From vision to narrative: A trial of information-based gorilla tourism in the Moukalaba-Doudou National Park, Gabon

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ABSTRACT

African great apes are threatened with extinction by an increasing number of human activities. Along with an increase in the habitat overlap used by local people and great apes, human-great ape conflicts have become intense. Many protected areas have recently been established for the conservation of great apes and other biodiversity in Africa, but difficulties have arisen while adopting the ”fences-and-fines” management approach. Tourism could provide an alternative approach for the management of protected areas as a sustainable use of biodiversity, and an alternative source of income for local communities and governments of countries with this type of habitat. However, with few exceptions, great ape tourism projects are faced with challenges. Moreover, great ape tourism increases the risks of disease transmission between humans and great apes. Nevertheless, great apes, as charismatic flagship species, are essential for successful wildlife tourism. In this paper, I reconsider the current style of great ape tourism that depends on close visual contact between tourists and great apes. Then, I propose a novel style of great ape tourism. It is based on using narratives about great apes generated by local community members as the leading tour product, and visual contact as the supplementary product. This approach might 1) reduce the negative effects of tourism on great apes; and 2) enhance proactive commitment by community members, and lead to a fair revenue sharing system.

Key words: community based conservation, ecotourism, great ape, narrative, protected area

INTRODUCTION

Threats to African great apes

African great apes—Pan troglodytes (chimpanzee), P. paniscus (bonobo), Gorilla beringei (eastern gorilla), and G. gorilla (western gorilla)—are phylogenetically the closest relatives of human beings. They share many physical, ecological, behavioral, and psychological characteristics with humans. The similarities between great apes and humans help us to understand human nature and its evolution. In addition, great apes are living fossils that demonstrate the continuity between human beings and other living organisms, and remind us that we are a part of nature (Goodall 1999, Caldecott and Miles 2005).

Great apes play important roles in tropical African ecosystems and their conservation (Caldecott and Miles 2005). First, they are the keystone species of these ecosystems. Second, they serve as umbrella species. Because of the wide range of the great ape distribution, attempts to save great apes should cover wide areas and diverse ecosystems, resulting in the conservation of other species. Third, they are flagship species. They are popular among the general public because of their similarity to mankind. This helps gain public understanding and support for wildlife conservation.

However, due to an increasing number of human activities, all four species of African great apes are threatened with extinction (Walsh et al. 2003, Caldecott and Miles 2005). Great apes are hunted for the bushmeat trade (Bowen-Jones and Pendry 1999); and timber exploitation and forest clearing for agriculture cause habitat loss, degradation, and fragmentation (Tutin and Fernandez 1984, White 1992). Human conflict and civil war also affect their habitat and provoke the killing of great apes (Draulans and van Krunkelsven 2002, Kasereka et al. 2006).

In addition, infectious diseases have a serious effect on the population dynamics of great apes (Wallis and Lee 1999). For example, the epidemic of Ebola hemorrhagic fever during the late 1990 s and early 2000 s around northern Gabon, southern Cameroon, and western Congo resulted in a rapid decline of the great ape populations in these areas (Huijbregts et al. 2003, Walsh et al. 2003, Leroy et al. 2004, Bermejo et al. 2006).

Infectious diseases are also related to increased human activities. Because of their phylogenetic closeness, great apes and humans share many infectious diseases, such as influenza, and there are potential risks of the mutual transmission of such diseases between great apes and humans.
(Hanamura et al. 2008, Kaur et al. 2008, Kondgen et al. 2008). Such risks increase as the contact between great apes and humans increases with further human penetration into great ape habitat (Hockings and Humble 2009, Dickman 2010).

**Conflict between the local community and great apes, and between conservation activities and local community livelihoods**

Increased human activities threaten both great apes and local human populations (Hockings and Humble 2009, Dickman 2010). As human activities increase, human penetration into great ape habitat increases the frequency and intensity of human-great ape contact. Subsequently, competition for resources occurs between humans and great apes, causing direct and indirect conflicts. Great apes menace human safety or property in various ways: crop raids, predation on domestic animals, and other disturbances of livelihood areas/materials (Norberg 2008, Laudati 2010), injuries or death by direct aggression, and interference with daily movement at road crossings (Hockings et al. 2010). Human-great ape close contact raises the risks of disease transmission and endangers human health and survival.

