

Supplementary File S1: Questionnaire used for data collection.

Article Title

Willingness to Vaccinate and Pay for Foot-and-Mouth Disease Vaccines: Perspectives of Cattle Farmers and Policy Implications in Uganda

Journal Name

Veterinary Research Communications

Authors

Benedicto Byamukama¹, Asfor Amin^{1,3}, Frank Nobert Mwiine² and Abel Bulamu Ekiri^{1*}

Affiliations

¹ Department of Comparative Biomedical Sciences, School of Veterinary Medicine, Faculty of Health and Medical Sciences, University of Surrey, Guildford, GU2 7AL, United Kingdom.

² School of Biosecurity, Biotechnical and Laboratory Sciences, College of Veterinary Medicine Animal Resources and Biosecurity, Makerere University, Uganda.

³ School Department of Virology, Animal and Plant Agency, Woodham Lane, New Haw, Addlestone, KT15 3NB, Surrey, UK.

* Correspondence: Abel Ekiri, Email: ab.ekiri@surrey.ac.uk.

Supplementary File S1

Questionnaire used for data collection

Q1 To proceed with the survey, please indicate your willingness by ticking 'Yes' below. If you do not wish to participate, you may tick 'No,' and the survey will end.

☐ Yes, I do consent (1)

☐ No, I do not consent (2)

Q2. In which district is your farm/household located? _____

Q3. In which sub-county is your farm/household located? _____

Q4. In which parish is your farm/household located? _____

Q5. In which village is your farm/household located? _____

Q6. What is the name of your farm (if known) or owners' name? _____

Q7. For how long have you been practicing livestock farming?

☐ >10-15 years (6)

☐ >5-10 years (7)

☐ >15-20 years (4)

☐ >20 years (5)

Q8. What is your gender?

☐ Male (1)

☐ Female (2)

Q9. What is the highest level of education you attained?

☐ No education (8)

☐ Primary education (7)

☐ Secondary education (6)

☐ Tertiary education (Diploma) (5)

☐ University education (4)

Q10. What is your main source of income?

- ☐ Livestock farming (7)
- ☐ Crop farming (4)
- ☐ Working with private company or organization (6)
- ☐ Work with government (9)
- ☐ Private business or trading (8)
- ☐ Other (please specify) (5) _____

Q11. In your opinion, how do you rate the contribution of livestock to your income?

- ☐ 100% (1)
- ☐ 75% (2)
- ☐ 50% (3)
- ☐ 25% (4)
- ☐ Below 25% (5)

Q12. Which of these livestock species do you own? Select all that apply.

- ☐ Cattle (1)
- ☐ Sheep (2)
- ☐ Goats (3)
- ☐ Pigs (4)

Q13. For each of the livestock species selected above, what is the approximate number of animals owned?

- ☐ Cattle (1) _____
- ☐ Sheep (2) _____
- ☐ Goats (3) _____
- ☐ Pigs (4) _____

Q14. If you keep cattle, what type of production system do you use?

- ☐ Pastoral system (1)
- ☐ Agro-pastoral system (2)
- ☐ Ranching (3)
- ☐ Paddock (4)
- ☐ Zero grazing (5)
- ☐ Free-range (6)
- ☐ Other (please specify) (7)

Q15. Which breeds of cattle and number of cattle do you own? (Select all that apply)

- ☐ Local breeds (e.g., Ankole Longhorn, Small East African Shorthorn Zebu) (1) _____
- ☐ Crossed breeds (non-descript) (2) _____
- ☐ Pure exotic breeds (e.g., Holstein Friesian, Jersey) (3) _____

Q16. Do you know about Foot and Mouth Disease (FMD)?

- ☐ Yes (1)
- ☐ No (2)

Q17. If yes, please specify the features or symptoms of FMD you have observed in animals (Select all that apply):

- ☐ Lamé cattle (1)
- ☐ Salivation or saliva flowing from mouth constantly (2)
- ☐ Foot lesions or wounds on foot (3)
- ☐ Mouth lesions or wounds inside the mouth (4)
- ☐ Others (please specify) (6) _____

Q18. Do you know there is a vaccine against FMD?

- ☐ Yes (1)
- ☐ No (2)

Q19. Has FMD affected animals on your farm?

- ☐ Yes (1)
- ☐ No (2)

Q20. If yes, please explain how it has affected you or your animals (Select all that apply)

- ☐ Reduced milk production (4)
- ☐ Weight loss in animals (5)
- ☐ Decreased market value of livestock (6)
- ☐ Restrictions on the movement of animals (quarantine) (7)
- ☐ Increased veterinary costs (treatment, vaccination, etc.) (8)
- ☐ Loss of income from selling livestock (9)
- ☐ Reduced access to livestock markets (10)
- ☐ Costs related to implementing biosecurity measures (fencing, disinfectants, etc.) (11)
- ☐ Increased labor costs (e.g., for animal care during quarantine) (12)
- ☐ Delayed breeding or loss of productivity in breeding animals (13)
- ☐ Emotional stress or anxiety due to fear of losing animals (14)
- ☐ Other (please specify): (15) _____

Q21. If you have not had FMD cases at your farm, have you been affected by restrictions on the movement of animals imposed in affected areas close to your farm/home?

