# Nif-Naf project: from complex pig contact networks that contribute to ASF transmission to dynamics of emerging TADs

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Keywords: ASF, contact network, transboundary animal diseases, wild-domestic interface, socio-economic factors

Topic area: Epidemiology

Abstract Text (300 words):
Unravelling the effect of contact networks and socio-economic factors in the emergence of infectious diseases at the wild-domestic interface is the full name of the Nif-Naf project encompassing three countries of the SADC region, Madagascar, Mozambique and South Africa. The overall objective of this project is to improve the understanding of the complex pig contact networks that contribute to African Swine Fever (ASF) transmission and evolution in the region and how these impact global spread. This project combines the efforts of 8 partners over a four-year period to fill the gaps in the epidemiological knowledge of ASF. Results will allow the implementation of risk-based, cost-effective intervention strategies not only for ASF but for many other transboundary animal diseases (TADs). Indeed the gap analysis produced by the GARA working group recommended amongst eleven epidemiological priorities to intensify virus characterization from sylvatic cycle hosts in Africa, to better understand the socioeconomics of the disease and pig and pork value chains and to better understand the direct and indirect costs of ASF, both in epidemic and endemic situations. If, as mentioned by Penrith et al. (2019) the importance of wild suids in the epidemiology of ASF in Africa is

negligible compared to the domestic cycle and the importance of the socio-economic factors driving the animals (and virus) movements and the ability of the producer to implement or accept control measures, this sylvatic cycle should still be monitored when present in order to avoid re-emergence.

Therefore the consortium elaborated a three-phase approach. It plans firstly to comprehensively assess the pig contact networks, pig management and socio-economic factors, tick involvement in ASF virus (ASFV) transmission, ASF seroprevalence and viral diversity in the sylvatic and domestic cycles. The data obtained will enable the elaboration of models of ASFV transmission dynamics, economic impact and risk of introduction into free areas in different eco-epidemiological settings. The last phase will integrate data and modelling methods into a comprehensive, accessible, operational, user-friendly, long-term, scalable, analytical platform which aims to contribute to better prevention and control of ASF locally and globally.