Conservation projects, as well as great apes themselves, have a negative impact on the welfare of local people. Establishing protected areas restricts local people to using areas already being used for agriculture, hunting, fishing, and gathering food, firewood, and other household materials. A reduction in an industrial activity such as timber exploitation and mining may result in the loss of opportunities for paid labor. Law enforcement of the bushmeat trade also inevitably restricts the traditional—possibly sustainable—use of wildlife. People unaware of legal regulations for the bushmeat trade could be arrested and punished accidentally. When a conservation program is successful, the great ape population may grow locally, expand its range, or become less afraid of humans. This may increase the negative effects of great apes, such as crop-raids (Hockings and Humble 2009, Dickman 2010).

Both human-great ape conflicts (HGAC) and the impacts of conservation projects on local communities might precipitate negative feelings and attitudes toward great apes and their conservation projects in local people (Hockings and Humble 2009). Such negative attitudes put the survival of great apes at risk. Therefore, countermeasures to mitigate HGAC, and activities to enhance the welfare of local communities, are required for great ape conservation.

It is widely accepted that the best way to mitigate HGAC and change the attitudes of local people toward great apes is to involve the local communities in conservation projects, i.e., to empower local communities to commit to conservation planning, decision making, plan execution, monitoring, and revenue sharing. This is known as “community based conservation,” or “conservation through community involvement” (Reynolds and Bettinger 2008). Through proactive commitment to conservation projects, local community members are expected to 1) understand the need to conserve great apes, 2) accept the need to share natural resources with great apes, and 3) become supportive of conservation projects. Sharing revenue from conservation projects aimed at improving local welfare is a particularly important incentive for the local communities that commit to supporting conservation projects.

**Conservation and protected areas**

The establishment and proper management of protected areas is necessary and effective for the conservation of wildlife, including great apes (Naughton-Treves et al. 2005, Mora and Sale 2011). Along with the growing attention to biodiversity conservation, protected areas have been increasing in number and coverage worldwide over the past 30 years (Naughton-Treves et al. 2005). In many protected areas, the conservation status of great apes’ habitat has improved, though not all protected areas are appropriately managed.

A protected area is “a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (Dudly 2008).” Therefore, the purposes of a protected area are 1) the protection of wildlife and ecosystems inside the areas, and 2) the sustainable use of natural resources and ecosystem services provided by the area. Existing protected areas are given different names—such as sanctuary, national park, geopark, forest reserve, game reserve, rehabilitation forest—according to their purposes and management policies. The IUCN classifies protected areas into six categories, based on management objectives, of which one is divided into two parts. Limits on human activities differ between categories. The strictest category is Ia (Strict Nature Reserve), where human visitation, use, and impacts are strictly controlled and limited to ensure protection of the reserve’s conservation values. The least strict category is VII (Protected area with sustainable use of natural resources), in which the utilization of natural resources...
by local people and other non-industrial activities are allowed (Dudly 2008).

Although the degree of limits differs between categories, protected areas have boundaries, and human activities within the boundaries are limited and controlled. When someone (e.g., local people, exploitation industry) offends these limitations, offenders are punished. Although such a “fence-and-fine” approach to wildlife conservation is proven to be effective in part, there are several limitations and disadvantages.

First, while it has been suggested that the current pace of establishment and extension of protected areas is insufficient to offset the accelerating loss of biodiversity, further extensions of protected areas are difficult. The number of human-wildlife conflicts has increased, as has the number of protected areas (Mora and Sale 2011).

Second, protected-area-centered conservation policy often results in a consumptive, unsustainable use of natural resources outside protected areas, which leads to isolation of the great ape populations (Naughton-Treves et al. 2005, Newmark 2008). An isolated population is highly vulnerable. Several attempts have been made to mitigate the isolation of protected areas, for example, by creating corridors (Matsuzawa 2007), but such supportive measures have limited effectiveness.

