

# Lake Naivasha Withering Under the Assault of International Flower Vendors



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**I**saac Ouma Oloo remembers Kenya's Lake Naivasha as pristine, its waters sustaining an abundance of fish, lions, antelope, leopards, hippopotamuses, and birds. But the overuse of water and environmental destruction caused by international flower farms have fouled his memories of the lake.

"Kenya is a begging country," he says. "We're among the top on the list of the World Food Programme for food donations, even though in Naivasha we have a freshwater lake that would allow us to grow food to feed ourselves. Yet we take this water to grow flowers and then ship them 5,000 miles to Europe so that people can say 'I love you, darling' and then throw them away three days later. To me that is an immoral act."<sup>1</sup>

Since the 1980s, industrial horticulture and floriculture farms in Kenya, centered for the most part in the Lake Naivasha region, have grown into the largest supplier of flowers to the European market. They ship more than 88 million tons of cut flowers a year, worth some \$264 million.<sup>2</sup>

The more than 30 flower farms in the Lake Naivasha region pose a number of serious ecological problems for Kenya's rivers and for the lake, including loss of water, an unsustainable increase in the population because of the laborers they have attracted, and the overuse of pesticides and fertilizers.

In 2007, while researching *The Blue Covenant: The Global Water Crisis and the Coming Battle for the Right to Water*, Maude Barlow, National Chairperson of the Council of Canadians and President of the Food & Water Watch Board of Directors, learned of the crisis at Lake Naivasha and committed herself to visiting the lake during the World Social Forum in Nairobi during the winter of that year. Barlow, Wenonah Hauter, Executive Director of Food & Water Watch, and documentary filmmaker Sam Bozzo bribed their way into one of the local flower farm facilities.<sup>3</sup>

"We saw pipes pumping water from the lake to the flower greenhouses and a ditch where waste water drained back into the lake," Barlow says. "Pesticides and fungicides were plainly visible in a storage facility on the property. If action isn't taken immediately, the lake will not only be polluted, it will be drained."<sup>4</sup>

## Background

Its waters covering about 50 square miles<sup>5</sup> of Kenya's Great Rift Valley, Lake Naivasha (elevation 6,200 feet) sits 62 miles north of Nairobi. Communities thrived along its shores 4,000 years ago. The Maasai people long grazed their cattle along the lake's banks.<sup>6</sup>

In 1904, under a treaty with the British colonial government, the Maasai agreed to make way for ranchers. "As Kenya neared independence, the government embarked on a series of settlement schemes designed to increase agricultural output...This sequence of events underlies much of the land ownership and land use in and around Naivasha today. Many of the large horticultural and floricultural farms surrounding the lake were once farms owned by European settlers, but are now owned by their descendents, wealthy Africans and/or international interests. On the slopes of the lake's basin, the aftermath of the resettlement schemes continues to unfold, with land being increasingly subdivided as Kenya's population continues to grow."<sup>7</sup>

Access to Lake Naivasha itself is a bit complicated, says Ouma Oloo. Historically there was public access to the lake, but the private landowners have closed most of that. The Lake Naivasha Riparian Association once was known as the Lake Naivasha Landowners Association, which really means the flower farms that now own much of the land around the lake.<sup>8</sup> Without adequate lake access, poor residents are left to get their water from communal taps and form long lines to do so. Cattle herders, such as the Maasai, can only bring their cows to a small section of the lake where there is still public access – sharing access with women washing their clothes, hippos, and flamingoes.<sup>9</sup>

It is within this pattern of development that the international vegetable and flower farms formed. One of those is Sher Agencies,





Lake Naivasha provides habitat for a wide range of bird species.

the world's largest supplier and producer of roses. Its greenhouses in Kenya, Ethiopia, and the Netherlands produce 600 million roses a year. The company is in the process of moving from Dutch ownership to control by India-based Karuthuri Networks, which announced its \$50 million purchase of Sher in February 2007.<sup>10</sup>

## Disappearing Water

Without water, there would be no flowers. Yet, its unsustainable use by the farms could drain this life giving liquid out of Kenya's rivers and Lake Naivasha, harming the ecosystem and a large part of the economy. But the water does not just disappear. Instead, it is transferred to the flower and fruit crops and then exported, largely to the United Kingdom and elsewhere in Europe.

