

Research Activity Report
Supported by “Leading Graduate Program in Primatology and Wildlife Science”
(Please be sure to submit this report after the trip that supported by PWS.)

2016.12.20	
Affiliation/Position	Graduate school of Asian and African Area Studies / M1
Name	Ryoma OTSUKA
1. Country/location of visit	
Bwindi Impenetrable National Park, Uganda	
2. Research project	
3. Date (departing from/returning to Japan)	
5 th /Sep/2016-5 th /Dec/2016 (91 days)	
4. Main host researcher and affiliation	
Conservation Through Public Health(CTPH)/Uganda Wildlife Authority(UWA)	
5. Progress and results of your research/activity (You can attach extra pages if needed)	
Please insert one or more pictures (to be publicly released). Below each picture, please provide a brief description.	
<p>During 05/Sep/2016-05/Dec/2016, in Uganda, I conducted preliminary study about Human-Gorilla Conflict around Bwindi impenetrable national park as well as worked as a volunteer staff for Conservation Through Public Health (CTPH for short).</p> <p>【Schedule】 2016/9/5 KIX → Dubai 2016/9/6 Dubai → Entebbe → Kampala 2016/9/7-2016/9/9 Preparation for the fieldwork 2016/9/10-2016/11/30 Fieldwork in Bwindi 2016/12/1-2016/12/3 Back to Kampala, Presentation at CTPH office 2016/12/4 Entebbe → Dubai 2016/12/5 Dubai → KIX</p> <p>It is reported that mountain gorillas (<i>Gorilla beringei beringei</i>) in Bwindi Impenetrable National Park (BINP) often come out from the park to community lands and crop-raid, which is one of the serious problems for residents/farmers living around the park. Residents are not allowed to attack them to protect their crops whenever gorillas come out from the park to their community lands. In the late 1990s in response to increasing incidents of human-gorilla conflicts, the Human-Gorilla Conflict resolution program (HUGO) was established with members from the community to chase gorillas back to the forest by ringing bells and beating drums (Makombo 2003). Since then, HUGO teams have been trained by UWA (Uganda Wildlife Authority) and other organizations including CTPH (Conservation Through Public Health) so that they can chase gorillas safely whenever they come to their community.</p> <p>The effectiveness of HUGO teams, however, has been notably limited in areas of high gorilla visitation and continues to suffer from declining morale, particularly in instances of recurring or extended visits by gorilla groups. Local residents complain about the effectiveness of HUGO teams and their limited capacity to scare gorillas (see Neumann 2000). It has been 18 years since HUGO was established but the effectiveness of HUGO in reducing crop-raiding by mountain gorillas has never been analyzed deeply. Also, we don't have enough information about how community members are thinking about HUGO. Therefor understanding current situation which HUGO members are facing with, collecting perceptions of local residents on crop-raiding by mountain gorillas and HUGO are very important.</p> <p>The objectives of this study are understanding the situation which HUGO members are facing with. (To know what is needed now to improve their situation), to collect perceptions of people living near the park on crop-raiding and HUGO, and to evaluate the effectiveness and sustainability of HUGO.</p>	

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Photo 1. Gorillas eating banana plantation



Photo 2. Eucalyptus eaten by gorillas

During 11th/Sep/2016-23rd/Nov/2016, I interviewed 94 people in total (43 HUGO members and 51 non-HUGO residents). 76 (35 HUGOs and 41 non-HUGOs) samples were collected in Mukono (Nkwenda, Mukono, Rubona, and Iraaro villages) and Bujengwe (Nyamishamba, Kazahi, Mushorero, and Kishegyere villages) parishes which are adjacent to the boundary of BINP. 18 samples (8 HUGOs and 10 non-HUGOs) are collected in the southern sector of BINP (Nyabaremura and Rushaga villages) in order to compare the situations in 2 different sectors.