Third, in the case of great apes, the majority of these populations still live outside protected areas, despite recent increases in the total number of protected areas (Harcourt 1996, Dupain et al. 2004, Caldecott and Miles 2005). In Gabon, for example, although western gorillas and chimpanzees are distributed across the country, the 13 national parks cover only 11% of the national land surface (Laurence et al. 2006). It should be noted, however, that the percentage of protected area coverage of Gabon is higher than in neighboring countries.

Since the early 2000s, the traditional “fence-and-fine” management strategy for protected areas has been criticized and revised to overcome these limitations. Alternatively, Naughton-Treves et al. (2005) proposed expanding the mission of a protected area from promoting biodiversity conservation to improving human welfare. They argued that protected areas should allow for local utilization that contributes to local socioeconomic development.

Tourism as a tool for great ape conservation

Tourism has been promoted as an alternative tool for great ape conservation (Krüger 2005, Macfie and Williamson 2010, Nielsen and Spenceley 2010, Buckley 2011). It is advocated in the Kinshasa Declaration on Great Apes (GRA SP 2005), that “carefully regulated sustainable ecotourism enterprises” are a useful tool for the conservation of great apes. The term “ecotourism” roughly means nature-based tourism that contributes to both wildlife conservation and the development of local people’s well-being (TIES 1992). However, because “ecotourism” is a very ambiguous term (Buckley 2009), hereafter I simply use “tourism,” to avoid controversy. Somehow, great ape tourism is supposed to be sustainable use of natural resources in contrast to consumptive uses such as hunting, timber exploitation, and mining (Macfie and Williamson 2010). In addition, great ape tourism, or more generally, wildlife tourism, may contribute to community-based conservation. It provides job opportunities for local people as trackers and local guides (Nielsen and Spenceley 2010). Further, tourism-related businesses such as hotels and restaurants may offer a variety of monetary labor to local communities. Working for tourism is a simple and easy way for local people to commit to conservation projects, and may result in a better understanding of the need for wildlife conservation. Moreover, tourism can provide local communities the opportunity for proactive commitment, such as starting local businesses for handicraft production and sales (Nielsen and Spenceley 2010).

On the other hand, great apes are important for the sustainability of wildlife tourism. Krüger (2005) investigated the practice of so-called ecotourism in the world, and revealed that without charismatic flagship species such as great apes, a tourism program fails to create enough revenue, and results in the over-exploitation of natural resources for tourism development.

Great ape tourism has been conducted since the 1960s (Macfie and Williamson 2010). The most successful example of great ape tourism is the case of gorilla tourism in Rwanda. Mountain gorilla tourism at Rwanda’s Volcanoes National Park has achieved great economic success with the sustainable use of natural resources (Nielsen and Spenceley 2010). Governments of great ape habitat countries, local authorities, conservation actors, and private sectors of conservation and/or tourism businesses are eager to follow the successful formula used in Rwanda. Thus, many protected areas with great apes’ habitat are exposed to increasing pressure to develop great ape tourism (Macfie and Williamson 2010).

Disadvantages of great ape tourism

However, there are disadvantages to great ape tourism for conservation purposes (Macfie and Williamson 2010).
First, habituating great apes to tourism has several risks: 1) It increases the risk of disease transmission (Woodford et al. 2002); 2) Habituated great apes are less sensitive to a human presence, so they are more vulnerable to poaching (Kasereka et al. 2006); 3) On the other hand, habituated great apes are more likely to disturb human activities, by crop raiding for example. Second, tourism involves large initial and operating costs. Third, if tourism is economically successful, the human population around the great ape habitat is likely to increase. Fourth, the pursuit of economic success by governments and the private business sector may result in the over-habituation of great apes and over-exploitation of the habitat (Krüger 2005, Macfie and Williamson 2010).

It has also been pointed out that the contribution of tourism to great ape conservation is not as large as expected. First, the introduction of tourism is less efficient to improve the survival of great apes when it is compared with law enforcement activities such as patrolling (Tranquilli et al. 2012).

