

The 2020 Subaru Forester:

Subaru is Kelley Blue Book's Most Trusted Brand for five years running.



Daily Monitor / Special Reports

Climate change could explain invasion of locusts and reduction of grasshoppers

WEDNESDAY OCTOBER 28 2020



Pupils chasing after locusts. Climate change could explain invasion of locusts and reduction of grasshoppers. File photo

Summary

- According to FAO report about food security, it particularly alarming in the broader Eastern Africa region, with recently released forecasts from the Global Report on Food Crises indicating that over 25 million people will face acute food insecurity in the region in the second half of 2020.

ADVERTISEMENT

Customizable Player.

A Vimeo Feature

vimeo

Learn More

By LOMINDA AFEDRARU

[More by this Author](#)

Grace Nalongo is a grasshopper catcher from the Ugandan capital, Kampala who depends on her livelihood by trading in the edible insect *Ruspolia* *Differens* *Tettigoniidae*, commonly known as *nsenene* in Uganda.

She is concerned that the insect is dwindling in numbers and the seasons when they would swarm in large numbers are no more.

Nsenene is a delicacy many Ugandans enjoy as a snack and during the seasons that they swarm, many people are engaged in catching and processing them for sell.

During previous years, the insect would swarm in large numbers; in the district of Masaka, it was

hard to distinguish when the actual seasons were when the insects swarmed, as it happened almost all year round, but this is no longer the case.

In the north of the country, Mr Peter Lokonoi, a farmer growing maize in Laboktom village in Amudat District, laments about the loss he incurred on his farm due to the invasion of another insect – the locust.

He wonders why the locust invasion had to occur this year yet locusts were last seen in Uganda 50 years ago.

FORTEBET

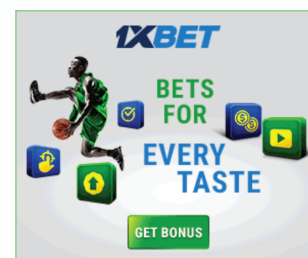
WHO'S THE FAVORITE

ACCORDING TO LARGEST COMMUNITY OF PUNTERS IN UGANDA!

used laptop i7



USh 220,186
Get latest price now
Alibaba.com





The questions that Lokonoi and Nalongo ask, can be answered by climate change scientists who are quite sure that weather patterns are part of the reasons *Nsenene* numbers are dwindling and the locusts' invasion happened in the year 2020.

Climate change affecting breeding and seasonality of Nsenene

Experts say *nsenene* is consumed by communities in Africa, Asia, South America and Australia. Although its natural habitat is seasonal, the reason scientists are studying its biological habit is to enable farmers breed the insects throughout the year.

This has been done through a collaborative research initiative by scientists from Makerere University Department of Biodiversity and Tourism, College of Agricultural and Environmental Sciences and the University of Eastern Finland.

Prof Phillip Nyeko the lead researcher notes that his team discovered that this insect which is an important source of food in East Africa used to swarm twice in the months of May and November but it has been affected by seasonality.

Its population dynamics and host plant use are not fully understood by consuming communities.

They have also discovered that farming communities in Uganda, Finland and elsewhere who are consumers of this insect can actually breed the insect for commercialisation under confined conditions.

He notes that massive grassland coupled with wetlands is a good breeding ground for the insects but since mankind is clearing environmental habitats for farming, this affects the breeding cycle of the insects.

Human activities such as deforestation and clearing of grass is a major cause for changes in the weather patterns, which usually leads to drought and dry lands and these do not favour breeding of *nsenene*.

A grasshopper catcher from Masaka, popularly known as Mama Nsenene, notes that there is a shift of the grasshopper catch, which has now largely shifted to western Uganda.



"This year the swarms are coming mostly from the west of the country, bordering the Democratic Republic of Congo, where natural water bodies and tropical forests are still intact. The wetlands and lake shores are an important habitat for grasshoppers as they lay their eggs in these areas but our environment is completely destroyed, the reason the numbers are getting less," says Mama Nsenene.

Solution to increasing the population

Dr Robert Nyeko from Gulu University who carried out studies in the behaviour of insects at confined fields explains that, for the last five years, scientists have been rearing the insects under confined laboratory conditions where they are fed on artificial mixture of feed.

He participated in observing their growth behaviour in confined habitats at various places in central Uganda including National Crop Resources Research Institute (NaCRRI) Namulonge, *Makerere University* Agricultural Research Institute *Kabanyolo* (MUARIK) and Makenke village near Kabanyolo.

