

Flowers: Symbols of Love in Europe that Bring Food Insecurity to the African Nations that Produce Them

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Global Research, May 13, 2018

Region: [sub-Saharan Africa](#)

Theme: [Environment](#), [Global Economy](#),
[Poverty & Social Inequality](#)

For decades, Kenya and Ethiopia have endured extreme droughts[1] that precipitated severe food shortages[2], whereby millions of people were forced to reduce their food consumption to just one meal per day and lacked access to adequate water supplies[3]. Ethiopia and Kenya have experienced below-average rainfall since the beginning of 2018, which has created food insecurity and led to the onset of a famine in some regions.[4] According to Kenya's Minister of Environment, more than 10 million[5] people in the country are currently hungry and an estimated 4 million are at risk of emergency levels of hunger, or even famine, by as early as August.

The lack of potable water has forced millions of Kenyans and Ethiopians to depend on trucks for the delivery of drinkable water every few days. However, despite the fact that children are starving, cattle are dying from dehydration and starvation, and lakes are drying up, both Kenya and Ethiopia continue to produce flowers for the European market, which draws upon scarce water resources and exacerbates shortages[6]. Even in the midst of a severe food security crisis, Dutch farmers manage to transport 100s of tons of flowers from Kenya and Ethiopia to Europe each and every day without exception. Moreover, the production and transport of flowers is intensified each year during the few weeks leading up to Valentine's Day and Mother's Day in order to meet higher demands.

As of 2018, more than 220,000 hectares of land are allocated for flower production worldwide. The global flowers industry is valued at over US\$100 billion, and it is estimated that consumers spend in excess of US\$30 billion on flowers each year. The majority of the market is distributed throughout European Union countries from the town of Aalsmeer in the Netherlands, meaning that most of the flowers produced in South American and East African countries are transported to the Netherlands via air cargo and traded at Aalsmeer. This explains why the Netherlands is ranked as the largest exporter of flowers in world, accounting for almost 60% of global *exports* of flowers, even though the country itself only produces enough flowers to satisfy about 10% of total exports. The remainder of the flowers that are exported by the Netherlands are mostly produced by equatorial countries like Colombia[7], Ecuador[8], Ethiopia, and Kenya[9], where the flower industry has become a significant component of agricultural sector, as well as one of the most important foreign exchange earner industries. These countries make over 30% of their annual flower sales during the period that includes both Valentine's Day and Mother's Day.

The U.S. and Germany are the largest importers of flowers in the world. Kenya and Ethiopia[10] are the largest suppliers of flowers to Europe, while Ecuador and Colombia are the main suppliers to North America. These four countries have comparative advantages in flower production, because they possess ideal climates throughout the entire year and low

production costs compared to their trade partners.

While the flower industry has created many jobs and has generated income for both importer and exporter nations, most of the workers employed in producing the flowers are underpaid, work long hours, and experience health issues due to repetitive actions and exposure to highly toxic pesticides and fertilizers. In addition to these hardships, female workers, who constitute the majority of the workforce in the flower industry, also face physical and sexual abuse.

Flowers are actually one of the most pesticide-intensive crops available. Since they are not edible, the amount of pesticide use permitted exceeds that of the food industry by approximately 50 times. Many of these pesticides are carcinogenic and toxic and, in addition to their negative health impacts on workers, they also do irreversible damage to the environment, including the air, soil, and particularly the water supply, as many of the chemicals used to grow flowers often end up in lakes and rivers.

Furthermore, despite the fact that equatorial countries possess ideal climates for flower production all year round, thousands of acres of climate-controlled greenhouses are employed because the flowers require artificial light, heating and cooling during their growing cycle. This process generates significant carbon dioxide (CO₂) emissions, particularly when considering that some of these greenhouses are as large as multiple football fields. Subsequently, additional CO₂ emissions are generated when the packaged flowers are stored in warehouses and transported over thousands of miles in airplanes and trucks, all of which must be refrigerated. As such, it should come as no surprise that flower consumption is responsible for the release of tens of thousands of metric tons of CO₂ during the weeks preceding Valentine's Day and Mother's Day each year, in addition to the hundreds of thousands of metric tons of CO₂ produced during the rest of the year.