This global phenomenon is called the virtual water trade. This is the practice of using your water to produce or grow what you then export, effectively meaning that you are exporting water out of local watersheds "virtually." Close to 20 percent of all daily domestic water use is exported out of watersheds around the world every day and is a major cause of water depletion. In this case, Europe is trying to save its own water because the rose growing business is water intensive. But in protecting its own water supplies, Europe is destroying the watersheds and futures of Africa.

According to Severino Maitima, director of the Ewaso Ngiro River water authority: "The flower companies are exporting our water. A flower is 90 percent water. We are one of the driest countries in the world and we are exporting water to one of the wettest."<sup>11</sup>

The overuse of water has taken its toll. Scientists have concluded that Naivasha's water levels are 10 feet lower than what is healthy.<sup>12</sup>

Prior to the proliferation of the flower farms and the subsequent decline in water levels, Lake Naivasha was "one of the world's top ten sites for birds, with more than 350 recorded species. It was also renowned for its sparkling clear water and the papyrus plants and water lilies that could be found at its edges...Much of

## Through the Director's Eyes: Sam Bozzo

"While filming my new documentary "Blue Gold: World Water Wars", it was with a mixed sense of honor and horror that I documented the author Maude Barlow and Food & Water Watch's Wenonah Hauter as we bribed Kenyan workers and walked through a gate warning us that anyone caught removing the crops within would be killed. Inside the gate we witnessed one of the numerous massive rose plantations currently sucking the life out of Africa's Lake Naivasha, one of the last precious fresh water holdings in a very thirsty continent, by exporting this Virtual Water supply to Europe. I could not help but smirk with wonder at which was the more ironic, that the romantics who purchased the roses were unaware of the trail of death behind them, or that the powers of greed had chosen roses to export as they robbed Africans of their life source, as if they were inadvertently sending flowers to a funeral they were too busy to attend."

this plant life has disappeared, eaten by the crayfish or destroyed by the grazing animals that trample it as they seek the receding waters." And in the past two years, the number of hippos has dropped by more than 25 percent because of decreased water levels. There were 1,500 hippos in 2004, but their numbers fell to 1,100 in 2006.<sup>13</sup>

David Harper, a professor at the University of Leicester and a 17-year leader of environmental surveys for the non-profit organization Earthwatch, decries the environmental situation in Naivasha: "Almost everybody in Europe who has eaten Kenyan beans or Kenyan strawberries, and gazed at Kenyan roses, has bought Naivasha water. It will become a turgid, smelly pond with impoverished communities eking out a living along bare shores...The unsustainable extraction of water for agriculture, horticulture, urban and residential water supplies is sucking the lake dry. As the lake becomes smaller and shallower it will become warmer, fueling the growth of microscopic algae. It is only a matter of time before the lake becomes toxic."<sup>14</sup>

## Flower Farms Attract Too Many People

Isaac Ouma Oloo was born in the Naivasha community after his parents moved from Lake Victoria in the 1970s to take advantage of the thriving fishing industry. But by early the following decade, fishing succumbed to a growing number of flower farms. He has witnessed thousands of laborers and their families arriving to work in the greenhouses and processing plants. The population rose from 7,000 in 1969 to some 300,000 in 2007.<sup>15</sup> In attracting so many people, the international companies have ecologically burdened Lake Naivasha.

"We have too many people with too little infrastructure," Ouma Oloo says. "They are using and polluting water to live. They are

## Invasive Fish

"Before 1925, the lake hosted only one species of fish – a small minnow (smaller than omena). This would not support a fishery and, in any case, local inhabitants at that time were not fish eaters. The paucity of fish in this Rift Valley freshwater lake was as a result of water level instability, including a case of complete drying up in the past 100 years. Indeed, the name Naivasha is derived from the Maasai word *enaiposha*, which means receding water.

