Fighting bushfires and climate change: Millar Open University leads way for grass economy

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The five regions of Northern Ghana have only one farming season due to the rainfall pattern in the area. Harmattan sets in immediately after the rains when farmers harvest and thresh their products.

Background

Annually, many farmers in Northern Ghana, particularly Upper East, Upper West, North East, Northern and Savannah Regions lose their farm produce to bushfires and the phenomenon has constantly threatened the toils and livelihoods of farmers and their families in the area.

For instance, the Northern Region alone lost more than GH₵60 million to bushfires in 2015 through the destruction of farms and property, according to the Savannah Accelerated Agriculture Authority (SADA).

In 2019, 400 hectares of rice farms along the Fumbisi-Gbedembilisi-Yagaba rice valleys in the Upper East and Northeast Regions were destroyed by bushfires.

Similarly, in November 2022, some farmers at Gbiligu, a farming community near Walewale in the West Mamprusi Municipal also lost their farm produce and houses to bushfires.

Mr Tahiru Tia Mohammed, a farmer at the Gbiligu Ecological Farms told the Ghana News Agency that he lost about 2.9 hectares of rice, 0.6 hectares of soyabeans, 0.4 hectares of maize and 0.2 hectares of beans while his friend lost about 2.5 hectares of rice to fire in the 2022 farming season.

“It is going to be challenging because we depend solely on the farm. It is only the maize that we have been able to harvest some, but we have not even started harvesting the rice and the fire has come to burn everything, so it is going to be hard in terms of what we will be eating till next farming season,” he lamented.

Apart from farmlands that are constantly being destroyed by the wildfires affecting agriculture production and posing threat to food security across the regions of the North, forests and major vegetation covers have also been destroyed.

A visit by the GNA to the Tilli Forest and the Western Wildlife Corridor observed that the forests were ravaged by wildfires, with all grasses and vegetation cover consumed by wildfires leaving bare trees and the White Volta and the Sissili Rivers and other water bodies exposed to intense heat and pressures.

Some stakeholders have also attributed the failure of some forest and landscape restoration programmes and projects particularly the recent Green Ghana Project to the annual bushfires recorded in many parts of the country.

Also, bushfires have been one of the causes of carbon emissions which have over the years contributed to the challenges of climate change, currently experienced especially in Northern Ghana and threatening agricultural production and access to safe drinking water.

Climate change issues are currently topical in the agenda of many governments including Ghana, but bushfires continue to be a bane to addressing the challenges.

Grass Charcoal Production

Bushfires and climate change can be addressed when grasses are monetized with economic value placed on them to enable people earn income from harvesting, selling and adding value to them.

The Millar Institute for Transdisciplinary and Development Studies (MITDS), also known as Millar Open University in Bolgatanga in the Upper East Region is working to address the menace of bushfires and climate change through the production of charcoal from grass, known as briquetting.

Briquetting is a process where grass, saw dust and human waste are compressed under high pressure to form solid substance (briquette) that can be used as fuel for heating purposes.

The Grass Briquettes Technology, which had been at research level for the past 10 years, has now been practicalised with charcoal production.

The technology involves the use of grass, considered as nuisance, as raw materials to produce quality charcoal, to serve as alternative to tree charcoal.

The University has a demonstration field, where grass is being cultivated and used to produce charcoal.

Professor David Millar, President of the Millar Open University told the GNA in an interview that the Grass Briquettes Technology was born out of numerous technologies aimed at finding effective ways of controlling the annual bushfires especially in Northern Ghana.

He said the technology was the best solution to challenge the management of annual bushfires, environmental reclamation and it is cost effective and easier to practise compared to charcoal trees.

“Huge sums of money have gone into various management schemes and lots of equipment provided but all that have not yielded any impact. Meanwhile, more effort is going in there and the destructive effects of the bushfires are known for negatively affecting agriculture, natural resources, climate, water bodies, wildlife, and everything.

“So, as an institute located here, we decided to look for alternatives that can be offered because all the laws formulated by government are not working, so the technique was to transform grass which is seen as nuisance or waste into something that has economic and market value because we think that if we put monetary value on an item that is being destroyed, there will be less destruction,” he said.

Professor Millar noted that the Briquettes Technology had existed for years and tried in different countries; however, research showed that the technology had not been done with grass.

Building Grass economy and improving livelihoods

Professor Millar said the technology had been piloted in six communities in the Upper East, Upper West, and Bono Regions, where groups were trained to produce charcoal using grass and noted that the communities adopted the technology and were practicing it.

Professor Millar explained that when the technology was considered, adopted, and scaled up, it would not only help replace the charcoal tree but would help grow local and national economies and help fight poverty.

He said because farmers particularly those in Northern Ghana saw grass to be waste, they burn them resulting in destruction of farmlands and adversely affecting food production.

He said the only way left to fight bushfires was to create motivation around grass and educate people to see grass as major economic earner and added that it would compel people to protect them for their benefits.

“If it gains currency, people could sell the grass and there could be a grass market for people to be selling while there will also be value addition and transformation of the grass into energy in the form of charcoal and eventually replace the tree charcoal.

“People can also be established to produce charcoal as alternative source of employment and this is where the One District One Factory policy comes in but, in this case, it will be one factory but multiple districts,” he added.
He said through the technology, grass can also be used to produce ceiling cards, toilet rolls, paper bags which was environmentally friendly and will help fight the plastic menace.

Bushfires and climate change

The United Nations Sustainable Development Goals (SDGs) particularly goals 13 places emphasis on member countries to take action to protect the climate, which had significant impact in achieving many of the SDGs including goals, one two, three, six, 14 and 15.

Ghana in its response, has implemented a few strategies including the Sustainable Land and Water Management Project (SLWMP), now known as the Ghana Landscape Restoration and Small-Scale Mining Project (GLRSSMP), Youth in Afforestation, Green Ghana Initiative, among others.

Huge sums of money have been sunk to empower institutions and individuals to green the country particularly through tree planting over the years but the country is yet to yield any results with most of the trees dying due to lack of nurturing.

Professor Millar noted that many water bodies have dried up, vegetation cover among others have also been endangered by bushfires and noted government policies on tree planting and regeneration policies at strengthening efforts to mitigate climate change would only yield meaningful results if steps were taken to control bushfires.

He said besides the destruction of the vegetative cover, bush burning also contributed towards the carbon imbalances due to the smoke it produced, adding “but the sequestrations should happen and one thing that can sequester a lot of carbon is grass. So, if you place emphasis on grass and they stop burning it you will be sequestering more carbon than trees.

He stated that indigenous tree species such as baobab, shea and dawadawa among others were also being burnt to produce charcoal and noted that investing in the production of grass charcoal will help reduce the reliance on tree charcoal.

“So, for me, this technology is stronger than all the technologies witnessed so far. I have lived through all of them, preventive actions are not working, tree planting or reclamation is not working, and it does not stop the people from burning. So, the best bet so far to fighting climate change is to deal with the bushfire issue.”

Professor Millar therefore advocated that government through policy direction needed to create the enabling environment for the innovation to be scaled up to many communities as part of landscape and forest restoration strategies.