Flower farming also substantially reduces the amount of land available for traditional farming, while expending resources that could be better-allocated for the production of edible crops, which would serve to mitigate risks of food insecurity and malnutrition. This is evident in African nations like Kenya and Ethiopia, where the production of flowers expends scarce water supplies that could have been used to grow crops for local food consumption. Despite the fact that one hectare of land on a flower farm consumes an average of over 900 cubic meters of water per month, many farmers have abandoned traditional farming in these countries in favour of the more lucrative venture of supplying the flower industry. This has resulted in high food prices, making it difficult for the poor and low income workers to obtain sufficient food and water for their families, which has contributed to the onset of malnutrition for millions of people.[11]

The aggressive implementation of structural adjustment programs in underdeveloped countries during the 1980s and 1990s, which was overseen by the World Bank and International Monetary Fund (IMF), played a decisive role in determining what kinds of goods the loan recipients would produce for exportation; in most African nations, support was generally provided to the agricultural sector. In the case of Kenya, the IMF and World Bank pressured its government to allocate land that was typically used for traditional agriculture and food production for the cultivation of flowers and other products for export in the 1990s. This was done in spite of the fact that Kenyans in some regions of the country had already been experiencing some level of food insecurity and malnutrition for decades. Today, flower

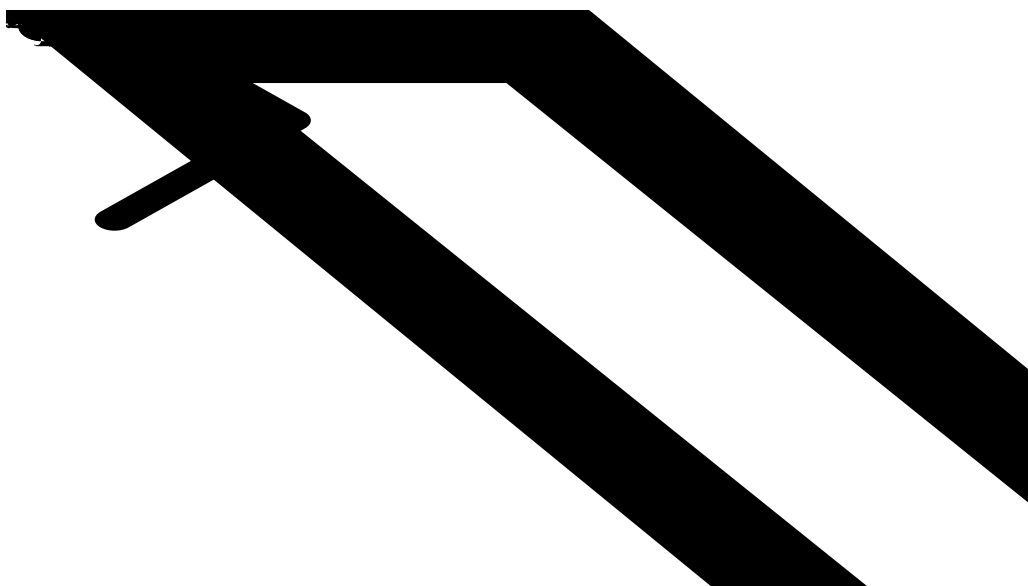
exports generate \$150 million for Kenya each year, making it the country's third largest earner of foreign exchange after tea and tourism. Kenya is also Africa's primary supplier of flowers to Europe, which are primarily destined for the Netherlands (69%), the UK (18%), and Germany (7%).

Kenya's flower industry controls the majority of the land around Lake Naivasha, which boasts fresh water reserves. "Many of the large horticultural and floricultural farms surrounding the lake were once farms owned by European settlers, but are now owned by their descendants, wealthy Africans and/or international interests"[12] who often forbid the public from accessing the lake. Lake Naivasha provides an abundance of water for flower farms, which mostly produce flowers that are not indigenous to Kenya and typically require higher levels of water consumption, as well as excessive applications of stronger pesticides and fertilizers, relative to native species. Meanwhile, over 40% of Kenya's population does not have access to a reliable source of potable water[13] and many people are forced to travel significant distances to obtain water for their families. To be more precise,

"with a population of 46 million, 41 percent of Kenyans still rely on unimproved water sources, such as ponds, shallow wells and rivers, while 59 percent of Kenyans use unimproved sanitation solutions... Only 9 out of 55 public water service providers in Kenya provide continuous water supply, leaving people to find their own ways of searching for appropriate solutions to these basic needs."[14]

In addition to exacerbating water shortages, the flower industry also contributes to a number of significant ecological problems in the surrounding region, as it is a persistent emitter of CO₂ that relies on excessive applications of toxic pesticides and fertilizers, which has caused irreversible damage to the environment and society. Specific to Kenya, a report published by Food and Water Watch[15] and the Council of Canadians[16] states that,

"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."



