ONE HEALTH ATLAS

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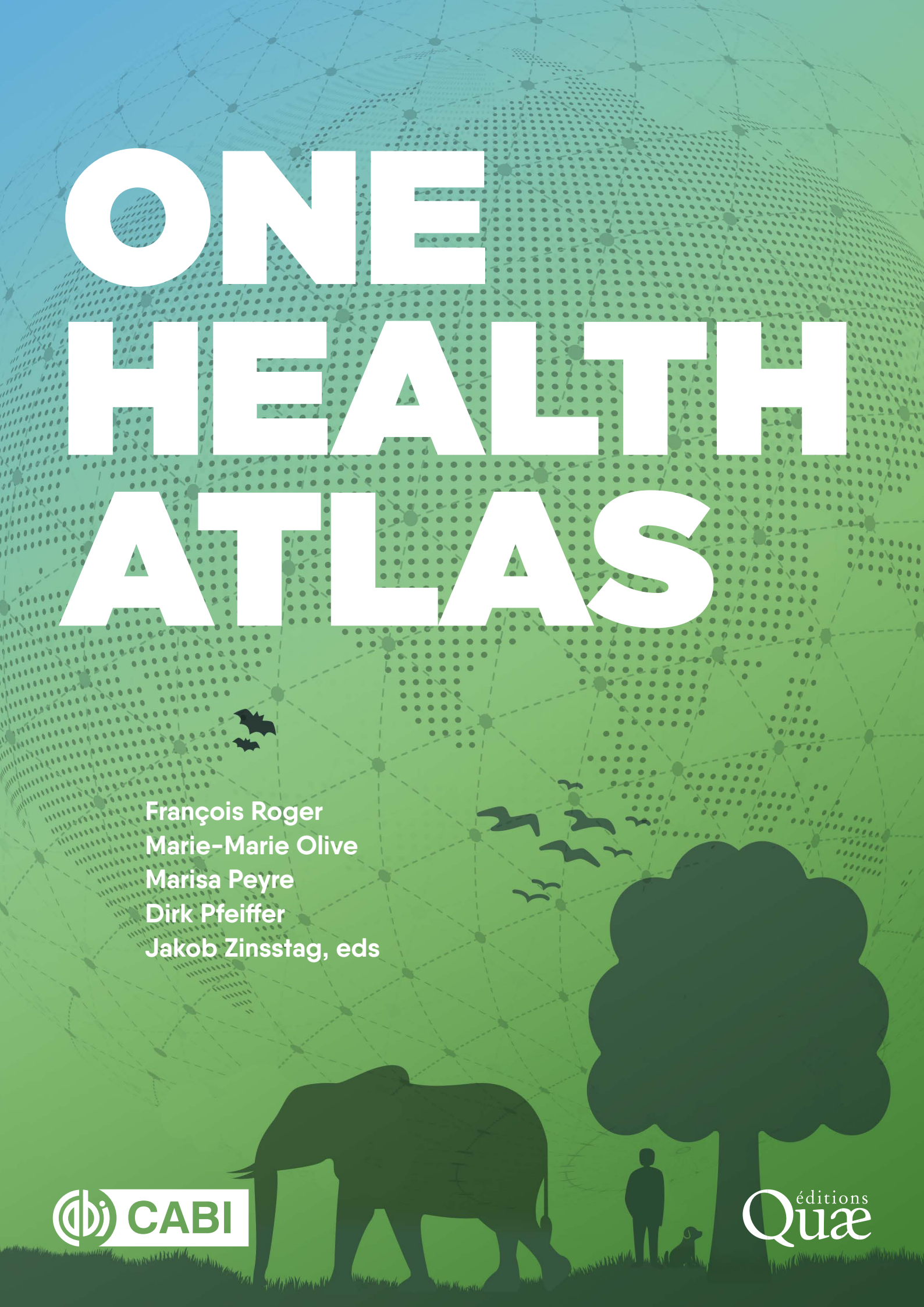

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Combating non-zoonotic animal plagues: the power of One Health in protecting livelihoods

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African swine fever (ASF) and peste des petits ruminants (PPR) are among the most devastating animal diseases (Figure 1). These two animal plagues have microbiological, epidemiological and ecological characteristics that justify differentiated study but present comparable difficulties with regard to their control and which requires an integrated perspective. The One Health approach can offer a solution in the face of these diseases due to the large impact they have on food security, economic stability, geopolitics and public health.

ASF is a viral disease that mainly infects domestic and wild pigs. The ASF virus is extremely contagious, usually fatal and always causes major economic losses in areas where people are reliant on pigs for their protein (meat) supply and incomes. PPR is a highly infectious viral disease of small ruminants and other domestic and wild species. PPR causes high mortality among livestock, which reduces incomes of poor farmers.

