

BIG READ / SOLID WASTE MANAGEMENT

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Any mention of solid waste in cities such as Nairobi conjures up images of huge heaps of garbage. It's an eyesore many residents want eliminated.

In Dandora, however, thousands of slum dwellers try to earn a living out of the dumpsite by collecting electronics, meat bones, metals, milk bags, plastics and rubber, which are mostly sought after for recycling.

But as they do so, hazardous waste, such as used syringes, endanger the lives of those rummaging through the filth. This is because all manner of garbage from airports, hotels, industries, residential areas and restaurants is dumped there.

HEALTH EFFECTS

Studies have also pointed to the presence of hazardous elements, such as cadmium, lead and mercury. For instance, a study commissioned by the UN Environmental Programme in 2007 revealed that soil samples collected from the site recorded high levels of lead compared with reference standards in the Netherlands and Taiwan.

Similar findings were reported for other heavy metals. Tests carried out on 328 children and adolescents living and attending school near the dumpsite indicated a significant health impact, Kimani said, with 154 suffering respiratory problems.

The study sought to emphasise the link between environmental pollution and public health in an urban setting. Over the last three decades, the public health impacts of environmental pollution, in particular the burden of disease, have raised increasing concern globally.

Mercury is listed by the World Health Organisation as one of the top 10 most harmful chemicals. Exposure to it, even small amounts, can cause serious health problems. These include destruction of the nervous system, digestive and immune systems, the lungs, kidneys, skin and eyes. Batteries, switches, cosmetics, soaps, creams and pesticides are some of the products that contain mercury.

About a quarter of the diseases humans face today, WHO estimates, occur due to prolonged exposure to environmental pollution. Most of them are not easily detected. They are acquired during childhood and manifest themselves later in adulthood.

CLEANING UP THE MESS

Aware of this sad state of affairs, the government has put in place various initiatives to reverse the trend. In the first plan, the government will put up a Sh3 billion state-of-the-art incinerator in partnership with Japan.

Multilateral environmental agreements director Richard Mwendandu said an agreement between the government and Japan was signed last year, with Kenya providing the land (seven acres) and Japan setting aside funds for construction.

The incinerator will be located in the Eastern bypass to help handle some of the hazardous garbage. Mwendandu said waste that mostly contains mercury will be given priority. It will have a 20-tonne capacity and will handle waste from Nairobi and surrounding counties.



DANDORA DUMPSITE'S AS EYESORE ARE NUMB

Plans to set up an incinerator and use kilns to destroy piles of trash promise to rid Nairobi of a den of di-

He spoke during the Kenya-Japan workshop for effective mercury management, in relation to the Minamata Convention on Mercury. The convention, to which Kenya is a signatory, is a global treaty to protect human health and the environment from the adverse effects of mercury.

It was agreed at the fifth session of the Intergovernmental Negotiating Committee on Mercury in Geneva, Switzerland, on January 19, 2013. It was then adopted on October 10, 2013, at a diplomatic conference in Kumamoto, Japan.

The convention, which requires 50 countries to ratify to become effective, has major highlights that include a ban on new mercury mines, the phasing out of existing ones, the phasing out and reduction of mercury use in products and processes, control measures on emissions in the air and on release to land and water.

Thirty-five countries have ratified it, while 128 have signed. Mwendandu said the incinerator will be on the Eastern Bypass.

"We still have a risk of mercury

poisoning, but it is not unique. It is a global problem," Mwendandu said, adding that the ash will be used in production of cement to avoid landfills.

Japan's deputy director of environment Mick Saito urged the government to keep an inventory of mercury held in the country both legally and illegally. "Japan can assist to some extent in documenting this," Saito said. He said the level of mercury in products should be labelled.

NO-RESIDUE DISPOSAL

In another initiative to tackle hazardous wastes, cement manufacturer Bamburi has partnered with a global waste management firm-Geocycle.

With the launch of Geocycle last month, Kenya will be among the first countries in Africa to benefit from international waste management standards that leaves no residue after disposal.

Geocycle will collect, separate and incinerate waste in their Mombasa-based cement kilns, helping reduce

the carbon emission footprint in the country, which is currently at an all-time high with the open burning of waste.

The global firm will use Bamburi's Mombasa kilns to incinerate some of the hazardous waste, with the cement manufacturer benefiting from a safer and cost-effective energy for cement production.

Residue left after the process will also be used for cement manufacturing. Nairobi Environment executive Peter Kimori says the heavy metals menace has health implications, especially on those who get exposed.

"Dandora alone has 30 million tonnes already piled up, with 17 tonnes being offloaded daily. But we have bought a compactor to increase the lifespan of Dandora for three years, as it is now 98 per cent full," he said.

Kimori said the site is currently generating a lot of methane that can cause an inferno. Depending on the exposure, heavy metals can increase cancer risk, impair production of

red and white blood cells, and affect physical and mental health.

Due to its simplicity and no additional compounds, methane is the cleanest energy of fossil fuels to burn.

ZERO-WASTE CONCEPT

Kepha Ombacho, chief public health officer with the Health ministry, blamed the upsurge of diseases such as cancer to the manner that waste is handled. Ombacho wants polythene banned forthwith.

Nairobi city produces 1,700 tonnes of solid waste daily. In the financial year 2016-17, the county budgeted Sh1.4 billion for garbage collection alone.

The county uses Sh100 million per month to collect garbage, which is then piled into Dandora. According to Kimori, 62.4 per cent of waste generated is food, papers (14 per cent), plastics (10.9 per cent), glass (1.5 per cent), and metal (0.7 per cent), while other wastes comprise 10.5 per cent.

Kimori said Sh35 billion is needed