"At the suggestion of the then American President, Theodore Roosevelt, a decision was made to introduce the large mouth black bass (an American fish), chiefly for sport fishing. Since the black bass is a fish eater, like the Nile perch, tilapia was introduced to provide forage for it. Further introductions of tilapia and bass were made in the 1940s and 1950s to boost the fish population. Press reports of the 1960s and 1970s indicate very healthy sport fishing.

"In the late 1950s, a small gillnet fishery targeting tilapia and black bass started in Naivasha. The fishery expanded to the point of encouraging the construction of a fish canning factory. The property is now owned by Homegrown, a large floriculture firm.

"The fishery collapsed in 1972 following heavy fishing pressure in an effort to support the factory. The fishery has remained small and has fluctuated at an average of 300 metric tonnes a year. Today the annual catch amounts to less than 100 metric tonnes of largely miserable looking tiny fish. Sport fishing could not be sustained and is now history.

A less known fishery of Lake Naivasha is that of crayfish, a lobster-like American introduction. This export-oriented fishery flourished until the mid-1980s but has now virtually collapsed."

Source: Muchiri, Mucal. "Ban on lake fishing makes a lot of sense." *The Daily Nation*, Feb. 13, 2001. Available at: [www.nationaudio.com/News/DailyNation/13022001/Comment/Comment3.html](http://www.nationaudio.com/News/DailyNation/13022001/Comment/Comment3.html)

poaching to get meat. They are venturing farther and farther to get wood and charcoal for making fires. One 50-year-old tree can give about 50 bags of charcoal. A family of four or five needs one bag of charcoal. And there has been no replanting of trees. So people go to the banks of the rivers that feed into Lake Victoria for their wood. This is destabilizing the water table."<sup>16</sup>

Oloo's assessment of the effects of deforestation on nearby lakes conforms with that of Daniel Olago, a geology lecturer at the University of Nairobi and co-author of a United Nations Environment Program report calling for increasing fines for polluters of Lake Victoria: "Another major problem is the amount of sediment going into the lake because of deforestation from people who need firewood."<sup>17</sup>

Even managers in Kenya's floriculture and horticulture industry, the country's second largest exporter and driver of its economic expansion, see looming environmental problems from overuse of water, overpopulation, and pollution.



Flower workers and local residents line up outside one of the large flower farms. With no running water families walk or bike for miles to get access to water while flower farms pump Lake Naivasha for irrigation.

"It's going to be a challenge to maintain the environment of the lake," admitted Sean Finlayson, roses manager at flower giant Oserian. "It's going to get bigger and bigger...The population around the lake have no sewage facilities, people are washing their clothes in the lake. They're all coming because of the flower farms."<sup>18</sup>

## Pesticides and Poor Labor Standards

Stories abound of flower farm workers suffering from chemical exposure and enduring long hours at low wages in the farm fields and processing facilities.

A 26-year-old woman, one of the 50,000 people working on the farms, told the Reuters news service that the pesticides and fertilizers used on the farm give her rashes two to three times a month. Unfortunately, the doctors employed by the companies are reluctant to discuss any connections between illness and the use of pesticides and fertilizers.<sup>19</sup>

Secret filming inside one of the large farm greenhouses showed workers in protective gear spraying flowers, while other workers nearby wore no protective clothing, says Wenonah Hauter, executive director of Food & Water Watch. <sup>20</sup> The pesticides applied on the farms and in the greenhouses eventually end up in Lake Naivasha and in the groundwater, endangering the area's people and wildlife, including hippos, fish, and birds.<sup>21</sup>

During a trip to Lake Naivasha in the summer of 2007, Food & Water Watch staff saw photographs of cattle who died after drinking pesticide-laden water flowing from one of the flower farms.<sup>22</sup>

But chemical exposure is not the only problem workers face. There is the matter of their treatment, as well. Ouma Oloo's mother

## Lake Naivasha on the Big Screen

The environmental plight of Lake Naivasha may soon receive more worldwide attention, courtesy of Hollywood. In 2008, actress Julia Roberts will produce and star in a movie about famed conservationist Joan Root. The movie, to be directed by Robert Redford, will highlight her early work on numerous highly acclaimed wildlife documentary films about Africa in the 1960s, '70s, and '80s.

