

Assessment of the “*Living Safely with Bats*” Picture Book Discussion Guide for the Bundibugyo Context, Uganda

A Report from STOP Spillover

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A post-test exercise for Living Safely with Bats at Burondo sub county

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LIST OF ABBREVIATIONS

FGD	focus group discussion
OH-DReaM	One Health Design Research and Mentorship
OM	outcome mapping
STOP Spillover	Strategies to Prevent Spillover
USAID	United States Agency for International Development
VHT	Village Health Team member

STRATEGIES TO PREVENT (STOP) SPILLOVER PROJECT

Strategies to Prevent (STOP) Spillover, a USAID-funded project led by Tufts University, is a global consortium of experts in human, animal, and environmental health who will take the next step in understanding and addressing the risks posed by known zoonotic viruses with the potential to spill over to humans and cause pandemic crises.

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INTRODUCTION

STOP Spillover was launched in Uganda in 2020 and, in September 2021, the team held an outcome mapping (OM) planning workshop during which national stakeholders prioritized the bat-human interface as the initial high-risk interface for the project to support risk reduction interventions. The national level OM workshop was followed by a three-day interface workshop in Bundibugyo, which was selected as the target district due to the presence of several modes of human-bat interaction. The specific human-animal interactions in Bundibugyo include hunting, cave tourism, agricultural fields, a large bat population in the community, and a history of an Ebola outbreak.

Local stakeholders identified activities to address the gaps and challenges at the bat-human interface during the OM process. Following this process, the year two work plan (November 2021-April 2022) was drafted and reviewed and the STOP Spillover team began implementation. The STOPspillover staff working closely with the OH-DReaMs team and District leaders planned the following research activities and interventions specifically for the bat-human interface in Bundibugyo district.

Activity 1: Investigate bat host ecology and human behavioral risk factors associated with human-bat interaction.

Activity 2: Explore the behavioral, sociocultural, gender-specific, and economic risk factors.

Activity 3: Improve household and community practices to reduce human contact with bats by engaging communities through a social and behavior change intervention strategy to promote safe practices.

Activity 4: Improve household and community practices to reduce human contact with bats by promoting protection of household and communal water resources and food safety.

Activity 5: Develop and evaluate a community-based bat-human interface monitoring program for zoonotic spillover early warning and response.

ASSESSMENT PURPOSE AND RATIONALE

The *Living Safely with Bats* picture book was developed under the USAID-funded PREDICT project and piloted in Sierra Leone as a community discussion guide following the discovery of a new Ebola virus in bats in Sierra Leone in 2018. As one component of Activity 3 described above, this assessment exercise aimed to build on USAID's investment in this resource by assessing the suitability and usability of *Living Safely with Bats* in the Bundibugyo District context to inform its adaptation.

OBJECTIVES

To gain an understanding from the intended audiences (women, youth, men) and users (village health teams (VHTs), district officials, and subcounty extension workers) if the *Living Safely with Bats* resource is:

- Understood as intended (clarity of messages)
- Attractive and appealing
- Believable
- Socially and culturally acceptable
- Recommending practices that are doable
- Identifiable and relates to issues affecting audiences
- Persuasive and motivates action
- Requiring improvement/adaptation and, if so, how?

Highlights of the Assessment

OVERVIEW

From February 22-24, 2023, STOP Spillover staff and the One Health Design Research and Mentorship (OH-DreaM) Working Group conducted an assessment exercise for the *Living Safely with Bats* discussion guide in the three subcounties of Harugale, Ntandi, and Burondo specifically targeting women, district technical staff, and VHTs. The exercise aimed to assess the usability and appropriateness of the material for the local context to inform its adaptation for use in Bundibugyo District. The exercises were held from 2-5 p.m. in each of the subcounties.

Table I. Information on each assessment session

Date	Subcounty	Venue	Target group
February 22	Harugale	Harugale Subcounty Headquarters	<ul style="list-style-type: none"> ○ Women ○ Youth
February 23	Ntandi	Ntandi Town Council Headquarters	<ul style="list-style-type: none"> ○ VHTs ○ Extension workers ○ District officials
February 24	Burondo	Burondo Catholic Church	

METHODOLOGY

The assessment exercise was conducted using several data collection methods including:

- Focus group discussions (FGDs) with primary audiences including women and youth
- Interviews with secondary audiences (users of the discussion guide) including VHTs, district officers, and subcounty extension officers.

STOP Spillover staff facilitated FGDs comprised of 13-15 participants with support from the OH-DreaM Working Group including the district health educator and subcounty extension officers.

During the post-test exercise, participants were introduced to the activity, showed the picture book page by page, and asked the questions in Box I (similar to a pre-test methodology).

Box I: Assessment questions

- In your own words, what is happening in the pictorial guide? What is it all about?
- What do the messages/pictorial guide say? (Probe for pictures and check if they are also understood.)
- Who do you think the messages are speaking to? Why?
- How does the message in the guide make you feel/think about yourself and/or your family?
- Were you able to read all the content in the guide, how easy was it for you?