His observation is that their breeding cycle is high during the rainy season due to available green grass, compared to the dry season.

He established that most of the female species lay eggs on grass and sedges. The young ones prefer guinea grass species such as *brachiaria mulato* grass but mature ones are fine with local grass species provided it is green.

They lay eggs ranging from 50- 500 in their lifecycle and it takes 145 days for them to become mature.

The ones reared in the laboratory and confined fields must be under optimum temperature of 22 – 27 degrees Celsius

They have recommended farmers to explore options of rearing the insects in gazetted farms using the right grass species as well as in-house breeding and giving them the right feed.

The climate change factor

Locusts are a family of insects that bear a strong resemblance to grasshoppers but come with a critical difference: under the right environmental conditions.

They can change both their behaviour and physiology. If they encounter a period of heavy rains after a dry spell, the ordinarily solitary grasshoppers will band together and form swarms of millions that start migrating to take advantage of the suddenly abundant supply of food.

Because these swarms can cover up to 150km per day, with females continuing to lay eggs and each insect eating its weight in green vegetation every day, these plagues can cause drastic devastation in the environment.

Dr Ann Akol, senior entomologist at the College of Natural Sciences explains the 2020 locust invasion as a factor of changes in the weather pattern.

“These insects breed so well when there is prolonged heavy rainfall and this is what happened this year at the horn of Africa leading to growth of vegetation favouring breeding of the locusts and they had to fly and spread out to Ethiopia, Somalia, Kenya and Uganda,” she noted.

According to her, these locusts have their breeding ground in the desert and usually the wind ends up blowing them to Indian Ocean, the reason we have not been experiencing their presence. But because the weather has been so favourable, this enabled them to swarm to East Africa, and Asian countries such as Pakistan and India.

The breeding conditions for locusts and *nsenene*, according to Dr Akol are the same, as long as there is green vegetation and water.

However she cites the shortage of *nsenene* as a result of heavy rains that have flooded the shores of Lake Victoria. The insects breed mainly in the lake sands and vegetation, which is now covered by water.

Abubakr Salih Babiker, Geo science expert at Regional Numerical Weather Prediction (ICPAC) while presenting a paper titled “Climate change through images around the world and in Africa” to a team of climate change science journalists in Africa during their online meeting organised by Association of Africa21 based in Geneva, noted that the locust invasion is as a result of effects in changes of the climate.

According to him, the warmer seas mean more cyclones. This is a result of the Indian Ocean Dipole which refers to the difference in sea surface temperature in the eastern part of the Ocean oscillating between warm and cold compared to the western part cycling through phases referred to as positive, neutral and negative.

Last year, the dipole's positive phase brought with it warmer sea temperatures in the western Indian Ocean region and more rains in the east.

This is why the Eastern part of Africa had lots of rain leading to desert lakes which enabled massive breeding of the locusts.



The wet weather gives room for the insects to multiply faster compared to the warmer temperatures.

The last major plague recorded by the Food and Agriculture Organisation (FAO) lasted for 13 years through the 1950s and parts of the 1960s.

According to a report by the BBC, such swarms of locusts can be huge. They can contain up to 10 billion individuals and stretch over hundreds of kilometres.

They can cover up to 200km in a day, devastating rural livelihoods in their relentless drive to eat and reproduce. An average swarm can destroy crops sufficient to feed 2,500 people for a year.

The pests had already destroyed more than 175,000 acres of farmland in Somalia and Ethiopia by the end of December. They are eating 1.8m tonnes of vegetation a day across 350 sq km.

Overall, FAO estimates the desert locust affects the livelihood of one in 10 people on the planet making it the world's most dangerous migratory pest.

State Minister for Animal Industry Bright Rwamirama in his report about the damage caused by the insects' states that swarms of locusts entered Uganda on February 9, 2020 through Amudat and were sighted in 17 districts; mainly in Karamoja and Acholi sub-region. The female lays about 300 eggs in one sitting.

The existing swarms have not caused significant damage to our vegetation cover, however, there is an imminent threat to food security following a possible outbreak. The control methods have been mainly through spraying.

The impact on food security

According to FAO report about food security, it is stated that the current upsurge is particularly alarming in the broader Eastern Africa region, with recently released forecasts from the Global Report on Food Crises indicating that over 25 million people will face acute food insecurity in the region in the second half of 2020.

Since FAO launched its desert locust response in January, its appeal has been for a \$130 million fund. However, funding has concentrated on locust control activities and much more backing for livelihoods support activities is needed.

alominda@ug.nationmedia.com