Until her murder in early 2007, Root resided along the shore of Lake Naivasha and worked to save it from the flower farm industry and other threats. According to her obituary in *The Daily Telegraph*, Root "campaign[ed] vigorously to prevent the growing wave of human encroachment from spoiling the wildlife in, on and around Lake Naivasha."

But this is not the first time Lake Naivasha has been in the movie limelight. Portions of the 1985 film *Out of Africa* were filmed there and featured a variety of animals that had been transported to the lake's Crescent Island for the production.

Sources:

<sup>1</sup> "Julia Roberts to play Joan Root in new movie." Cinematical.com, May 20, 2007. [www.cinematical.com/2007/05/20/julia-roberts-to-play-joan-root-in-new-movie/](http://www.cinematical.com/2007/05/20/julia-roberts-to-play-joan-root-in-new-movie/)

<sup>2</sup> "Roberts doing Joan Root movie." EW.com, [www.ew.com/ew/article/0,,20039581,00.html](http://www.ew.com/ew/article/0,,20039581,00.html)

<sup>3</sup> "Joan Root." *The Daily Telegraph*, Jan. 17, 2006. Available at: [www.telegraph.co.uk/news/main.jhtml?xml=/news/2006/01/17/db1702.xml&Sheet=/portal/2006/01/17/ixportal.html](http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2006/01/17/db1702.xml&Sheet=/portal/2006/01/17/ixportal.html)

<sup>4</sup> "Roberts to play murdered Briton." BBC News, May 21, 2007. Available at: <http://news.bbc.co.uk/1/hi/entertainment/6676255.stm>



Flowers are sold on street corners in Nairobi.

the Ramsar Convention, formally known as the Convention on Wetlands of International Importance. It was created in 1973 to preserve wetlands as habitats for wildfowl, but has since grown into a program to ensure the sustainable use and conservation of wetlands worldwide.<sup>27</sup>

While such sites are required to have management plans to ensure that they are used wisely and protected, "the Ramsar designation yields only a small amount of legal power, insufficient to work as a deterrent to those who would, for example, seek to develop or purchase riparian land, or do damage to Naivasha's catchment."<sup>28</sup>

A director of one of the flower farms in Naivasha acknowledged that the lake could dry out due to uncontrolled use of its waters unless the government stops issuing water permits to farms: "There is no legal framework guiding the use of water from Lake Naivasha. The flower farms, through the Lake Naivasha Growers Association and the Lake Naivasha Riparian Association, have drafted their own self-regulation codes for responsible water use...Over the years, however, environmental lobbyists have raised concern over the unmonitored use of water from the lake by flower farms, and the uncontrolled sinking of boreholes" to get water.<sup>29</sup>

There are growing concerns that the success of Kenya's flower industry, whose earnings are estimated at \$350 million annually, has blinded the authorities to the reality of the competition from Ethiopia and other countries that are trying to lure away farms. Kenya dominates flower export to the world's largest market – the European Union. "Kenya has commanded a 25 percent market share since 2000...But emerging suppliers such as Rwanda, Ethiopia, and Uganda are trying to promote themselves as good spots for foreign investors."<sup>30</sup>

Josphat Ngonyo, director of the Africa Network for Animal Welfare, is dissatisfied with current conservation efforts: "Government may not know issues on the ground or it is just turning a deaf ear" because of the farms' economic clout. He notes that the first management plan has not been implemented, largely because the flower companies went to court to block it.<sup>31</sup>

worked for the Oserian flower company after the Naivasha fishing downturn. He is glad that she has long since retired: "This industry chews up and spits out people."<sup>23</sup>

Indeed, in 2006, workers at Oserian rioted over low wages, poor working conditions, and mass firings.<sup>24</sup>

