Author’s response to reviews

Title: An integrated study of human and animal infectious disease in the Lake Victoria Crescent small-holder crop-livestock production system, Kenya

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Response to Editor

1. Please clarify if a Kenyan body approved the animal sampling

- The Animal Welfare and Ethical Review Body of The Roslin Institute, University of Edinburgh, UK granted ethical approval for this study (AWA004), the KEMRI National Ethics Review Committee accepted the Roslin approval. The host institute, ILRI, had no functioning Animal Committee at that time (though now it has its own Government of Kenya Approved Institutional Animal Care and Use Committee - IACUC).

2. We cannot publish Google Earth images as the copyright does not permit this. Please replace your map images with ones you have created or which have copyright that would allow modification and publication under a Creative Commons 4.0 licence.

- We have created new maps (Figure 4 and Figure 7) to replace the Google Earth images.
Response to Reviewer 1

1. Line 146: random sampling of households was stratified within sub-locations. What was the stratifying variable?

   - Thank you for pointing out this error: sublocation was the stratifying variable. We have therefore changed “within” to “by” (line 151, page 6)

2. Line 159: the nearest human habitation within 300 metres was selected for recruitment. Was it not possible to have more than one human habitation within the defined distance and if so how were they recruited?

   - It was possible, but we would select the closest household to the point. This has been made clearer with the insertion of the following: “Distance between the point and habitations was assessed using the path distance function on the GPS. Where two or more habitations were within the same distance from the point, the household that was closest to a north bearing was selected.” (line 169-171, page 7).

3. Lines 176-182: Is that each household occupant meeting the study inclusion criteria was sampled? Not very clear.

   - Thank you for pointing this out. We have added “was invited to participate” to the previous section (line 183, page 7). To make it clearer that these individuals then went on to physical exam and sampling, we have also added the words “Following the questionnaire” to the section you refer to (line 189, page 7).
4. Lines 183-193: Is that all bovine and pigs meeting the inclusion criteria at each selected household were sampled?

- Thank you for pointing this out. Yes this was the case, and this has been made clearer in the text (line 198, page 8).

Response to Reviewer 2

1. I wish if the authors can elaborate more on how they selected the households.

- Additional detail has been added to the section describing household selection procedure, see lines 169 – 171, page 7.

2. They spoke about a proportion between the cattle and the population. I wish if they can elaborate more on this so that a clear view will be availed for readers.

- We have added more detail to the section describing the justification for sampling proportional to the size of the cattle population (page 152 – 156, page 6). In lines 140 to 149 (page 6), we also highlight that the sampling strategy is aimed at estimating the prevalence of infection/exposure in the cattle population.