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# Kenya must wake up to the threat of an outbreak of Rift Valley fever

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Heavy rainfall in Kenya has left a trail of destruction in parts of the country, leading to deaths and rendering roads impassable. Some rivers have burst their banks and dams have overflowed for the first time in many years.

The heavy rains present an additional danger: a higher chance of outbreaks of Rift Valley fever, a mosquito borne disease caused by a virus that infects both animals and humans and eventually results in death.

Heavy rainfall leads to low-lying grasslands, known as dambos, becoming flooded which in turn leads to Rift Valley fever infected mosquito eggs hatching. The emerging infected female adults then initiate transmission to nearby animals which serve as amplifiers, infecting more mosquitoes resulting in outbreaks.

Rift Valley Fever spreads in a number of ways. Firstly people and animals can get it from being bitten by an infected mosquito bite. But the **most infections** happen when people come into contact with infected animals' blood, secretions or tissue. This can happen when animals are slaughtered, when they're being helped to give birth, during veterinary procedures or when food is being prepared.

In the last Kenya Rift Valley fever outbreak in 2006 more than 150 people died and another 700 were hospitalised in the North-Eastern region of the country, placing a significant strain on the already overstretched public health resources. There were also economic costs – an estimated US\$ 32 million for vaccinations, trade bans and the loss of livestock.

The outbreak lasted for close to a year before authorities were able to get it under control.

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As the rainfall continues it's important that national and county governments put various measures in place to prevent an outbreak. This includes controlling mosquitoes that spread Rift Valley fever, vaccinating livestock and educating the public on the importance of safe practises when they're slaughtering or handling sick animals.

### **Action that needs to be taken**

If steps aren't taken urgently, Kenya will struggle to contain an outbreak when it happens.

The steps that need to be taken include:

- Using forecasting and climatic models to predict the climatic conditions linked to the increased risk of an outbreak. This was done in 2006. Satellite images and weather forecasting data was used to predict the outbreak.
- Ensuring that warning as well as animal health surveillance systems are in place for people and animals. This would ensure that new cases in animals were detected early, which in turn could improve disease control.
- Vector control: using insecticides that target mosquitoes at their breeding sites. This is important because mosquitoes are the initial source of infections. The challenge during floods is that there are too many breeding sites to do this feasibly.
- Animal vaccination programmes. The challenge is that, to be effective, animals must be vaccinated before an outbreak. If this is left too late it can in fact intensify the outbreak. This is because animals that are infected don't always show symptoms. If they're treated and multi-dose vials and re-used needles and syringes are then used on other animals, the virus can be spread.
- Restricting livestock movement to slow down the spread of the virus.

Measures to prevent the outbreak must be accompanied by public health education initiatives.

The messages should focus on teaching people how to reduce the risk of animal-to-human transmission by safe animal husbandry and slaughtering practices. This includes washing hands, wearing gloves and other protective equipment when handling sick animals or their tissues as well as when they slaughter animals.

It should also discourage people from eating unsafe and partially cook fresh blood, raw milk or animal tissue.

In addition, health care workers caring for patients should implement standard safety precautions. This includes handling blood (including dried blood), all other body fluids, secretions and excretions (excluding sweat), regardless of whether they contain visible blood, and contact with non-intact skin and mucous membranes.

### **Not the first**

The pending threat of a Rift Valley fever outbreak is not the first in Kenya. There have been 11 outbreaks between 1951 and 2007.

Some, like the 1997 outbreak stretched from Kenya to Somalia and Tanzania. In Kenya it killed more than 450 people and affected another 100 000 people.

In the 1950s the outbreak was initially confined to one district in Rift Valley province that is prone to flooding and where livestock were raised close to wildlife. But by the time the 2006 outbreak hit the outbreak had spread to 33 of 69 districts in the province.

This expansion has been driven by several environmental factors including rainfall and temperature, the density and movement of livestock and the presence of competent vector species.

This significantly complicates efforts to prevent an outbreak.

Beyond East Africa there have also been severe Riftvalley fever outbreaks in other parts of Africa, including South Africa in 1951 where 100 000 sheep died and close to 500 000 livestock had forced abortions, Egypt between 1977 to 1979 where more than 600 people died and more than 200 000 others were affected, Mauritania, Senegal, Sudan, Madagascar, and Saudi Arabia and Yemen in the Middle East.

Time is running out for Kenya: if the country wants to avoid another outbreak, national and local authorities need to act urgently.

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