

ABSTRACT

Contagious bovine pleuropneumonia (CBPP) is an important disease in sub-Saharan Africa. Data were collected in a cross-sectional survey involving 232 households, a longitudinal survey involving 39 herds, 32 outbreak investigations and a vaccination appraisal between July 2006 and March 2008 in Narok District. This was to measure the impact of CBPP and to determine the benefits and costs of vaccination against CBPP. Spreadsheet models estimated the cost of vaccination at KSh. 34.6-72.2 per animal. The value of annual production losses was KSh. 113.1 million. Of this, KSh. 38.3 million (33.9%) was due to mortalities, KSh. 43.8 million (38.7%) due to morbidity while KSh. 31.0 million (27.4%) was due to reproduction losses. The value of losses associated with response to outbreaks was KSh. 12.84 million. The average household losses due to CBPP were KSh. 275.3 thousand while the average income from cattle was KSh. 118.8 thousand. The annual cost of preventive CBPP vaccination was KSh. 8.53 million of which 64.8% was due to direct vaccination costs and 35.2% due to indirect costs following adverse reactions to vaccination. Following losses due to adverse reactions, 25% of cattle keepers may not vaccinate their cattle in subsequent vaccinations. A benefit cost analysis demonstrated the Benefit Cost Ratio (BCR) to be 5.64-9.60 at community level and higher at household level (9.8 -12.81). Biannual vaccination would raise net benefits but lower BCR (3.95-5.86). A break even analysis showed that the risk of herd outbreak would need to fall to less than 1.1% before it becomes uneconomical for cattle keepers to vaccinate against CBPP. In conclusion, CBPP has high impact on cattle productivity and has the potential to wipe out an entire household income from cattle. Vaccination is beneficial in the control of CBPP even if the risk of herd outbreaks were very low. Adverse reactions would discourage cattle keeper participation in vaccinations.

Key words: Impact, Contagious Bovine Pleuropneumonia, Vaccination, Narok, Kenya, Benefit – cost analysis, Break even analysis.