

## **A social-ecological network approach to understanding zoonotic outbreak risk (SENZOR)**

Initiative: Globale Herausforderungen

Ausschreibung: Pandemieprävention: die Rolle von Mensch-Umwelt-Beziehungen

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To understand the risk of zoonotic outbreaks, a comprehensive understanding of local scale infection dynamics needs to be developed. To this end, samples from small bodied wild animals, domestic animals, and humans will be collected in a systematic, structured sampling regime in two landscape types (highly agricultural and semi-natural) over three years in The Gambia and Nigeria. For a select group of high-risk viral pathogens, contact networks will be build for all local actors involved in transmission, and participatory modelling and ethnographic methods will be employed to gain deeper insight into how humans interact with this network. Finally, a socio-ecological systems modeling approach will be used to predict risks both across the landscapes and in plausible future scenarios to inform outbreak preparedness and management strategies. This will be done in a dynamic way and in consensus with a group of representatives from the selected involved communities and stakeholders. A better understanding how pathogen contact networks vary over time and space will help to better prepare for, predict and prevent future outbreaks and pandemics.

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