

Human–elephant interactions in areas surrounding the Rungwa, Kizigo, and Muhesi Game Reserves, central Tanzania

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SUPPLEMENTARY MATERIAL 1 Household questionnaire. This is an English translation of the questionnaire, originally written in Swahili, used by researchers in the survey of human–elephant interactions carried out from June 2015 to August 2015 (see text for details).

Questionnaire No: _____ Interviewer: _____ Date _____
 Household GPS Coordinate: _____ Village _____

A. General information about a respondent

- I. Sex: 1. Male () 2. Female ()
- II. Tribe _____
- III. Place of origin _____
- IV. Age: 1. 18-30 (), 2. 31-40 (), 3. 41-50 () Above 50 ()
- V. Level of Education: 1. Primary school (),
 2. Secondary school or above (),
 3. Other (specify) _____
- VI. Were you born in this village? 1. Yes (), 2. No ().
- VII. If immigrated to this village, what was the reasons?
 - 1. Land for agriculture ()
 - 2. Pasture for livestock ()
 - 3. Marriage ()
 - 4. Employment ()
 - 5. Income generating activities ()
 - 6. Education for children ()
 - 7. Other (specify) _____

VIII. Household composition

Gender	Number	Adults (18 year ≥)	Youth (11 -17 years)	Children (6 -10 yrs)
Males				
Females				
Infants (0-5 yrs)				

B. Nature and types of human–elephant conflict in relation to the distance from Rungwa Game Reserve and other human wildlife conflicts

1. Have you ever experienced conflicts/problems with elephants in your village in the past 2 years?

1. Yes (), 2. No ().

2. If an answer for the question above is "yes", What are types of conflicts with elephants known to occurred in the past 2 years based on the following categories,

1. Crop raiding ()
2. People attacked and killed ()
3. People were attacked and injured ()
4. Grain stores demolished by elephant ()
5. Water infrastructure destroyed ()
6. Livestock were attacked by elephant ()
7. Others (specify) _____

3. What are the possible reasons/conditions that influence elephants to attack people, damage crops and other property based on the following alternatives?

1. Elephants looking for water in the village land ()
2. Settlement along / close to wildlife/elephant corridor ()
3. Farm yard close or along the elephant corridor ()
4. Settlement and/ or farms close to RGR ()
5. Elephants prefer to feed a certain kind of crop(s) ()
6. Others (specify) _____

4. What is the average distance from your home to RGR

1. From 0 to 0.5Km ()
2. From 0.5 to 1km ()
3. From 1 to 4 km ()
4. From 4 to 5 km ()
5. >5km ()

5. Where do you fetch water for domestic use?

1. Natural springs, rivers, dams or basins in the public land ()
2. Natural springs, rivers, dam, or basins in RGR ()
3. Piped water ()
4. Shallow wells ()
5. Other sources (Specify) _____

6. Do you share the same water sources with elephants? 1. Yes (), 2. No ().

7. If the answer for the above question is "yes" what are they?
1. Natural springs, rivers, dams or basins in the public land ()
 2. Natural springs, rivers, dam, or basins in RGR ()
 3. Others (Specify)_____

8. Can you recall the average damage of crops (in acres) caused by wild animals for the duration starting 1st June 2014 to 31st May 2015

	Type of crop	Acres cultivated	Acres damaged	Animals responsible
1				
2				
3				
4				

9. Rank crops with respect to their vulnerability to crop damage by wildlife?

1. _____
2. _____
3. _____
4. _____

10. Do you face problems with other wild animals in your area? 1. Yes (), 2. No ()

11. How can you rank them including elephant from the most problematic to the least ones?

1. Elephant ()
2. Hyena ()
3. Bush pig ()
4. Baboon ()
5. Lion ()
6. Others (Specify)_____

12. Do wild animals prey on your livestock? 1. Yes (), 2. No ()

13. If the answer to question above is yes, what are the wild animals involved and the livestock preyed?

Year	Wild animal involved	Livestock killed	Number of livestock
	1.		
	2.		
	3.		

