

Washed up flip-flops get underfoot on Africa's coast

Discards pose risks for wildlife, human health

By Sarah J. Wachter, International Herald Tribune | December 20, 2009

The once-pristine Nyongu Sharif beach along Kenya's northern coast, near the border with Somalia, seems an unlikely dumping ground for the world's plastic garbage. But the Somali upwelling, a powerful current, sometimes tosses rubbish onto the beach from as far away as Indonesia; and when the current reverses course, it hurls another load up from Southern Africa, as far afield as Mozambique.

High in the list of flotsam is one of the most ubiquitous and least noticed symbols of modern society: the flip-flop.

"Flip-flops are a global problem, just one indicator of the myriad rubbish in the sea, which we are treating as the world's dumping ground," Julie Church, a marine biologist, said recently by telephone from Nairobi.

"Tons and tons and tons of plastic waste, including flip-flops, flow down rivers and clog drainage systems, and animals are swallowing them," she said.

Looking for at least a partial solution, Church has started a company making toys and gifts from reclaimed flip-flop plastic, for sale in eco-fashion boutiques in the United States.

Flip-flops, cheap and disposable, are the footwear of choice for the poor in developing countries and seaside tourists everywhere. "Flip-flops are one of the simplest products to produce. It's a three-step casting process, versus a typical shoe, which is made in 100 steps," said Marshall Cohen, a global footwear analyst with NPD, a US-based market research company. "It is the ultimate universal product."

Universal, but not harmless: Church said the piles of flip-flops on the shoreline were preventing protected hawksbill and green turtles from leaving the sea to nest. And a report issued in October flagged a risk of chemicals in the plastic that could be harmful to human health.

The report, "Plastic Shoes From All Over the World," by the Swedish Society for Nature Conservation, analyzed 27 pairs of plastic shoes made in various countries, from Uganda to China and the Philippines.

It said 17 pairs contained polyvinyl chloride, or PVC, which environmentalists say is the most nonrecyclable plastic; and many contained two or three varieties of plastic softening agents known as phthalates that have been classified as toxic to reproduction.

Many also contained high levels of heavy metals, which can be carcinogenic to humans and toxic to plants and animals. Heavy metals, such as lead and cadmium, are added to PVC products to make them last longer.

Moreover, the report said, the presence of toxic chemicals was not limited to cheap brands: Some expensive models also contained high concentrations of dangerous chemicals.

"We were surprised that metals were present in so many samples, and DEHP in such high concentrations," said Mikael Karlsson, president of the society. DEHP is one of the phthalates used as a softening agent.

Production numbers for flip-flops are hard to come by, but Cohen and other analysts say the largest producers are probably mainland China and Hong Kong, which in turn outsource manufacturing to other countries such as Vietnam and Malaysia.

"There is always another factory opening up somewhere, selling for a penny less, which is the difference between getting the deal or not getting the deal to make flip-flops in huge quantities," Cohen said.

According to the Swedish report, chemicals in shoes leach out both when the shoes are worn and when they are deposited in landfills. Heat and perspiration can cause some hazardous chemicals to be absorbed more easily by the body, it also said.

Flip-flops are just part, though a significant part, of a rising tide of plastic litter stretching down the East African coastline from Somalia to South Africa.

Last year, the UN Environmental Program inventoried the problem of marine litter in the region. The survey of eight countries, including Kenya, showed that plastics made up from 80 to 89 percent of the waste stream, with the most developed countries the worst affected.

Rapid urbanization and population growth of coastal cities such as Dar es Salaam, the capital of Tanzania, which now has a population of 4 million, are the major contributors to the problem, compounded by increasing tourism and the alarming growth in throwaway plastic products, the survey reported.

"Plastic waste from bags, bottles, and flip-flops is a very persistent and large part of marine litter on beaches and in the seas," said Peter Scheren, project manager of the UNEP-West Indian Ocean Lab project, which deals with environmental problems in the marine and coastal areas of the region.

"Safe disposal of solid waste is often considered a luxury," Scheren said. "The economic and social impacts of inadequate management are completely unknown, and are simply not considered by policy makers, despite the diseases, lost work days, and deaths. The impact is enormous."

Mabule Mokhine, an activist with Greenhouse People's Environment Center in Johannesburg, said plastic waste is piling up, with no real waste management anywhere in the region. "There is a serious problem in the amount of plastic produced for public consumption with no reuse, recycling, or composting."

Lacking recycling facilities, people in East Africa often burn their waste, including plastics. "You see open incineration everywhere," Scheren said.

Burning PVC produces a rash of health hazards for people who live downwind of incinerators. While studies have not been conducted exclusively on disposable plastic products, some studies on medical waste, which often contains plastic components, give an indication of the health and environmental effects of plastics that are burned without adequate incineration or that are discarded in landfills. ■