Second, educational effects for tourists remain below expectations. Tourism operators prepare options to develop tourists’ understandings of the need for great ape conservation, and appropriate countermeasures for the threats to great apes. However, improvements are limited. In the case of mountain gorilla tourism in Rwanda, the need to support local communities in order to conserve the great apes is explained to the tourists, but they do not learn to pay for community benefits (Nielsen and Spenceley 2010).

Third, the attitudes of local community members toward great apes and the related conservation projects seem to be restricted. Among the 118 cases of successful so-called ecotourism that Krüger (2005) examined, changes in the conservation attitudes of local people were confirmed to be <6%.

On the contrary, rather than providing benefits, tourism may have negative impacts on local communities (Macfie and Williamson 2010). First, as noted above, the risks of disturbances such as crop raids by habituated individuals to livelihood activities increase. Second, revenue sharing is not always successful. In many cases, most of the tourism revenue leaves the local community. The money that tourists pay for tourism programs "leaks" out of the local communities or even the country (McIvor 1997, Sandbrook et al. 2010). In the Nyanga district, Zimbabwe, the local community receives only 13% of the money spent by tourists (Chireneje et al. 2013). Moreover, it is difficult to distribute the benefits from tourism among local communities. Although tourism may provide job opportunities to local people (e.g., local guides), only a limited number of people can enjoy these opportunities. Consequently, intra-community conflicts may occur between those who obtain the revenues from tourism and those who do not.

**Is the pursuit of revenue counter to the pursuit of conservation?**

Many researchers and conservationists agree to introduce and extend tourism (GRASP 2005, Macfie and Williamson 2010, Tranquilli et al. 2012). However, their attitudes toward tourism are conservative and restrictive, because of the disadvantages and difficulties mentioned earlier. Specialists recommend that great ape tourism should not be introduced without a careful feasibility study. It has also been emphasized that the conservation of great apes is the primary goal of great ape tourism ("conservation first"), and every effort should be made to maximize positive impacts and avoid or mitigate negative impacts (Macfie and Williamson 2010).

However, stakeholders in areas of great ape habitat might not share such a conservative approach. The phrase all stakeholders might agree with is "conservation first." However, if it is followed by "local development second," or "business third," local people, business sectors, and/or governments of the country with great ape habitat would not be satisfied. Even if the results of a feasibility study suggest that tourism would not be sustainable, or would be unsuccessful, the government and business sectors might still promote tourism or consider other consumptive uses for the area.

The belief that pursuing income works against conservation seems to underlie such a restrictive approach toward tourism. However, this attitude is not always assumed a priori. It might be worth considering how tourism operations increase income and reduce the negative influence on great apes and their habitats.

It also seems that both those who want to restrict tourism, and those who want to promote it think only of the economic aspects of the tourism benefits, and the importance of benefits other than monetary income are neglected. Is tourism useless unless it brings profits? It might be good for both parties to think of maximizing the positive effects of commitments made to community based tourism, other than monetary income, such as educational effects on tourists, and changes in the attitudes of local people toward great apes.

In the following sections, I introduce our trial of a new concept of great ape tourism that aims to satisfy both the pursuit of benefits and the pursuit of conservation. This
A trial of information-based gorilla tourism

concept was devised for gorilla tourism in the Moukalaba-Doudou National Park (MDNP), Gabon. Therefore, it is based on site-specific conditions in part, but I think the method’s basic concept would be applicable to other wildlife tourism in Africa.

DEVELOPING GORILLA TOURISM IN THE MOUKALABA-DOUDOU NATIONAL PARK (MDNP), GABON

Research history of the great ape project in MDNP

MDNP is situated in southwestern Gabon (Fig. 1). The park is represented by the rich biodiversity and high density of wildlife, particularly gorillas and chimpanzees (Takenoshita and Yamagiwa 2008, Takenoshita et al. 2008, Nakashima et al. 2013). The research project in Moukalaba began in 1999. After some preliminary surveys, a convention for research was conducted between Kyoto University and the Centre National de Recherches Scientifique et Technologique du Gabon, and the primate research project was launched in 2000. A gorilla habituation project started in May 2003. A group of approximately 20 gorillas was identified in January 2004. The group was named “Groupe Gentil,” and it was habituated until 2008 (Ando et al. 2008).

