

Project Update: March 2014

The activities of the first month involved conducting a survey in the sectors where the Musanze Caves are located. The sectors covered were mainly Musanze and Muhoza. The survey covered 100 homes and from each home one person was interviewed using a questionnaire format. The period to do the survey was 11 days. The main aim of the survey was to help all stakeholders on the way forward to making informed management decisions on conserving bats and their roosting sites.

SURVEY OBJECTIVES:

The primary objectives of this study were to investigate public awareness, knowledge, perception, common threats and ways of conserving the bats among residents of local communities living around volcanic caves of Musanze. Specifically the survey was designed to answer the following questions:

- What is the level of familiarity with the Musanze volcanic caves bat population?
- What is the level of knowledge about bats and their benefits to us and our environment?
- What are the attitudes and beliefs toward bats?
- What are the threats that are faced by bats in the area?
- How best can we conserve the bats in our environment?

METHODOLOGY

During the survey, questionnaire method was used to collect data from 100 people living in the areas around Musanze volcanic caves.

DATA ANALYSIS

The data obtained were grouped, and analyzed and are presented as percentages. The results of the study are presented and interpreted using the following tables and graphs.

Table 1. Respondents according to their sectors of residence

What is sector of residence?	Frequency	Percentage
MUSANZE	34	34
MUHOZA	37	37
SHINGIRO	13	13
MUKO	2	2
GATARAGA	1	1
KIMONTI	10	10
KINIGI	3	3
Total	100	100

The majority of respondents were from Musanze(34%) and Muhoza(37%) sectors, and a few number of people from other sectors namely Shingiro, Muko, Gataraga, Kimonyi and Kinigi that are neighbouring the first two sectors.

The first two sectors (Musanze and Muhoza) are the ones where Volcanic caves of Musanze are located and that where our study took place. The respondents from other sectors we met them when doing their daily activities in the first two sectors' area.

Table 2.Familiarity with Musanze caves

Have you ever been in Musanze caves	Frequency	Percentage
Yes	51	51
No	49	49
Total	100	100

The table shows that 51% of respondents have been in Musanze caves at least once, while 49% have never been there

Table 3.Familiarity with Bats

Have you ever seen bats?	Frequency	Percentage
Yes	84	84
No	16	16
Total	100	100

Residents of areas around the caves appear to have a high familiarity with bats. 84 percent of respondents had seen a bat at least once in their life. When asked where they have seen bats, a majority of respondents have seen bats in Musanze caves. Only a small portion of those respondents have seen bats in some other places like trees, their houses, etc.

Table 4.Knowledge about Bats benefits to people and environment

Do you know the importance of bats to us and our environment?	Frequency	Percentage
Yes	21	21
No	79	79
Total	100	100

When asked about their knowledge regarding the benefits to bats to people and the environment, residents felt they knew nothing to very little about bat benefits to us and our environment. Only 21 percent said they knew the importance of bats to people and environment. Overall residents' actual knowledge about benefits from bats is very low.

Table 5. Attitudes and Beliefs toward Bats

Residents were asked if they like the bats and how they perceive them in general results from residents are presented below.

Do you like bats?	Frequency	Percentage
Yes	54	54
No	41	41
Neutral	5	5
Total	100	100

When asked more detailed questions about their general beliefs regarding bats, 54 percent of respondents believed that they are beneficial and are an important part of a healthy ecosystem and believed that they deserve protection. 41 percent said they don't like them and view them as a nuisance or threat while only 5 percent remained neutral.

Table 6. Threats faced by bats

What threats do you think are faced by bats?	Frequency	Percentage
Disturbances from people going into the caves	21	21
Climate change	1	1
Diseases	3	3
Loss of their feeding area	4	4
Predators	6	6
Dirtiness of their habitat	11	11
Loss of their habitat due to farming encroachment	17	17
Some are killed by people	24	24
I don't know	8	8
No threats	5	5
Total	100	100

A big number of respondents said that bats are threatened/ disturbed mostly by local children who kill them using stones but also adult's people who go into the caves to look for manure from bats fecal droplets.

Table 7. Residents ideas on how to conserve bats

How best can we conserve the bats in our environment?	Frequency	Percentage
Awareness campaign among people on the importance of bats	15	15
Feeding them	7	7
Protection of their habitat	23	23
Regular inspection for diseases	1	1
Children education on the importance of bats to people and	17	17

environment		
Hygiene of the caves	3	3
I have no idea	34	34
Total	100	100

Residents had various ideas related to bat conservation with the majority having no idea on how to conserve the bats, but others thought protection of their habitat was crucial and increasing public awareness about the bats importance.

CONCLUSION

To conclude this report:

- ✓ Residents had a high familiarity with bats but were not knowledgeable about them.
- ✓ Residents had various ideas related to bat conservation and need public sensitization.
- ✓ Residents had positive attitudes and beliefs toward bats but a considerable percentage view them negatively.
- ✓ There is urgent need for public sensitization and education about bats for their long term conservation

PICTURES OF THE SURVEY AND THE MUSANZE CAVES



Project assistant Dr. Gaspard Nzayisenga conducting the interviews. Photos by Dr. Julius Nziza



Left: *Rossetus aegypticus* roosting in one of musanze caves. Right: is entrance on the non tourism caves inhabited by different bat species. Photos by Dr. Julius Nziza



Left: is signage for the musanze caves used by tourist developed by Rwanda Development Board. Right: is a tourist trail developed to ease tourist's entry into the caves in Musanze. Photos by Dr. Julius Nziza