Although some of the farms have received some credit for trying to improve labor conditions, critics point out how much remains to be done. Edward Indimuli of Workers Rights Watch pointed out that, "people here are suffering. The conditions are terrible."<sup>25</sup>

According to Reuters: "Sher worker Daniel Sagwe, who earns 4,700 Kenyan shillings (\$65) a month plus a 1,000 shilling housing allowance, said he could barely afford to buy water for his three children and wife."<sup>26</sup>

## Efforts to Save Naivasha Falling Short

People and organizations are working to save Lake Naivasha, but they are running up against the reality that agricultural expansion in Naivasha and elsewhere in Kenya is filling the government's coffers and pushing economic growth.

In 1995, Lake Naivasha was designated a protected site under



He says that communities must be involved in an environmental impact assessment that informs the creation of a new management plan. But this time, the plan must be followed.

Sustainable alternatives to the flower farms include empowering people to take up small-scale organic farming and to promote ecotourism.

“Lake Naivasha is like a time bomb,” Ngonyo says. “If nothing is done, it will be too late. We need to act now to save the lake.”<sup>32</sup>

## Conclusion and Recommendations

Unless they are stopped, the flower agribusiness operations on Lake Naivasha will destroy the lake itself, the community dependent upon it, and the entire ecosystem of the watershed. It is time for consumers in Europe to understand that every time they buy a rose grown on Lake Naivasha, they help destroy - perhaps forever - the exquisite place where Isaak Dinesen’s *Out of Africa*

was filmed. Similar stories abound in other countries of Africa and Latin America where local water sources are being siphoned to provide flowers for export to Europe and North America. It is a practice that must be stopped.

Lake Naivasha has immense potential for sustainable, small-scale agriculture and ecotourism that could protect both the lake and the livelihoods of the communities around it. The former would promote food security for Kenyans; the latter would attract even more local and foreign visitors who would help the local economy while causing little or no damage to the environment. Lake Naivasha is surrounded by wildlife and such attractions as Hells Gate National Park, Mount Longonot National Park, the Ol Njorowa Gorge, and Mount Eduru. A living lake will sustain this ecosystem into the future; a dead lake will take down the entire area and its inhabitants.

The choice is clear. Join us in fighting to save Lake Naivasha now.

## Endnotes

<sup>1</sup> Ouma Oloo, Isaac. Personal interview. Activist and ecological safari guide. Aug. 30, 2007.

<sup>2</sup> “Valentine’s Day roses bloom amid Kenyan poverty.” Reuters news service, Feb. 13, 2006. Available at: [www.planetark.com/dailynewsstory.cfm/newsid/35048/newsDate/13-Feb-2006/story.htm](http://www.planetark.com/dailynewsstory.cfm/newsid/35048/newsDate/13-Feb-2006/story.htm)

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<sup>6</sup> Hartley, Jean. “Naivasha.” 1985. Evans Brothers (Kenya) Ltd. Pp. 4,9.

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<sup>12</sup> Smith, Lewis. “Why fruit shopping poisons the hippo.” The Times, March 28, 2006. Available at: [www.timesonline.co.uk/article/0,,3-2106467,00.html](http://www.timesonline.co.uk/article/0,,3-2106467,00.html)

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<sup>17</sup> Peytermann, Lucie. “Lake Victoria groans as pollution takes toll.” AFP news service, April 11, 2006. Available at: [www.terraviva.com/reports/Lake\\_Victoria\\_Groans\\_As\\_Pollution\\_Takes\\_Toll.html](http://www.terraviva.com/reports/Lake_Victoria_Groans_As_Pollution_Takes_Toll.html)

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<sup>20</sup> Hauter, Wenonah. Personal Interview. Executive Director, Food & Water Watch. Sept. 27, 2007.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

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<sup>24</sup> Vasagar, Jeevan. “How Kenya is caught on the thorns of Britain’s love affair with the rose.” The Guardian. Feb. 13, 2006. Available at: [www.guardian.co.uk/frontpage/story/0,,1708492,00.html](http://www.guardian.co.uk/frontpage/story/0,,1708492,00.html)

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