Flower production in Kenya

The flower industry has been praised as an economic success story in East African countries for creating jobs and generating income. However, most of the flower industry profits are accrued to multinational corporations, which are generally headquartered outside of the countries where the actual production takes place. In reality, the flower industry creates very low paid jobs for local workers, involving very heavy workloads. That is to say, citizens of the flower producing countries in South America and Africa receive very few benefits from the flower industry, even though it depletes their much-needed natural resources, particularly the scarce water supplies in Africa.

In the case of Kenya, locals who were already facing difficulty in terms of obtaining their basic needs and providing for their families also have to contend with their country's resources being exploited to produce ephemeral consumption products for the citizens of Western countries. As the situation is currently constituted, Europe is essentially transferring the intensive water usage required to produce the flowers demanded by its citizens to the African nations that actually grow them. By depleting the water resources in Africa, the continent that can least afford to spare its scarce water supplies, Europeans can save their own fresh water reserves and allocate them to less wasteful endeavours, while still obtaining their flowers.

Flowers might be regarded as symbols of love. The truth, however, is that the current system of producing and consuming flowers is responsible for the destruction and depletion of water reserves, worsening food shortages, saturating the surrounding environment with toxic chemicals and fertilizers, and threatening humans, animals and plant life in the regions where they are grown. In essence, everyone who purchases flowers that were grown in Kenya is exploiting Naivasha water at the expense of the locals who are prevented from accessing it, and contributing to the loss of biodiversity, deforestation, soil degradation, and many other destructive impacts that the flower industry has had on the inhabitants of the region. When one learns of all these destructive outcomes generated by the flower industry, flowers start to lose their external beauty and no longer seem to represent a symbol of love.

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Notes

[1] Somalia and South Sudan are also experiencing chronic drought, which has generated severe hunger crises requiring humanitarian assistance. Some have predicted that these countries might be affected by famine as early as 2018.

[2] Many African countries have been experiencing similar and worse cases of food insecurity and severe malnutrition for decades.

[3] <https://www.caritas.org/2018/04/hunger-spreads-in-east-and-horn-of-africa/>

[4] <https://www.oxfam.org/en/emergencies/famine-and-hunger-crisis>

[5] Currently, significant food assistance is needed to prevent hunger and famine in a number of East African nations, including Ethiopia, Kenya, South Sudan, and Somalia, where almost 25 million people are impacted, including 15 million children. Inadequate rainfall and food insecurity are also devastating parts of Cameroon, Chad, Niger, and Nigeria.

[6] The current crisis facing a number of African countries is the outcome of many factors including centuries of exploitation, colonization, imperialism, climate change, conflict, overpopulation, corruption, the mismanagement of natural resources, and unsustainable resource use resulting in environmental degradation, biodiversity loss and deforestation. Allocating water supplies for the production of flowers exacerbates this situation.

[7] Colombia is the second-largest exporter of flowers in the world.

[8] Ecuador is the world's third-largest exporter of flowers. Ecuador's floriculture industry began to develop in 1991, with support from the Andean Trade Preference Act.

[9] Kenya is the fourth-largest exporter of flowers in the world.

[10] In 1990s, less than 100 hectares of land was allocated to flower farmers in Ethiopia. Today, 3,000 hectares of land are dedicated for flower production in Ethiopia, transforming the country into the second-largest exporter of flowers in Africa, behind only Kenya.

[11] Many African countries have been experiencing below-average seasonal rainfall, contributing to large numbers of animal deaths, poor harvests that result in insufficient supplies of low quantity food at a higher prices, and severe food insecurity for millions of people.

[12] <ftp://ftp.itc.nl/pub/naivasha/PolicyNGO/FWW2008.pdf>

[13] The problem of accessing potable or reliable water sources is not limited to Kenya, as millions of people in a number of African countries are unable to obtain sufficient water for their daily needs or traditional farming. In Ethiopia, for example, in 2018, a devastating drought that has dried up water resources and destroyed livelihoods, as "61 million people lack access to Safe Water."

<https://water.org/search/?query=ethiopia>

[14] <https://water.org/our-impact/kenya/>

[15] "Food & Water Watch is a non-profit consumer organization that works to ensure clean water and safe food." <ftp://ftp.itc.nl/pub/naivasha/PolicyNGO/FWW2008.pdf>

[16] "The Council of Canadians is Canada's largest citizens' advocacy organization working to safeguard social security, promote economic justice, renew democracy, advocate alternatives to corporate-style free trade, and preserve our environment." <ftp://ftp.itc.nl/pub/naivasha/PolicyNGO/FWW2008.pdf>

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