

17-23 July 2023

## Mosquitoes are migrating due to climate change; will malaria follow?

The rising temperatures caused by climate change has caused a great shift in areas where mosquitoes can be found. This means that malaria-carrying mosquitoes can now be found in the highlands whereas in contrast, lower altitudes are becoming too hot for the bugs.

- <https://www.zimbabwestar.com/news/273905764/amid-climate-change-mosquitoes-migrate-will-malaria-follow>
- <https://laminute.info/2023/07/23/les-moustiques-se-deplacent-vers-des-altitudes-plus-elevees-tout-comme-le-paludisme/>

**DISASTER LOOMS**

## Mwea rice farmers risk losses to snail invasion

Eight in every ten farmers confirm spotting destructive molluscs

**JOHN MUCHANGI**  
@jomurji



Rice farmers in Mwea could lose up to 60 per cent of their crop if the ongoing infestation by apple snails is not controlled, researchers have warned.

A new assessment shows the snails have infected 11 per cent of the rice paddies in Mwea, but eight in every ten farmers confirm they have spotted them.

Researchers said in other parts of the world, the invasive snails did not initially cause significant damage, but the situation worsened within three years.

"It is therefore essential that effective strategies are implemented to contain the spread of apple snail, especially since, in a relatively short period of time, damage can become significant," they said.

The findings are in a paper published by the Pest Management Science Journal.

"For example, in the Ayeyarwady Delta in Myanmar average rice yield losses after two to three years reached 20-44 per cent, despite the fact that initially apple snail did not cause significant damage or yield losses."

The study was led by research group CabI, the Ministry of Agriculture, Kirinyaga county government, the National Irrigation Authority Mwea Irrigation Agricultural Development, the Kenya Plant Health Inspectorate Service, Pest Control Products Board, Agrochemicals Association of Kenya, International

Centre of Insect Physiology and Ecology (ICIPE), local agro-dealers and millers.

They noted in Mwea paddies where snails have infested more than 20 per cent of the cultivated area, farmers experienced 14 per cent and 60 per cent reductions in rice yield and net rice income, respectively, compared to farmers not yet experiencing any apple snail invasion.

"This implies that the negative economic effect of apple snail is substantial when more than 20 per cent of the area cultivated to rice by a household is affected by the pest," the study says.

Extension agents stated apple snail is one of farmers top five complaints and agro-dealers reported that 70% of complaints on a daily basis were due to apple snail, researchers said in the study.

The invasive freshwater snail was

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**CATE CONSTANTINE**

*The recent introduction of apple snail has added to challenges, posing a serious threat to rice production in the region*

listed in 2000 by the World Conservation Union (IUCN), as among "100 of the World's Worst Invasive Alien Species".

In Kenya, around 300,000 small-scale farmers are involved in rice cultivation, with the Mwea Irrigation Scheme in Kirinyaga County accounting for 80-88 per cent of the country's rice production.

Ministry of Agriculture predicts that rice consumption will reach 1,292,000 tons by 2030.

As a result, rice has been identified as a priority value chain in the National Agriculture Investment Plan (NAIP 2018-2028) and National Rice Development Strategy-2 (2019-2030), which aims to transform Kenya's agriculture towards sustainable food and nutrition security and socio-economic development.

Lead author Cate Constantine of CabI said, "Rice farmers in Mwea face various challenges, including water shortages, rice blast attacks, high input costs, low land productivity, machinery shortages, bird damage, poor infrastructure, and a lack of resilient and acceptable rice varieties.

She added: "The recent introduction of apple snail has added to these challenges, posing a serious threat to rice production in the region and potentially across Africa."

Fernadis Makale, co-author, added that, in response to the apple snail threat, a Multi-Institutional Technical Team (MITT) drawn from various national and international institutions has been established to lead management efforts and provide consolidated advice to farmers on how to effectively manage the pest.

In 2021, the pest infested more than 550 acres of rice, mainly in Ndekia and Tebere sections.

Kephis said more than 1,500 acres of the bordering lower areas that receive water from upper units were also at risk.

Golden apple snails have muddy brown shells and golden pinkish or orange-yellow flesh.

They are bigger and lighter in colour compared to native snails. Their eggs are bright pink.

The Kenya Plant Health Inspectorate Service said the snails had been observed in large populations, especially in the canals and paddies. They spend most of their lives submerged in water or mud, emerging only to occasionally forage, mate and lay eggs.

In the absence of water, they bury themselves in the mud and hibernate for up to six months and reemerge once conditions become favourable. Farmers are usually encouraged to handpick the snails and crush the egg masses.



**(+) STUDY WARNS OF SPREAD**

The scientists argue that in the absence of action to mitigate spread, the consequences could be disastrous, not only for farmers in Mwea but further afield. If the snail spreads into the irrigated rice-production area of Ahero, at the edge of Lake Victoria, rice production in Tanzania and Uganda would be threatened, and from here inevitable further spread would occur. Study co-author Makale said, "There is a rapidly narrowing window of opportunity for potential containment, or possibly even eradication, before apple snail becomes widespread in Kenya, and the only feasible option will become management, with its associated high economic, livelihood and environmental costs."

The Star (Kenya), published 21 July 2023

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1:29 PM · Jul 17, 2023 · 302 Views

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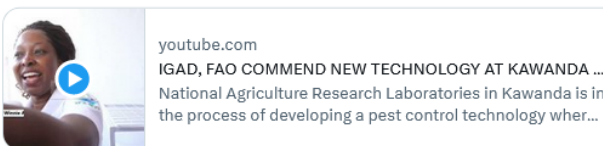
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4:00 AM · Jul 19, 2023 · 692 Views

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7:53 AM · Jul 19, 2023 · 2,191 Views

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**NEW** Uncertainty about seed quality undermines agricultural development in Africa.

Today on VoxDev, Erwin Bulte [@WUR](#) [@TilburgU](#), Salvatore Di Falco [@unige\\_en](#), Menale Kassie [@icipe](#) & Xavier Vollenweider outline their research on modernising agriculture:



voxdev.org

Uncertainty about seed quality undermines agricultural development in Technological improvements alone are unlikely to modernise agriculture if farmers are uncertain about the quality of new innovations

10:48 AM · Jul 18, 2023 · 6,038 Views

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11:46 AM · Jul 20, 2023 · 266 Views

"Increase in demand for food, Micro nutrient deficiency & unsustainable current sources of food due to climate change have brought about the need to farm insects as an alternative source of protein." Dr Senagi @ICIPE



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**KENET** @kenet\_ke - Jul 20

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12:21 PM - Jul 20, 2023 · 273 Views

The training is one of activities being implemented in partnership with NARADA LTD under the project funded by @icipe @PasetRsif. The training aims at building the capacity of these beekeepers on the developed device so that they can use it in their beekeeping activities.



Ignace Gatara and 2 others

7:17 PM · Jul 22, 2023 · 286 Views

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