C. Livelihood activities of the surrounding communities and their affect on elephant and wildlife conservation

14. What are your major sources of income?

1. Cultivation ()
2. Livestock keeping ()
3. Charcoal making ()
4. Employed ()
5. Business ()
6. Others (Specify)_____

15. If cultivation is among the source of your income, what types of crops do you grow?

1. Maize ()
2. Beans ()
3. Rice ()
4. Millet ()
5. Sorghum ()
6. Others (Specify) _____

16. If you cultivate rice, where do you get water for paddy?

1. River or stream that run from the public land to RGR ()
2. River or stream that run from the RGR to the public land ()
3. Swamps, dam or marsh area in the public land ()
4. Others (Specify)_____

17. What is the average distance from your farms to RGR?

1. From 0 to 0.5Km ()
2. From 0.5 to 1km ()
3. From 1 to 4 km ()
4. From 4 to 5 km ()
5. >5km ()

18. Do you have the livestock? Yes (), No ()

19. If the answer is yes for the question above, how many livestock do you own? (Number)

1. Cattle_____
2. Sheep_____
3. Goat_____
4. Others (specify)_____

20. Where do you fetch pasture for your livestock?
1. From my farm located <0.5km from RGR ()
 2. From my farm located >0.5.km from RGR ()
 3. From the village land which is >0.5km from RGR ()
 4. From the village land which is <0.5km from the RGR boundary ()
 5. Others (Specify)_____

21. Where do you get water for your livestock?
1. Natural springs, rivers, dams or basins in the public land ()
 2. Natural springs, rivers, dam, or basins in RGR ()
 3. Others (Specify)_____

D. Awareness of local communities toward effective human–elephant conflict mitigation measures

22. Are you aware of mitigation measures that have been applied to control human–elephant conflict?
Yes (), No ()

23. What are the mitigation measures currently in place for the control of human–elephant conflict? (Rank them by name and number in the bracket from the most effective to te least ones)
1. Disturbance shooting ()
 2. Destruction/killing of the problem elephant ()
 3. Chili methods ()
 4. Making noise through bang of tins and other noise making objects ()
 5. Beehives fence ()
 6. Flash light ()
 7. Consolation scheme ()
 8. Others (Specify)_____

24. What are the other mitigation measures which you think will be effective when applied?
1. Translocation of problem elephants ()
 2. Eviction of people from the conflict zone ()
 3. Others (specify)_____

25. Is crop raiding seasonal?
1. Yes () which months _____
 2. No () or year round, for which crops _____

26. At what time of the day do most of human–elephant conflict incidents occur?
1. Day ()
 2. Night ()

27. Upon human–elephant conflict incidents, where do you report such cases?

1. Village leaders ()
2. Ward leaders ()
3. District Game Officer ()
4. Wildlife authority (Management of RGR, Antipoaching Units etc) ()
5. Others (Specify)_____

28. What can you say about the response of the relevant authorities after they receive the report of cases?

29. What methods do you use to curb livestock attack by wild animals?

30. What alternatives do you think should be introduced/ adopted?

E. Attitude of local communities toward elephants and wildlife conservation

31. Have you ever heard of elephant killed in the village land? 1. Yes (), 2. No ().

32. If the answer for the above question is "yes" what was the reason for the killing?

1. Problem animal control conducted by wildlife authority ()
2. Problem animal control organized by the local people ()
3. Poaching for ivory involved local people ()
4. Retaliation killing organized by affected people ()
5. Others (Specify)_____

33. Can you share the same land with elephant? 1. Yes (), 2. No ()

34. Is there any importance of conserving elephant and other wildlife? 1. Yes (), 2. No ()

35. What are the benefits you normally get from elephant and wildlife conservation?

36. Do you support the current conservation initiatives of elephant and other wildlife?

1. Yes (), 2. No()

37a). If yes, what kind of support do you offer?

1. Play the role of informant in uncovering of poachers ()
2. Participate physically in anti-poaching activities with wildlife authority ()
3. Others (specify)

b). If no, why not and do u have any suggestions to improve these conservation initiative or something similar

38. What is your support on elephant/wildlife conservation in areas?

1. Very good
2. Good
3. Moderate
4. Poor
5. Very poor

39. What are your comments or interesting suggestions/story related to human–elephant conflict, elephant and wildlife conservation?
