

Strategies to Prevent (STOP) Spillover

Joint Risk Assessment of Ebola and Lassa viruses at the Human-Wildlife interface in the Tonkpi region District des Montagnes



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Introduction/Background

- Lassa fever is endemic in Liberia where several cases are regularly reported
- Guinea in 2021 reported 23 cases of Ebola virus infections of which 12 deaths in the N'Zerekore region bordering Côte d'Ivoire (CDI)
- CDI has never reported cases of Ebola and Lassa virus infections.
- Given the proximity of the Tonkpi Region to Liberia and Guinea, there is a need to assess the risk of these two diseases

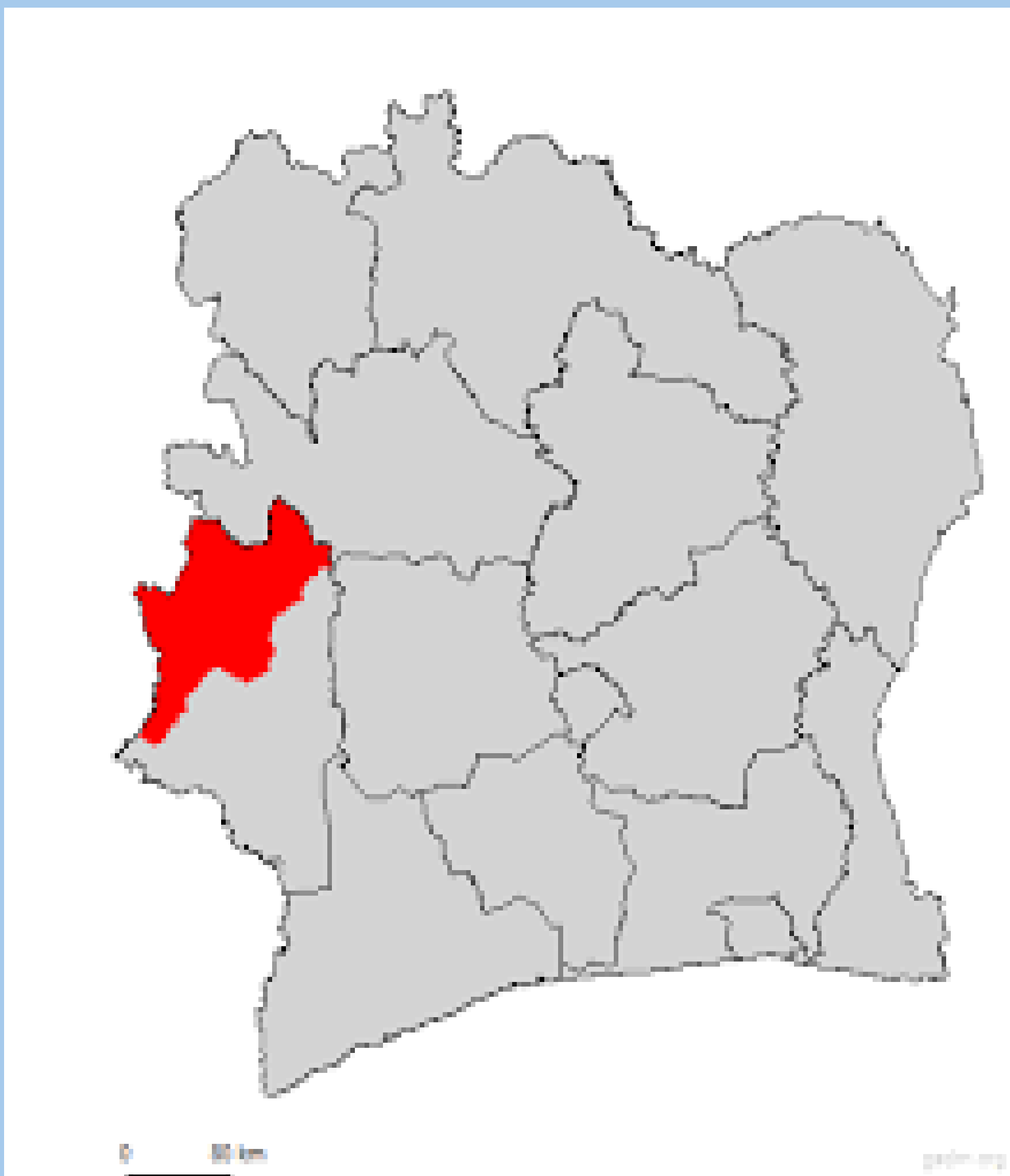


Figure 1: Map showing countries infected by Ebola and Lassa bordering the Tonkpi region

- STOP Spillover supported the Tonkpi Region decentralized One Health Platform to conduct a risk assessment of Ebola and Lassa virus infections.



Photo 2: Regional authorities of Center for Emergency Operations in Public Health

Methods

Workshop Organization

- Twenty-five (25) participants from 14 entities of the Tonkpi Region decentralized One Health Platform participated in the risk analysis.

Key sector involved

- Sectors involved were human health, animal production and health, environment, civil protection, agriculture, water and forests and the national parks.



Photo 3: Participants of OneHealth platform trained in risk analysis and risk assessment at the workshop

Joint Risk Assessment (JRA) tools

- Joint Risk Assessment (JRA) tool developed by the Tripartite (WHO, FAO, WOA) was used to assess the risk of Ebola and Lassa virus infections based on two questions

Questions of risk assessment

- 1) What is the probability and impact of at least one individual living in the Tonkpi Region would be infected by Ebolavirus by handling or consuming carcasses of infected bats of any origin, during the next 12 months?
- 2) What is the probability and impact of at least one person in the communities of the Tonkpi Region bordering Liberia and Guinea, in regular cross-border socio-economic exchanges, being infected by the Lassa virus in the next 12 months?

Results

Ebola virus risk analysis

- The likelihood of an Ebola virus outbreak is high, with a moderate expected impact.
- Regarding uncertainty related to the probability and impact, the team observed a low uncertainty for both probability and impact related to the Ebola virus.

Table 1. Ebola virus risk analysis matrix

Probability	High	Yellow	Yellow	Red (X)	Red
	Moderate	Green	Yellow	Yellow	Red
	Low	Green	Yellow	Yellow	Red
	Negligible	Green	Yellow	Yellow	Yellow
		Negligible	Minor	Moderate	Severe
Impact					

Lassa virus risk analysis matrix

- For the Lassa virus, the team determined a moderate probability and a minor impact.
- However, uncertainty was estimated high for the probability of Lassa virus infection occurrence, while the impact estimation had low uncertainty.

Table 2. Lassa virus risk analysis matrix

Probability	High	Yellow	Yellow	Red (X)	Red
	Moderate	Green	Yellow (X)	Yellow	Red
	Low	Green	Yellow	Yellow	Red
	Negligible	Green	Yellow	Yellow	Yellow
		Negligible	Minor	Moderate	Severe
Impact					

Conclusions

The risk assessment of Ebola and Lassa virus infections in the Tonkpi Region indicate the necessity of establishing surveillance interventions in the region. Further, it calls for communication interventions targeting the community, actors of the wildlife values-chain. Furthermore, it was determined that studies to identify viruses circulating at the Human-Wildlife interfaces are important to reduce the level of uncertainty.

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