The Data were collected through interviews and observation methods. Non-HUGO respondents were selected randomly from the residents in these villages (I used snow-ball sampling method). Respondents are interviewed one by one so that their privacy will be protected. Most of the questions were asked in English and my co-researcher, Alex Ngabirano (Bwindi field manager of CTPH) translated the questions into Rukiga local language. The gardens/places where mountain gorillas often visit were marked by using GPS.

Findings from this study follows,

- All HUGO members I interviewed were men. Average age: 42 (20-62)
- According to local farmers (respondents) in Buhoma area, mostly seen animal in community lands were baboons, secondly seen animals were monkeys (Black-and-white colobus monkey, Blue monkey and L'Hoest's Monkey), thirdly seen animals were gorillas and bush-pigs and elephants followed. On average, they think that gorillas come out 2 times in a month both in rainy and dry season. Interestingly, most of the respondents said that there is seasonal difference between rainy and dry seasons. However, some people say that gorillas come out from the park more often in rainy season while the others say the opposite. According to Seiler, 2015, the scarcity of their food in the forest is not the reason why gorillas come out from the park and gorillas come out from the park to the community lands just because crops in community lands attract gorillas. Some respondents answered that the frequency might differ every year.
- HUGO chase gorillas in several ways. Normally, they clear the bush, make line and follow gorillas. When they follow gorillas, they make noise and whistle as well as beat grounds with sticks. Sometimes they just stand, keep quiet, and gaze gorillas. If they find gorillas deep in the community land (for example inside of banana plantation garden), they bear drums (containers) and ring bells (panga and stick).
- In southern part of Bwindi Impenetrable National park, elephants and and bush-pigs were much more destructive than in Buhoma area. HUGOs in southern sector chase not only gorillas but also baboons, bush-pigs, and even elephants.
- Almost all of respondents answered they like gorillas when I asked the question about their perception even though some of the respondent's farmlands had been destroyed by gorillas. They know that gorillas bring many tourists from all over the world and they can benefit a lot from the gorilla tourism.
- HUGO's work seems really tiresome and community members appreciate their work. However, they have been

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working as HUGO for many years without any salary, and they have requested to be given monthly salary. It is needed to think how to motivate them to continue their work. Through the interview, I found that HUGOs are enjoying workshops organized by UWA or NGOs because they can interact other HUGO members from different villages as well as get some new knowledge. They also requested something (not money) for improving their situation.

Of course this is just mere a part of my findings from this study. The data will be analyzed more and presented at seminar or international symposium. Next year I need to observe HUGO-gorilla interaction directly in order to understand HUGO more deeply as well as know the impacts on gorillas. And also I'm planning to combine the data of dispersal patterns of mountain gorillas in Bwindi with the data from this social study.



Photo 3. Farmland often visited by gorillas



Photo 4. Local farmer explaining how gorillas normally come to the community land



Photo 5. HUGO workshop held in Buhoma

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【Fecal sample collection】

CTPH established an early warning system for disease outbreaks through wildlife fecal sample collection and analysis. As a volunteer staff, I collected about 60 fecal samples of mountain gorillas from their nest with UWA trackers and CTPH field assistant as well as counted the number of some parasites in each sample by using McMaster method at Gorilla Research Clinic. Since not only fecal sample collection and analysis, but also health monitoring through recognizing clinical signs is important, I visited 5 habituated gorilla groups, observed them and they were photographed. CTPH is trying to expand gorilla fecal sample analysis tests from parasitological to bacteriology and measurement of stress. I'm now really interested in measurement of stress by using hormonal analysis.



Photo 6. Foggy Bwindi forest



Photo 7. Inside of the forest



Photo 8. Nests of gorillas

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Photo 9. Sleeping baby



Photo 10. Riding on the mother's back



Photo 11. Fecal sample collection



Photo 12. With trackers of UWA

6. Others

This study was supported by PWS (Leading Graduate Program in Primatology and Wildlife Science, Kyoto University, Japan). I am really grateful to CTPH (Conservation Through Public Health) and UWA (Uganda Wildlife Authority).