The One Health approach offers a structured framework for dealing with diseases like these with major social and economic repercussions. Neither PPR nor ASF is zoonotic, but due to their consequential effects on animal health, they indirectly affect human well-being by impacting the incomes of family farmers. These diseases can lead to food supply problems in areas depending heavily on livestock for nutrition and livelihoods. Added to these issues are the ecological consequences—i.e. impacts on wildlife and ecosystem disruptions. Effective disease control will require the veterinary and agricultural sectors to work together with environmental management and rural communities (Figure 2).

Successful execution of a One Health approach in terms of surveillance of these types of diseases requires integrated surveillance systems for domesticated and wild animals. These systems must be coupled with strong biosecurity methods and vaccination efforts where possible, with greater community engagement at the local level. Indeed, by involving farming communities in the decision-making process, we can ensure that the measures adopted are both sustainable and appropriate from a cultural point of view. Finally, integrating animal health into more comprehensive public and environmental health strategies strengthens community resilience and could mitigate the economic impact of an animal plague epidemic.

References

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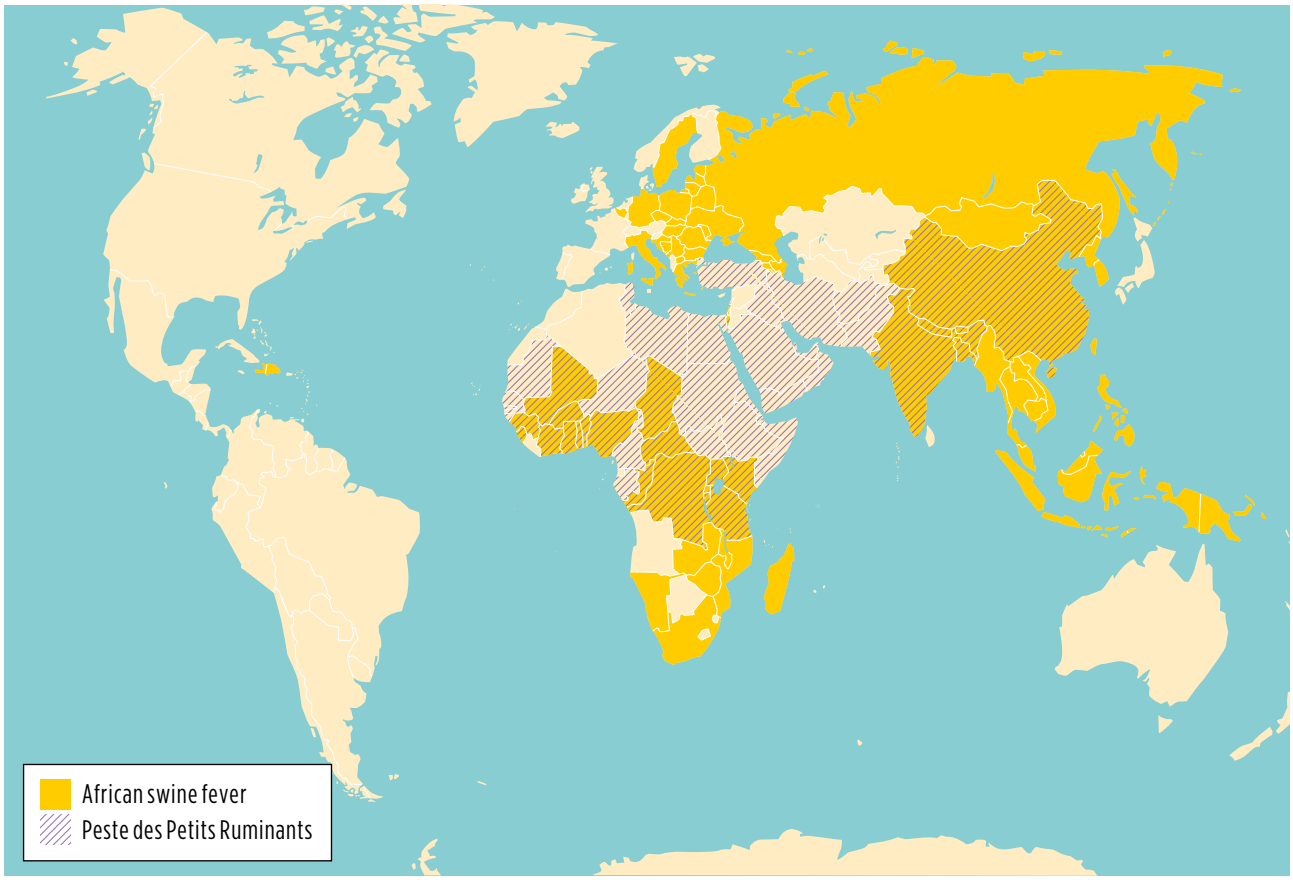

Figure 1. African swine fever (ASF) and peste des petits ruminants (PPR) distribution in 2024. From: World Animal Health Information System (WAHIS) – WOAH 2024.

