Editorial

An Analysis of the Environmental Effects of Waste Plastic Contaminants

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PLASTIC POLLUTION

As the topic of how to dispose of plastic at its end of life continues to be discussed on a global scale, the discovery of plastic by humans is quickly becoming a challenge. This discussion arises from a number of findings that, when plastic waste is disposed of improperly, the additives in plastic harm marine and terrestrial life by contributing to organic pollutants. In sub-Saharan Africa, where there is a growing population, managing waste in general and plastic waste in particular is a constant challenge. The majority of plastic waste is either burned openly or disposed of in open spaces or landfills, where additives pollute the environment, with only 15–25% of it recycled. Additionally, some of the waste enters global water networks through estuaries and continues to harm humans through the food chain. In order to draw attention to the detrimental effects that plastic waste pollution has on the health and environment in sub-Saharan Africa, this article conducts a literature review and makes a number of mitigation recommendations (Hughes SR et al., 2013).

The Greek word "plastikos," which means "a material or element that can keep its form in a variety of applications," is where we get the word "plastic." Long-chain polymer molecules make up plastic, which is an extract and byproduct of coal, petroleum, and natural gas. At least 43% of its waste either burns openly or ends up in landfills or the ocean (Ternes TA et al., 1998). Due to its lethal additives, plastic may take up to 500 years to degrade, according to researchers like and others. In spite of this obstacle, plastic consumption continues to rise by at least 5% annually, reaching 150 million tons annually worldwide. Additionally, the additive in plastic has an effect on humans and the ecosystem when used-up plastics are contaminated and

disposed of, thereby continuing to contribute to organic pollutants. Additionally, due to their hydrophobic nature, many of these additives have the potential to contaminate marine life Oaks JL et al., 2004).

Africa is home to numerous aquatic habitats, including the Great Lakes, Lake Chad, the Congo, Niger, and Nile rivers, as well as estuaries into international water networks (Sumpter JP et al., 1995). In the mean time, the district is viewed as a main supporter of the largescale plastic contamination of marine frameworks, with Egypt, Algeria, Nigeria, South Africa, and Algeria positioning seventh, 10th, 11th, and thirteenth in a worldwide positioning of 192 nations in plastic waste age, separately. contends that the majority of regions appear to lack major institutionalized plastic methods and techniques, implying that the African state may continue to worsen global plastic pollution. provides an overview of the plastic waste that rivers release into the oceans(Keller VDJ et al., 2014).

Despite the fact that plastics have significant advantages over other materials in terms of low manufacturing costs, weight, and durability. Numerous toxic chemicals are present in the additive, and they have the potential to dissipate as microplastic pollutants, which can result in severe respiratory problems as well as other health and environmental issues (Gunnarsson L et al., 2012). The presence of microplastics in the ecosystem is a sign of the rapid and unabated increase in the production of plastic and the improper disposal of plastic waste, as well as the fact that numerous processes, such as the disposal of domestic waste, maritime activities, drainage, agricultural runoff, and so on, contribute to its environmental pollution. In addition, human beings are constantly exposed to microplastics through inhalation, ingestion, and contact with the skin

(Cooper ER et al., 2008). The microplastic's toxic substance can cause oxidative stress and inflammation, which can disrupt immune function, cause neoplasia, increased particle translocation, and neurotoxicity. Dioxins, for instance, are fatal organic pollutants that plastic polymers produce. They affect the development of the reproductive system, cause damage to the brain, and can cause cancer. However, it has been suggested that there is currently no conclusive evidence linking microplastic consumption to human health. Further research and more rigorous clinical studies are needed to investigate the potential effects of the microplastic contaminant on our health and the environment (Berninger JP et al., 2010) .

Babayemi listed various applications, including water bottles, containers, trash cans, washing basins, plastic cutlery, plates, kitchen utensils, baskets, furniture, toys, clothes, flip flops, and medical devices. Europe, China, and North America are the primary contributors to the surge in global plastic production. Although African states also manufacture plastic polymers for a variety of human uses, Europe, China, and North America are the primary donors. Cotta also said that many African countries are the ones that the majority of manufactured plastic products from industrialized countries use to import finished goods (Larsson DGJ et al., 2014).

The various sorts, properties, normal purposes, and effect of plastics are introduced. Plastic production continues unabated in the face of worldwide technological advancement and rapid economic expansion, resulting in an increase in pollution (Johnson AC et al., 2010).

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