- What words/sentences/images are difficult to understand?
- Is there anything that would be disliked by you or other people? Why?
- What do you think the guide is asking you or other people to do?
- How can this guide be improved? (Propose any potential areas of improvement.)

RESULTS

The discussions from the FGDs with women and youth and interviews with VHTs and extension officers are summarized in Table 2 below.

Table 2. Page-by-page summary of responses to *Living Safely with Bats*

Section and page	Observation of picture/ illustration	Message/content	Proposed Improvement
Section 1. Bats are an Essential Part of our Ecosystem Page 1	Picture shows a tree with fruits and bats moving around it and after a bat drops something like seeds and the other small trees are seen bats might have led to growing of young trees.	Message interpreted as bats spread seeds in the environment and allow young trees to grow.	None
Page 2	The picture shows flowers and bat eating flowers and the juice found in the flower and other insects are moving around the flower. Picture shows that bats are eating insects that feed on the flowers.	Message on pollination is not well understood.	Pollination should be explained in simple language and picture should be clearer.
Section 1. Bats are an Essential Part of our Ecosystem Page 3	Picture shows maize with a bat eating the insects on one side and the other side shows dead plants with many insects.	Message understood as bats eat insects that destroy crops.	Image should be improved so that the dead plants look like real maize but damaged and stunted.
Section 2. Ways to Live Safely with Bats: The Basics Page 4	Picture shows a young boy shooting bats with a catapult, a woman preparing bats to eat, and a sick boy. It is not clear what is going on under the shade.	Message interpreted to mean that bats carry diseases so they should not be killed and eaten.	Illustration should be modified to clearly reveal trading of bats (market), e.g., a typical market with piles of bats, a number of people waiting to make purchases, and the visible exchange of money.

			Messages should also mention other bat-related diseases
Page 5	The image of blood around the dead bat looks like a red fruit at first sight. The red circle shows danger.	Message interpreted as touching bats should be avoided	Modify the image of blood to appear like real blood.
Page 6	Picture shows bats defecating in uncovered food and water.	Message interpreted as food and water should be covered to avoid bat contamination.	No proposed change
Page 7	Picture shows bats eating fruits and then a woman eating and a pig also eating the nibbled fruits.	Message interpreted as fruits partially eaten by bats shouldn't be eaten or given to animals due to the risk of disease.	Message is long and can be simplified.
Section 3. How to Dispose of Dead Bats Page 8	Picture shows people burning a dead bat or burying it while using protective wear such as gloves, masks. They are using a shovel/ spade to bury it.	Message interpreted as touching dead bats should be avoided due to risks of disease.	Picture can present more options such as using a polyethene bag in the absence of gloves; using a hoe and sticks to carry bats for burying. In the message, a handkerchief or lesu scarf can be added in case one has no mask.
Page 9: How to Dispose of dead bats	Picture shows several options of washing hands after touching or disposing off dead bats. Options include using soap and running water as well as disinfectant.	Message interpreted as the need to wash hands after touching dead bats due to the risk of infection if hands are not washed.	Add option for using ash for handwashing if soap is unavailable.
Section 4. If Contact with Live Bats is Unavoidable	Picture shows woman under a tree and bats defecate on her; she then washes her face under a tap although	Message is interpreted as hands and body should be washed after coming in	Modify the picture to show the arms of the lady washing her face.

	<p>she doesn't appear to have arms. The clock indicates the that washing should be done immediately.</p>	<p>contact with a bat or its fluids.</p>	
Page 11	<p>Picture shows what to use when washing a part of the body scratched by a bat.</p>	<p>Message of counting to 300 while washing seemed difficult for many people to understand.</p>	<p>Maintain the message that washing should be for 5 minutes, but remove the counting up to 300.</p>
Page 12	<p>The picture shows someone who has been scratched by a bat going to see the doctor.</p>	<p>Message interpreted as when scratched by a bat, go and see a doctor</p>	<p>No proposed changes</p>
<p>Section 5. Managing Bats in the Home</p> <p>Page 13</p>	<p>Picture shows a home with a tree and bats flying around</p>	<p>Message interpreted as bats are present in some homes and may not cause harm but sometimes these bats can be infected and can transfer diseases such as rabies</p>	<p>No changes are proposed</p>
<p>Page 14: Removing things Attractive to Bats</p>	<p>Picture shows that covering food and water prevents contamination</p>	<p>Message interpreted as covering food and water prevents contamination</p>	<p>No proposed changes</p>
<p>Page 15: Preventing Bats from Entering Your Home</p>	<p>Pictures shows two houses: one with mesh in windows to prevent bats from entering and one without</p>	<p>Message interpreted that you can take measures to reduce bats from entering your house by placing papers, wire mesh and other materials in the bat entry points to the house</p>	<p>No proposed changes</p>
<p>Section 5. Managing Bats in the Home</p> <p>Page 16</p>	<p>Picture shows a house with bat urine on the walls and bats hanging in the roof.</p>	<p>Message interpreted that bats like to hang in the roof and the signs that a house</p>	<p>No proposed changes</p>

