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Chemical Culprit Suspected in Deaths of Kenya's Flamingos

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CHEMICAL CULPRIT SUSPECTED IN DEATHS OF KENYA'S FLAMINGOS

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- For 10 Years, the Birds Have Been Dying, and in 100 They Could Be Extinct in Africa.

LAKE NAKURU, KENYA--From afar they appear as a light pink blanket loosely tossed across the vast lake. On closer inspection, one can make out thousands of pink flamingos--one of Kenya's chief tourist attractions.

The flock suddenly takes flight, skimming the lake, wings flapping in unison, necks and skinny legs outstretched. But 40 or so birds stay behind--stock-still, crumpled over, heads submerged.

Flamingos have been dying here for a decade, with pollution the likely culprit. In recent weeks Kenya Wildlife Service (KWS) rangers patrolling the national parks of Lake Nakuru and nearby Lake Bogoria have been picking up hundreds of dead birds a day. Migrating flamingos, meanwhile, leave East Africa and are washing up ashore at lakes across the continent.

Most of the world's 6.5 million flamingos live in Africa, India, and the Persian Gulf. More than a million make their homes in the alkaline lakes of East **Africa's** Rift Valley, where approximately 30,000 are dying each year.

World Wildlife Fund (WWF) researcher Ramesh Thampy warns that if the current deaths continue, flamingos could be extinct in Africa within a century.

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But years of research into the problem have ended in frustration. With the lack of conclusive findings, funding for further studies is drying up, national attention has turned elsewhere, and local newspapers are calling the story of the dying flamingos a mystery.

"Actually, this is no mystery. The deaths are caused by pollution," says Gideon Motelin, a toxicological pathologist at nearby Egerton University. "The only problem is that, despite our suspicions, we cannot pinpoint the exact cause of death."

The deaths, environmentalists say, cannot be attributed to natural causes or predators, because the birds, many of them young, are being paralyzed.

Dr. Motelin, who has been leading the WWF-funded research team with professors from the University of Illinois's College of Veterinary Medicine, says nine heavy metals often associated with

industrial waste--lead, mercury, arsenic, zinc, cadmium, chromium, copper, iron, and selenium--have been found in the Nakuru waters, and in the algae-eating birds' tissue. In addition, organic chlorides, such as those in the outlawed agricultural pesticide DDT, were also detected.

"But we can't say it was the mercury's effect on the liver or the lead's effect on the kidney, or the zinc and copper on the blood cells, or the DDT which affected the algae," says Motelin. "It seems there are a number of factors at play, and we don't yet have full proof of the exact culprit."

Several industries are located in Nakuru town, some five miles from the National Park.

Steven George Smith, managing director in East Africa for Eveready, one of the biggest industries in town, says the company adheres to US as well as Kenyan EPA regulations.

"Nothing is going into the lake which is harmful," he says. "We recycle as much as possible, we monitor, we have waste reduction programs, and we melt down and reclaim the zinc." As a company, he continues, "We are just as concerned by deaths of flamingos as anyone, and are willing to help, but we have heard no conclusions about what is going on."

But asked where waste is dumped, a few Eveready workers point generally in the direction of the lake. Others just shrug.

Kenya, a country beset with poverty, AIDS, and increasingly political and social unrest, has not always put the **environment** at the top of its agenda.

Recent regulations--like the environmental management act passed two months ago--have charged industries with safeguarding the **environment** and set standards. Industries now submit regular reports on their waste emissions to a Pollutant Release and Transfer Registry, the first of its kind in Africa.

But environmental groups say monitoring is weak. "There are some regulations but most Africans don't pay attention," says Motelin. "They are not aware of possible harm they are doing. People are not educated in this regard."

Patrick Milimo, WWF's conservation director in Kenya, charges that the laws are "worth little more than the paper they are typed on."

The Rift Valley alkaline lakes are all closed systems, with no outlets, so even if companies were to strictly implement environmental standards now--the effect of waste dumped years ago would still contaminate the waters.

WWF's Milimo acknowledges that his group has made little headway in a decade.

"What we need now is a new direction," he says. "We have spent too much time looking at tissues under microscopes and too little time coordinating with industry and government."

While some of the birds have vanished, tourists continue to appear on the lakeshores.

Visitors who inquire about the bird skeletons underfoot receive an array of responses.

Safari guide William Kariuki explains that the bird's delicate legs get stuck in the salt flats, and, unable to fly away, they get dehydrated and die. Another tells his group it has to do with last year's drought.

Guide Peter Waweru says he tries to avoid the issue: "Usually we drive far enough away from the lake, so they don't even notice."