Incidence and impact of classical swine fever on small holder pig production systems in Northeast India

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We conducted a cross sectional study in three states in Northeast India to estimate the incidence and impact of Classical Swine Fever (CSF) among small holder pig producers. Data were collected using participatory epidemiological methods and key informant interviews from a total of 60 villages distributed equally between 15 districts in Assam, Nagaland and Mizoram states. The impact on livelihoods was estimated from data on mortality, replacement and treatment costs. The study findings show that although a majority (over 80%) of the households in the area keep pigs and consider pig farming as an important source of income, level of production is low. Reasons given for this include: lack of feed, poor management practices, lack of capital, high prevalence of infectious diseases and poor veterinary infrastructure. The incidence, morbidity and case fatality rates of CSF were estimated to be 5.4% (95%CI: 3.5-8.0), 28.1% (95% CI: 20.4-36.6%) and 51.1-94.5% per year, respectively. The study also reveals that CSF outbreak lasts for about 36 days on average (95% CI: 19.0-53.8) suggesting that CSF outbreaks run their full epidemic course before burning out. Behavioural practices such as selling of infected or potentially infected animals during an outbreak as one way of avoiding mortality losses could be responsible for sustaining the transmission of the disease. Of the livelihood impacts estimated, the cost of mortality represents the single most important direct impacts (at 8.4% of the total expected annual income of US$581 per household in Assam, 0.9% in Mizoram and 2.8% at Nagaland). Economic losses from other impacts are not substantial as the annual treatment and replacement losses range between 0.05-0.11% and 0.05-0.48% of the annual household income, respectively. This information is being used to design appropriate interventions for CSF in the region.