	The house has no ceiling and food is uncovered and at risk of contamination.	has bats include small feces on the floor and a foul smell. Message implies that the home can be improved to prevent bat entry.	
Page 17: Removing Bats from Home	Picture shows people wearing handkerchiefs on their faces while sweeping bat faeces.	Message interpreted as you have to protect yourself by covering your nose and mouth while sweeping bat feces and pouring water on the floor to reduce dust.	No change was proposed.
Page 18	Picture shows bats leaving the house after damaging the house.	Message interpreted as how to close areas where bats can enter the house.	No proposed change
Removing Bats from a Building or House Page 19	Picture shows bats flying while leaving the house.	Message interpretation as it is necessary to check for baby bats when removing their mothers from the home.	No proposed changes
Page 20	Picture shows a clean house with a blue plastic sheet tied inside on the ceiling and woman carrying a baby; the windows of the house have mesh to prevent bats entering the house.	Message conveys that the use the plastic tarpaulin prevents bat urine and feces from falling in the home and it is necessary to continue checking if there are holes bats can enter.	No proposed changes
Section 6. Managing Bats around the Outside of your Home Page 21	Picture shows domestic animals under trees where bats live.	Message conveys that domestic animals staying under trees with bats can be infected because bats urine and defecate on	No proposed changes

		animals and their food.	
Page 22	Picture shows children with sticks trying to hit bats and another picture showing them not to touch dead bats with bare hands.	Message conveys that parents should teach their children not to play with bats or touch dead bats.	No proposed changes
Page 23	Picture shows that eating fruits partly eaten by bats or giving it to goats or pigs should not be done	Message conveys that fruits bitten by bats should be not be eaten or given to animals because bats have diseases that can be transferred to people and animals.	Remove picture of pig and maintain goat because the most people in Bundibugyo are Adventists and don't rear pigs (the picture is seen as offensive.)

Who do you think the messages in the picture book are speaking to? Why?

During the FGDs and interviews, participants confirmed that the messages are meant for parents (men and women) and people at home who are often living with bats.

How do the messages in the picture book make you feel/think about yourself and/or your family?

- The messages are important because they show us the risks of contact with bats.
 - *“I have been handling dead bats in my house with bare hands, and I didn't know there was a problem with it”* -participant, FGD Harugale
- The messages encourage families to chase bats away from their homes to live in healthy surroundings.
 - *“In many of our houses, bats are there but we do not pay a lot of attention to them. They defecate in the house and cause a lot of damage. This is calling on us to chase these bats away from our houses because they are harmful to people ”* -participant, Burondo FGD
- The messages encourage parents to instruct their children not to eat fruits eaten by bats or to play with bats.

CONCLUSIONS

The post-test exercise showed that the messages in the *Living Safely with Bats* discussion guide are generally relevant for the people of Bundibugyo District. There are a few proposed changes, largely in the artwork, to make images more understandable by the local community. In some cases, the suggested practice, such as disposing of dead bats with gloves and a spade, should be modified to include options like using a plastic bag and a hoe, which are more readily available in the community. The pig in the illustrations should be removed since it was offensive to the local community, the majority of whom are Adventists who do not raise or eat pigs. People found the text crowded so it should be formatted as bullet points easier reading, and a larger size (A2) was recommended for larger group discussions.

Next steps

1. Make improvements to the *Living Safely with Bats* picture book according to the feedback from the post-test exercise.
2. Procure the services of an illustrator and graphic designer to edit the document.

ANNEX 1: PHOTO GALLERY FOR THE ASSESSMENT EXERCISE



Planning meeting with OH-DreaM Working Groups



Post-test exercise in Harugale subcounty



Post-test exercise in Ntandi Town council (FGD 1)



Post-test exercise in Ntandi Town council (FGD 2)



FGD in Burondo subcounty



Discussions with the VHTs

ANNEX 2: FIELD TEAM

	Name	Title	Phone	Organization
Technical Lead (RAC)	Shamilah Namusisi	RAC Technical lead	0772304276	Africa One Health University Network
STOP Spillover staff	Edith Nantongo	Social and Behavior Change Consultant	0772673583	JSI
Central OH-DReaM Working Group				
Department of Biosecurity Ecosystems and Veterinary Public Health, COVAB, Makerere University	James Baguma Natweta	Research associate	0775989895	Affiliated with Makerere
Kintu Pest Kill Limited	Kenneth Muwanika	CEO and Founder	0772492652	Private practitioner
Local OH-DReaM Members				
Bundibugyo	Rev. Tomas Kamuhanda	Cultural leader	0772975375	Obudingiya Bwa Bwamba (OBB)
Bundibugyo	Bagonza Majid Abdala	District Health Educator	0772364148	District official
	Dr. Samson Ndyanabaisi	District Veterinary Officer	0774681995	District official
List of Community Mobilizers				
Bundibugyo	Bwambale Than	Community Development Office	0779784341	Ntandi
Bundibugyo	Matte Christopher	Parish Chief	0788248831	Harugale
Bundibugyo	Muhindo Samuel	Parish Chief	0773983151	Burondo