

# Potential effect of Rift Valley Fever Disease on Food Security and Diets of Pastoralist Communities in Kenya

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## Key messages

- Livestock is important for livelihood and animal sourced foods (ASF) especially for pastoralists. Yet livestock diseases such as Rift Valley Fever (RVF) disease affect income and diets mediated through animal mortality and morbidity.
- Household and individual characteristics such as livestock ownership, household size, education, income, age of household head were associated with dietary intake.
- Sheep plays an important role in the diets of pastoralists, yet it is the most affected livestock species by RVF.
- Sheep mortality can be used to estimate the effect of RVF on household food security to inform nutrition-sensitive response in future RVF outbreaks.

## Context

- RVF is one of the most devastating climate-sensitive zoonotic diseases, that causes severe losses in livestock-based economies across sub-Saharan African countries like Kenya.
- RVF manifests in animals as extensive simultaneous abortions, regardless of the stage of pregnancy, and causes increased morbidity and mortality in livestock, especially among young animals, sheep and goat are the most affected.
- Kenyan pastoral communities live in areas that are highly susceptible to the disease and rely almost entirely on livestock for their livelihood, suffering the consequences of RVF through multiple pathways.
- The increased livestock mortality and economic losses associated with RVF outbreaks have the potential to limit access to ASFs and other foods broadly.
- This study assessed the potential effects of RVF on food and nutrition security in pastoralist communities in 5 counties in Northern Kenya.
- The findings will inform policy for the design of future RVF control measures that are nutrition-sensitive.

## Our approach

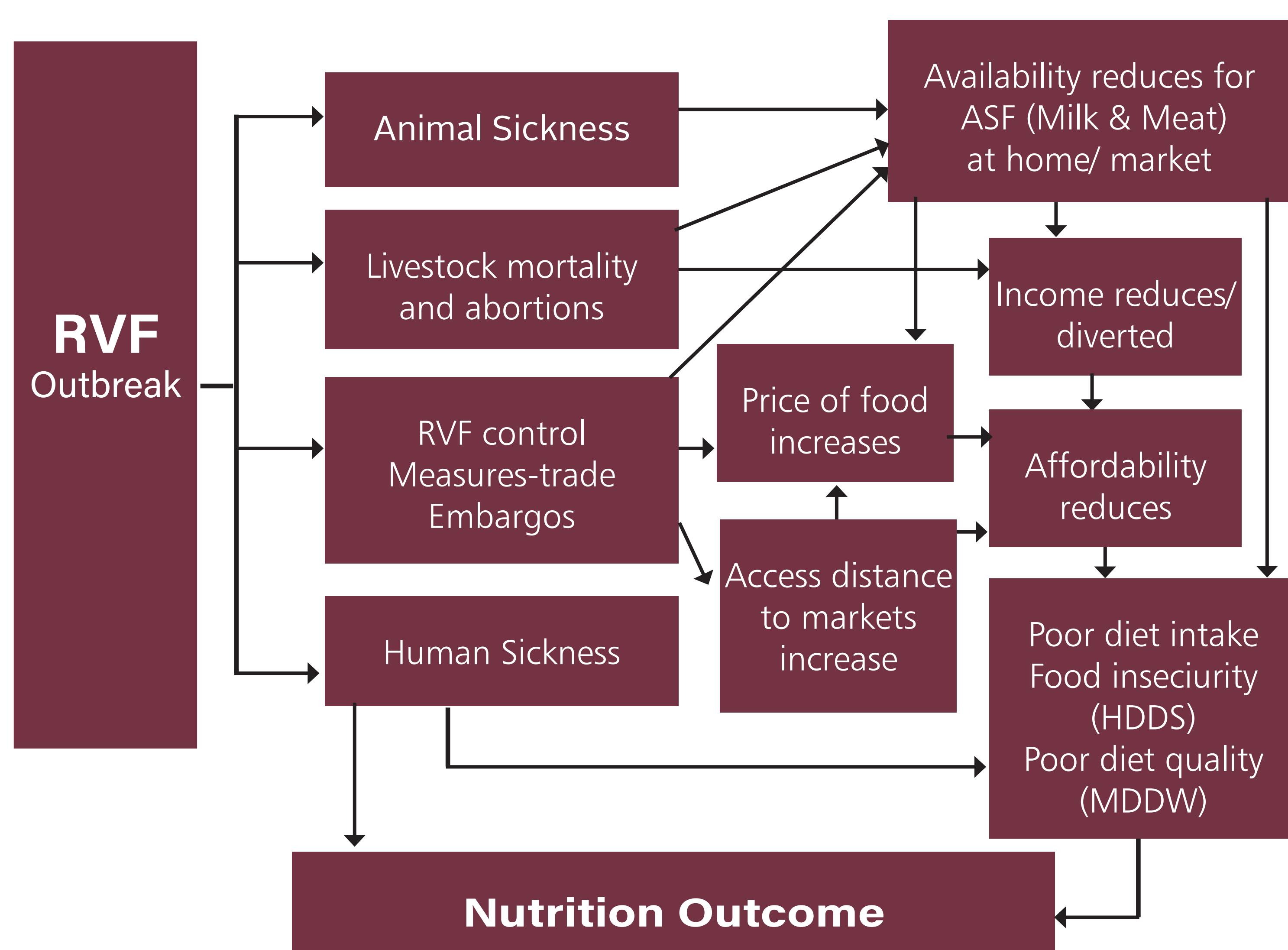


Figure 1: Hypothesized pathways through which RVF impacts human nutrition

- A theoretical framework hypothesizes that RVF disease and its associated sanitary measures would affect the food environment directly or indirectly by limiting food access, increasing price, and therefore reducing availability and affordability. The overall outcome would be lower food security and diet quality hence poor nutrition outcomes.
- Used secondary data from a cross-sectional questionnaire-based household survey data for a development project- Accelerated Value Chain Development Program- collected between 2017 and 2019 (n=1924) from 5 pastoralist counties in Northern Kenya.
- In this study, we only investigated animal mortality and its potential impacts on food security as measured by HDDS and diet quality as measured by MDDW.



A sheep aborting, aborted fetus. Photo by: Prof. Coetzer, University of Pretoria

## Outcomes

- Household size, education, income, livestock ownership, age of household head were associated with Household Dietary Diversity Score (HDDS) and Minimum Dietary Diversity for Women (MDDW).
- Livestock ownership had a stronger positive contribution to household food security (OR=6.91; CI=1.26 - 4.09) compared to diet quality (OR=1.14; CI=1.30- 4.09).
- HDDS was positively associated with the number of sheep owned by the household; a unit increase in the number of sheep in a household was associated with an increase in the log odds of being in food secure status (HDDS >6) by 0.03.
- Sheep compared to other livestock species, has more importance to household food security.

## Conclusion

Given that sheep often suffer huge mortalities following RVF outbreaks, estimating the number of sheep that are lost during the outbreaks could provide an additional lever for determining changes in HDDS and hence food insecurity if no alternative sources of food are provided to affected communities.

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