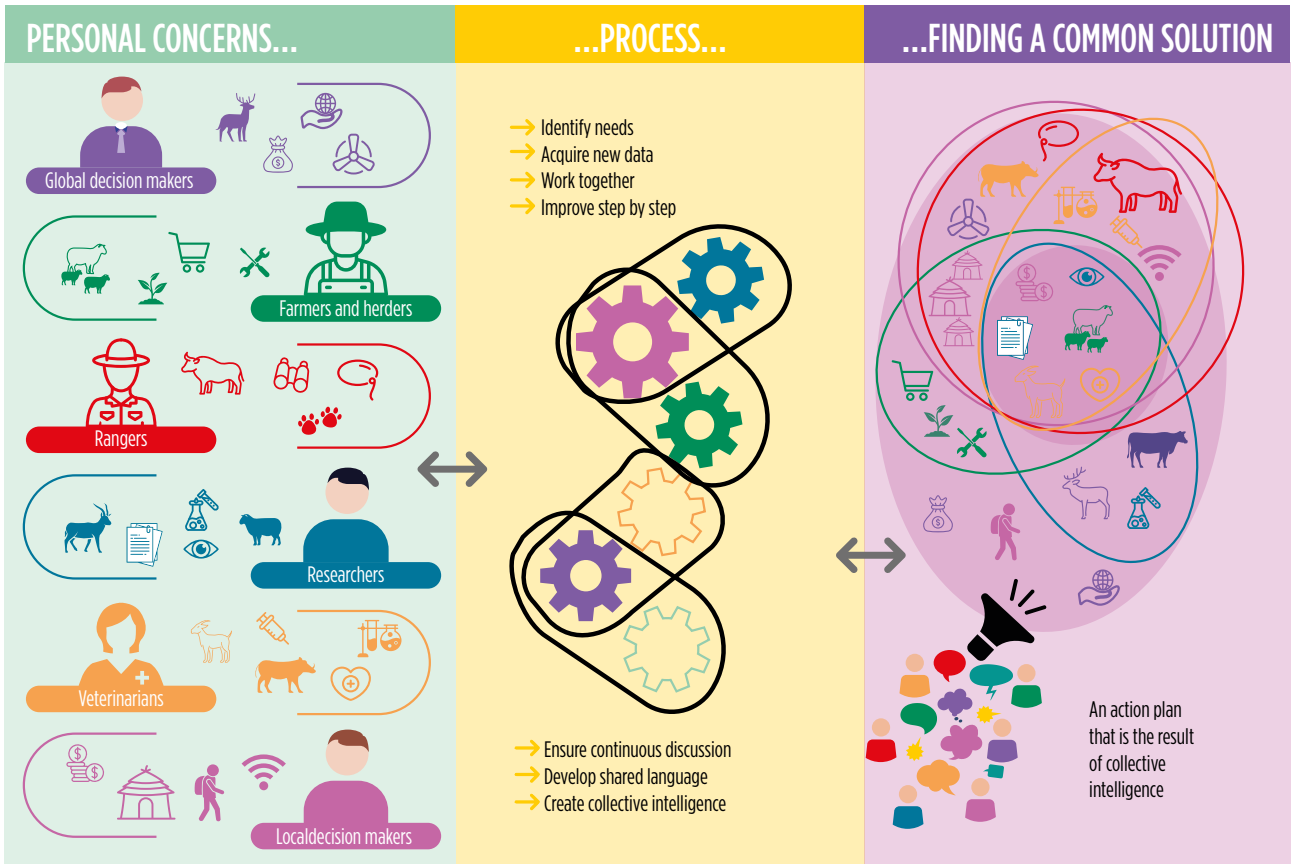

Figure 2. A collaborative process for controlling PPR, involving stakeholders such as global and local decision-makers, farmers, herders, rangers, researchers, and veterinarians, each with specific concerns like animal health and environmental sustainability. Central interlocking gears represent a four-step process: identifying needs, collecting data, collaborating, and continuous improvement. This process depends on ongoing dialogue, developing a common language, and fostering collective intelligence. On the right, stakeholders' concerns merge into a shared solution, depicted by overlapping circles. The co-developed action plan emerges through a funnel, integrating input from the diverse group. From: Roger *et al.* 2021.