ABSTRACT

Botswana's agricultural backbone the beef subsector, is threatened by recurrent foot and mouth disease (FMD) outbreaks. The current study was generally carried out to contribute towards better livelihoods of smallholder beef producers through enhanced resilience of their production systems to FMD in North East district, Botswana. Specifically, the study intended to; determine smallholder producers' perceived risk factors of the 2011 FMD outbreak, determine economic losses, and further determine factors attributed to the losses and finally to determine the role of factors on choice of smallholder producers' ex-post response to FMD. A multistage sampling technique was used to select 271 producers and were interviewed using a semi-structured questionnaire. Descriptive and inferential statistics, quantile regression and a multivariate probit models were used for analysis. Household heads whose livestock was affected by FMD were aged 55 years on average while those not affected were 58 years old. Affected farm households were from Matsiloje and Matshelagabedi, owned less cattle (21) and less agricultural land (4.43 ha) while those who were not affected were from Tsamaya, had more cattle (31) and more land (4.57 ha). Major five risk factors of FMD in the district were nearness to the border, cordon fence damage, livestock theft, communal grazing and farming in Matsiloje. In terms of economic losses, household farms in Matsiloje incurred more losses (BW151, 492.50/USD14, 796.00) than Matshelagabedi (BWP88, 639.68/USD8, 659.07) and Tsamaya (BWP75, 460.78/USD7, 371.65). Men owned more cattle (30) than women (19) thus incurred more losses. On that note, the government spent BWP11, 532, 500.00 (USD1, 126, 492.86) as compensation to producers. The economic losses incurred were increased by years of schooling, farm experience, market distance as well as the distance to grazing and water areas. In terms of ex-post responses to FMD, a positive effect towards adoption was observed with household size, opportunity cost incurred, frequency of contact with extension officers, training on FMD, market distance, distance to grazing and water areas as well as proximity to other household farms. In light of these results, policies geared towards reducing FMD costs through efficient control measures such as quarantine before stamping out are recommended. More education on FMD and sensitization of ex-post responses to the disease is vital to increase adoption of the same. Thus active involvement of relevant stakeholders, especially agricultural extension providers and the role of collective action are key in eradicating FMD.