

THE BIG HEAD

The World Environment Day was marked June 5 under the theme: *Beat plastic pollution*. As part of the month-long campaign on the dangers of plastic waste, today Agnes Kyotalengerire analyses the challenge of proper disposal of plastic waste

The children cheer as the heap of garbage bursts into flames sending plumes of black smoke into the sky. "Grand ma, (cough, cough) see, see we have burnt all... all (cough, cough) the rubbish including the big *buveeras* (plastic bags) and the heap of plastic containers (cough cough)." Irene Nakitto, 10, chokes as she gives feedback to their caregiver of what they felt was a successful cleaning exercise.



Pupils burning waste containing buveera. These emit harmful fumes which are dangerous to one's health. Photos by Agnes Kyotalengerire

The risks

Oblivious to the children and many Ugandans, open burning of plastic waste releases carcinogenic (cancer-causing) gases into the air.

The practice of burning garbage, including plastic and polythene waste, is common in many homes, especially in urban areas.

However, Emmerly Mbaha, the president of the Environmental Health Workers' Association of Uganda (EHWAU) warns that disposal of plastic and polythene waste through burning is only safe in temperatures of between 800°C and 1000°C in incinerators.

"The entire country has only two such incinerators; one in Nakasongola Military base and another in Mukono. The rest of what we call incinerators are just burning chambers because they do not meet the required temperatures of burning plastics," Mbaha said.

Kampala city, which generates over 1,000 tonnes of garbage daily, including plastic and polythene waste, has no incinerator. Instead, all the solid waste is taken to a landfill at Kiteezi for management, a Kampala Capital City Authority (KCCA) official who preferred anonymity says.

Expert's view

Dr James Kafero, a clinical officer at the Uganda Cancer Institute, Mulago, says *buveera* and other plastics consist of polymers which become toxic when subjected to high temperatures.

Explaining the composition of polymers, Kafero says poly simply means so many hydrocarbons brought together to form a complex compound.

"When you burn the *buveera*, you are decomposing and breaking them down into simpler molecules that can be inhaled causing respiratory problems. If broken down further they can easily be absorbed into the body causing chemical reaction," he

Kafero explains that their ability to penetrate the human cell and mutate (rapidly change form) is a recipe for numerous cancers.

"The big hydrocarbonic compounds are not usually easily taken up into the body. But if further broken down, they can easily combine with other body molecules or free radicals to change form, thus, causing cancer," he explains.

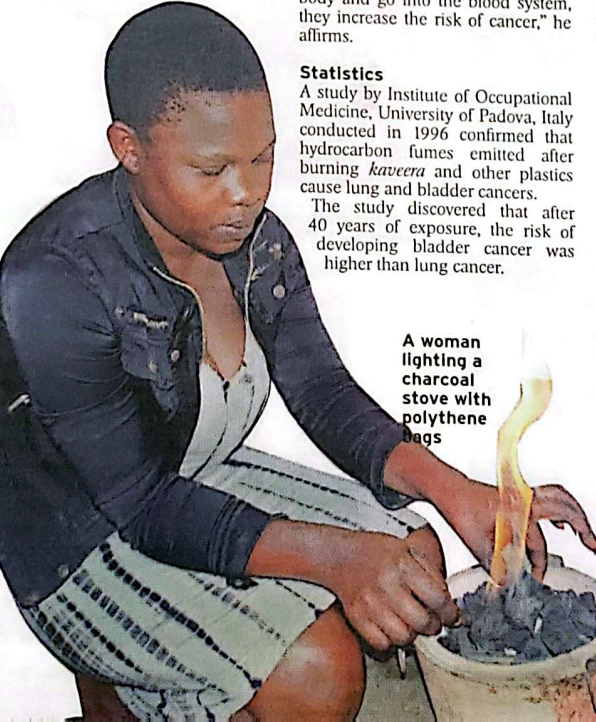
When burnt below the recommended temperatures, Mbaha says plastics and polythene waste release fumes containing dangerous chemicals such as dioxins, polychloro bi'phenols (PCBs), phthalates and Bisphenol 'A'. All these chemicals, Mbaha says, are carcinogenic and associated with birth defects.

"Once the chemicals enter the body and go into the blood system, they increase the risk of cancer," he affirms.

Statistics

A study by Institute of Occupational Medicine, University of Padova, Italy conducted in 1996 confirmed that hydrocarbon fumes emitted after burning *kaveera* and other plastics cause lung and bladder cancers.

The study discovered that after 40 years of exposure, the risk of developing bladder cancer was higher than lung cancer.



A woman lighting a charcoal stove with polythene bags

Uganda only has two incinerators for buveera

TIPS

How to minimise use of plastics

- Separate *buveera* and other plastics from other waste materials. This can be done by using different waste bins.
- Put a total ban on use of *buveeras* in your home or minimise their use as much as possible.
- Buy paper bags or shopping bags made out of decomposing materials such as papyrus or dry banana leaves that you can always carry whenever you go shopping. These are available on the market at affordable prices.



Opt for shopping bags

Effects on ozone layer

Additionally, fumes emitted from burning plastics contain chlorofluorocarbons (CFCs), chemicals responsible for depletion of the ozone layer. The ozone is a gaseous layer that shields the earth from the harmful ultraviolet radiation from the sun.

"When the layer is damaged, we get exposure to the dangerous radiations from the sun and the effects include skin cancers and other effects on property," Mbaha warns.

What needs to be done

Fredrick Byenume, the district health inspector of Hoima, says they are continuing to sensitise the community to burn the plastic carrier bags in a closed system to guard against the emission of

of National Environment Management Authority (NEMA), is against open burning of plastic waste. Instead, Nuwagira advises communities to gather the polythene waste and call the local government to collect it as it is their responsibility to manage waste.

Frank Muramuzi the executive director of the National Association of Professional Environmentalist, warns against burning of plastic waste because it affects the environment.

He says all waste must be collected in a central place and recycled.

"For waste such as *kaveera* and plastics, we encourage people to sort it and then sell it to companies that recycle them," he says.

Currently, KCCA has a gazetted place in Kiteezi where plastic waste is managed. Each division of Kampala has a plastic collection centre where