BIZCOMMUNITY

Alien animals and plants are on the rise in Africa, exacting a growing toll

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This article is the first in a series The Conversation Africa is running on invasive species.

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Let's say you're travelling from Uganda to South Africa for business. You finally arrive at your hotel after a long day and decide to change before dinner. You unlock and unzip your luggage, but there's something in your bag that you didn't pack. As you reach for a clean shirt, a moth flies out. Did that come with you all the way from Uganda? It'll be fine, right? Surely, something so small won't cause any harm.

Species are intentionally or accidentally transported by humans between continents to regions where they are not native. With the help of humans or by natural means like flight, these alien species can also spread within continents.

Their spread within continents can be rapid, affecting both the ecology as well as societies and the economy. Unfortunately, it's really challenging to prevent species from spreading. Given the vast amount of people and goods that are transported between and around continents, they can easily be moved across oceans as well as between countries.

The spread of alien species within Africa is increasing. Since 2000 more alien insect pests of eucalyptus trees have spread to other African countries from South Africa than have been introduced to these African countries from other continents. To manage the spread of these alien species countries need to cooperate, communicate and share information and skills..

The spread of alien species

Many alien plants and animals have been introduced to Africa from other regions and then have spread from country to country, often having devastating effects.

Take the larger grain borer beetle, (*Prostephanus truncatus*) which is thought to have arrived on the continent in imported grain from Mexico and central America. The beetle was introduced to Tanzania before 1984, Togo before 1981 and Guinea before 1987. It then spread across the continent and within 20 years could be found further south in South Africa.

The beetle attacks crops such as maize and cassava, threatening food security and the livelihoods of the poor. Infestations often destroy maize that's been stored by farmers, forcing them to buy maize as well as lose income they could have earned from selling any excess.

But alien species don't just arrive from abroad. Many that are native to parts of Africa have also spread to countries on the continent where they are not native.

An example is a fish commonly known as the Mozambique tilapia (*Oreochromis mossambicus*) which is native to rivers on the east coast of southern Africa. Fishermen have transported the Mozambique tilapia to other areas and it is now found in river systems in southern and western South Africa and Namibia.

The Mozambique tilapia is a popular species for fishing but it can pose a threat to native fish and has been responsible for the disappearance of native species in some regions.

The spread of alien species within Africa is by no means a new thing. For instance, the bur clover (*Medicago polymorpha*), a plant from northern Africa, might have been accidentally transported by humans to South Africa as early as 760 AD.

A high and increasing threat

Recently a number of alien species have spread extremely rapidly across the continent, posing a particularly high threat to food security and livelihoods.

The fall armyworm, native to the Americas, was first recorded in west and central Africa in early 2016 and then in South Africa in January 2017.
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One is a caterpillar known as the Fall armyworm (*Spodoptera frugiperda*). The species, native to the Americas, was first recorded in west and central Africa in early 2016 and then in South Africa in January 2017.

The moths of the armyworm are strong fliers and the species may have spread through flight to South Africa from other African countries. Although the species attack a wide range of crops, it poses a particularly serious threat to grain farmers. It is extremely difficult to manage.

Another example is a wasp known as the bluegum chalcid (*Leptocybe invasa*), which is native to Australia. In 2000 it was detected in Israel and shortly afterwards it was reported in Uganda and Kenya. From there it spread rapidly to many African countries including Zimbabwe, Mozambique, and Tanzania and was finally detected in South Africa in 2007. The insect probably reached Israel on live plant material and spread into Africa the same way, or was carried by people travelling between countries.

The wasp causes swelling or growths on eucalyptus trees, which can lead to decreased growth and tree death. As eucalyptus trees are an important source of income and fuel, this species could have an impact on the livelihoods of locals in these countries.

Preventing the introduction and spread

Once a species is introduced to one African country it's highly likely it will spread to others on the continent because borders checks are weak.

The introduction and spread of species could be reduced if countries introduced biosecurity systems. These are used extensively in countries like Australia and New Zealand and involve using technology to check for alien species when people and goods enter a country. In Australia, this involves inspecting goods, vehicles and luggage before they enter the country.

But even these systems aren't a guarantee that species won't spread. African countries would need to work together and share information and skills. This would also allow countries to prepare for the arrival of species, and to draw up plans to reduce their impact.

This is a tall order. But as a country's defence against alien species introductions is only as strong as that of its neighbours, such action would benefit all of the countries involved.

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