

+ RESEARCH FOR IMPLEMENTATION TO CONTROL VECTOR-BORNE DISEASES



as deaths. Nagana also weakens the animal immune system, making the cattle susceptible to a range of other infections, exacerbating the problem.

However, there is now hope. He is now able to use his mobile phone to predict the location of the deadly tsetse flies that carry the disease, helping him save his ranching business.

MAPPING THE LOCATION OF TSETSE FLIES HELPS MAASAI COMMUNITY AVOID SLEEPING SICKNESS AND NAGANA

Seyayi Lendarkash is a Maasai cattle rancher in Emboreet village, in north-eastern Tanzania. He lives in an area where tsetse flies that transmit sleeping sickness to people and Nagana to animals are abundant, devastating livestock that serve as the primary source of food and income for his community.

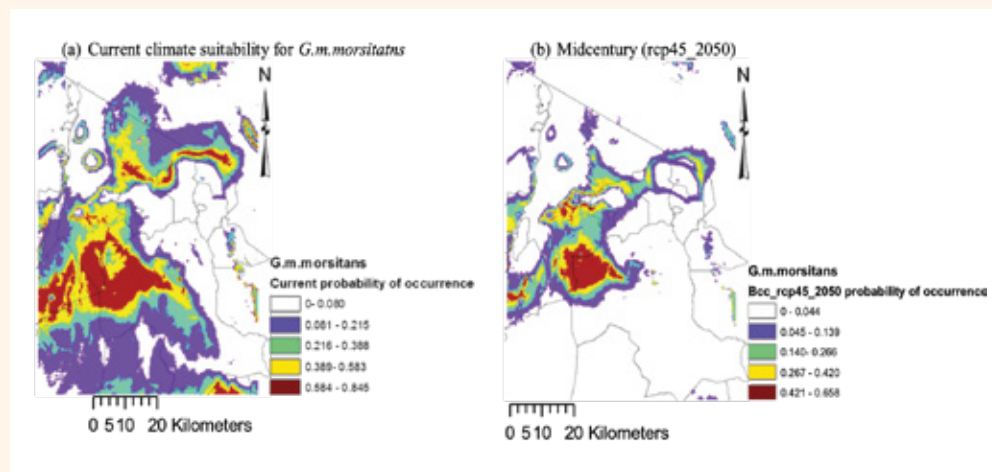
Over the last few years, Lendarkash has witnessed first-hand the impact of Nagana. Last year, more than 90% of his herd comprising of hundreds of cattle were infected. The disease can lead to frequent cases of miscarriage and infertility among infected cows, reduced growth rates, significant drops in milk production as well

This is the result of four years of work led by Paul Gwakisa at Sokoine University of Agriculture in Tanzania and Pietro Ceccato at Columbia University's International Research Institute for Climate and Society. With support from TDR, they have been working to harness climate and environmental data sets derived from satellites to reduce infection risk of sleeping sickness and Nagana.



Seyayi Lendarkash using the smartphone app developed by Paul Gwakisa and Pietro Ceccato

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“THE TDR PROJECT TEAM HAS ENHANCED OUR AWARENESS OF SLEEPING SICKNESS AND HOW CLIMATE CHANGE IS DRIVING INFECTION DYNAMICS IN MY COMMUNITY,” LENDARKASH SAID.

Gwakisa and Ceccato developed a mapping platform using Google Earth that shows changes in vegetation and water bodies at high resolution. These images can then be compared with changes in tsetse fly locations. Using this platform viewable on smartphones, members of the Maasai community are able to identify grazing and drinking areas free from infected tsetse flies. This is especially critical during the dry season, when drinking holes are scarce.

Dr Moses Ole Neselle, a scientist from the local community, was a vital team member, who led community engagement and data collection process, which involved trapping flies and looking for the presence of parasites that cause the deadly diseases.

RESEARCH UPTAKE AND TRANSLATING RESEARCH TO POLICY



Research uptake meetings with communities and stakeholders were conducted as 'research action workshops, which encouraged two-way dialogue on community adaptation strategies.



A policy dialogue was jointly organized with the National Institute of Medical Research in Dar es salaam. This was attended by the Permanent Secretary of the Ministry of Health and stakeholders from all key sectoral ministries and representatives from WHO and FAO in Dar es Salaam.

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