. Banana briquettes are smoke-free and last three times longer than charcoal, enabling significant cost savings.

Results

Banana briquettes provide many advantages for children. Although still in the pilot phase, banana briquettes have demonstrated great potential to help families save money, while reducing demand for wood and charcoal to cook and heat inside homes and, thus, reduce indoor air pollution and emissions of green house gases. Banana briquettes are poised to catalyze income production and environmental stewardship, while protecting public health.

UNICEF Uganda is advancing sustainable technology through banana briquettes while supporting community development. Reducing waste is also a major benefit. The feedstock for the fuel comes from discarded agricultural residues, sawdust, and from other biomass that is pervasive, while presently being discarded to waste. Using discarded banana peels to turn briquettes into create clean, affordable and green energy provides another example of UNICEF’s work to advance children’s rights while combating climate change and protecting the environment.

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\(^1\) South Pole Carbon, 2013
\(^2\) Climate Wire, 2012
\(^3\) Climate Wire, 2012
\(^4\) WHO, 2012

Key words: deforestation and desertification; green energy; waste management; sustainability