- ☐ Yes (1)
- ☐ No (2)

Q22. If yes, please explain how it has affected you (Select all that apply)

- ☐ Loss of access to livestock markets (4)
- ☐ Decreased income from livestock sales (5)
- ☐ Inability to transport animals for breeding (6)
- ☐ Higher costs for feeding animals due to inability to sell or move them (7)
- ☐ Increased veterinary expenses (e.g., preventive treatments or vaccinations) (8)
- ☐ Delays in selling livestock, leading to overcrowding or overgrazing (9)
- ☐ Impact on farm management decisions (e.g., breeding or restocking) (10)
- ☐ Additional costs for biosecurity measures (e.g., fencing, disinfecting) (11)
- ☐ Increased labour costs due to prolonged care for animals during quarantine (12)
- ☐ Emotional stress or anxiety due to the uncertainty caused by quarantine (13)
- ☐ Other (please specify): (14)

Q23. How long did the restrictions on the movement of animals last?

- ☐ Less than 1 month (1)
- ☐ 1-3 months (4)
- ☐ 4-6 months (5)
- ☐ More than 6 months (6)

Q24. Have you previously vaccinated your animals against FMD?

- ☐ Yes (1)
- ☐ No (2)

Q25. How frequently would you be willing to vaccinate your animals against FMD?

- ☐ Every 6 months (1)
- ☐ Once a year (3)
- ☐ Once every two years (2)
- ☐ Only during FMD outbreaks (4)
- ☐ Only when FMD vaccine is available (5)

Q26. What ONE factor mainly influences your decision the MOST to vaccinate cattle on your farm/household against FMD?

- ☐ Availability of the vaccine (1)
- ☐ Access to the vaccine (2)
- ☐ Restrictions on the movement of animals (3)
- ☐ FMD outbreaks in areas neighbouring farm/household (5)
- ☐ Other (please specify) (4)

Q27. Which livestock species would you be willing to vaccinate against FMD on your farm or household? Select all that apply.

- ☐ Cattle (1)
- ☐ Goats (2)
- ☐ Sheep (3)
- ☐ Pigs (5)
- ☐ None (4)

Q28. Assuming the FMD vaccine was available for purchase, would you be willing to pay or purchase the vaccine privately at an estimated price of Ug Shs 7,600 per dose/animal?

- ☐ Yes (1)
- ☐ No (2)

Q29. If not, would you be willing to pay if the price was lowered to Ug Shs 3800 per dose/animal?

- ☐ Yes (1)
- ☐ No (2)

Q30. Based on your opinion, can you rank the risk of occurrence of FMD in animals on your farm?

- ☐ Low (2)
- ☐ Moderate (3)
- ☐ High (4)
- ☐ Do not know (6)

Q31. Based on your opinion, can you rank the risk of occurrence of FMD in animals in areas neighbouring your farm?

- ☐ Low (2)
- ☐ Moderate (3)
- ☐ High (4)
- ☐ Do not know (6)

Q32. What do you believe is the potential negative impact of FMD on milk production on affected farms?

- ☐ Low (2)
- ☐ Moderate (3)
- ☐ High (4)
- ☐ Do not know (6)

Q33. What do you believe is the potential negative impact of FMD on deaths of animals on affected farms?

- ☐ Low (2)
- ☐ Moderate (3)
- ☐ High (4)
- ☐ Do not know (6)

Q34. What do you believe is the potential negative impact of FMD on the weight of affected animals?

- ☐ Low (2)
- ☐ Moderate (3)
- ☐ High (4)
- ☐ Do not know (6)

Q35. What do you believe is the potential cost of treating animals affected by FMD?

- ☐ Low (2)
- ☐ Moderate (3)
- ☐ High (4)
- ☐ Do not know (5)

Q36. Do you believe FMD vaccines are useful for preventing FMD?

- ☐ Strongly Disagree (1)
- ☐ Disagree (2)
- ☐ Neutral (3)
- ☐ Agree (4)
- ☐ Strongly Agree (5)

Q37. Do you believe FMD vaccination protects other animals in the herd against FMD?

- ☐ Strongly Disagree (1)
- ☐ Disagree (2)
- ☐ Neutral (3)
- ☐ Agree (4)
- ☐ Strongly Agree (5)

Q38. Do you receive information about FMD vaccines?

- ☐ Yes (1)
- ☐ No (2)

Q39. If yes, how do you receive the information about FMD? (Select all that apply)

- ☐ Through Radio (1)
- ☐ Through TV (6)
- ☐ Neighbours (2)
- ☐ Through WhatsApp (3)
- ☐ Through Vets visiting my farm (4)
- ☐ Through workshops (7)
- ☐ Others (please specify) (5) _____

Q40. Do you believe FMD vaccines provide protection only for 6 months?

- ☐ Yes (1)
- ☐ No (2)
- ☐ Do not know (3)

Q41. How often do you use veterinary services providers when faced with animal health problems on your farm/household?

- ☐ Never (3)
- ☐ Sometimes (2)
- ☐ Always (1)
- ☐ Other (please specify) (4) _____

Q42. What do you see as barriers to vaccination against FMD? (Select all that apply)

- ☐ High cost of FMD vaccine (1)
- ☐ Unavailability of FMD vaccine (2)
- ☐ Lack of knowledge about the benefits of the FMD vaccine (3)
- ☐ FMD vaccines do not work (6)
- ☐ FMD vaccines work but poorly or Poor effectiveness of the FMD vaccine (7)
- ☐ Lack of access to veterinary services (8)
- ☐ Do not trust the FMD vaccine (9)
- ☐ Movement of animals (10)
- ☐ Others (please specify) (5) _____