In addition to the socioecological research on great apes, a great ape conservation study was conducted from 2006 to 2008, with the aid of the Japanese Ministry of Environment. This program consisted of monitoring the health of habituated gorillas, a pathological study on great apes, and a socio-economic study of local communities, which evaluated and monitored the impact of local people on great ape habitat.

In conjunction with the research, we started a project for community-based conservation in the region. We support local nongovernmental organizations (NGOs) conservation activities, provide scholarly and medical aids to local people, help develop countermeasures to crop-raids by wildlife, and conduct environmental education programs, using the budget from GRASP-Japan (Great Apes Survival Project Japan Committee).

In 2009, a project named “Conservation of Biodiversity in Tropical Forest through Sustainable Coexistence between Human and Wild Animals (PROCOBHA)” was launched as a project of the Science and Technology Research Partnership for Sustainable Development (SATREPS). SATREPS is a Japanese government program that promotes international joint research targeting global issues. The program represents the collaborative efforts of two Japanese government agencies: the Japan Science and Technology Agency (JST), and the Japan International Cooperation Agency (JICA). The purpose of PROCOBHA is to propose a method for community-based, sustainable management of biodiversity in the MDNP, which includes safe and effective methods for delivering wildlife tourism.

Difficulties for gorilla watching tourism in MDNP

Gorilla-based tourism programs are conducted in several sites in Rwanda, Uganda, and the Democratic Republic of Congo. They primarily involve observing gorillas from different vantage points. Watching gorillas from a short distance is a major attraction for tourists, although other attractions such as trekking and bird watching are also conducted during the gorilla tour.

It seems difficult, however, to introduce gorilla watching tourism such as that conducted in east Africa, for the following reasons. First, western gorillas are difficult to habituate (Doran-Sheehy et al. 2007). In MDNP, as noted above, it took about six years to habituate a single group of 20–22 individuals (Ando et al. 2008). To ensure as many tourists as possible watch gorillas, more gorillas of multiple groups should be habituated. For example, about 260 gorillas from 17 different groups are habituated and monitored in the Virunga National Park, Rwanda (Nielsen and Spenceley 2010). It would take, if it were even possible, an incredible amount of time and cost to habituate that many gorillas in MDNP.

In addition, the visibility of gorillas in MDNP is low. Lowland gorillas are very shy, and even the habituated gorillas exhibit stress responses when contact with human ob-
servers increases (Blom et al. 2004, Doran-Sheehy et al. 2007, Ando et al. 2008, Fujita et al. 2009). Therefore, observers must keep a distance of at least 20–30 m from them, to prevent disturbing their natural activities and to minimize their impacts on the gorillas' health status. From such a distance, gorillas are not fully visible, because of the dense vegetation of tropical forests.

Re-evaluation of information as a tourism product

It seems difficult, therefore, to satisfy tourists in MDNP only by showing them great apes. One has to think of alternative tourist attractions in this park. In other words, rather than improving the visibility of great apes through strong habituation, it might be better to improve the degree of satisfaction tourists enjoy using what is visible with the limited visibility.

Information might play an important role in enhancing the values of visible things. Tourists who want only visual contact with great apes might be disappointed by the low visibility conditions. In contrast, those who understand the value of observation over the value of visual impacts might be satisfied with a short and fragmented observation of great apes, having had the experience of glimpsing the "hidden nature of their life." Interpreting visible things is considerably more important for tourist satisfaction.

It has been well understood that information provided by guides, and exhibitions in the visitor centers, are important aspects of wildlife tourism. However, what desirable content would be has not been thoroughly discussed. It may be because the explanations and exhibitions are regarded as secondary, supplementary parts of wildlife watching tourism that focuses mainly on visual contact with wild animals, and they are not considered to affect tourist's satisfaction levels.

Compared to tourism involving other wild animals with large visual impacts (e.g., savanna elephants), guide programs might be more important for great ape tourism, because the attractiveness of the great apes does not lie in their visual features but in their complex society and intelligence. The wealth of their invisible features, which lie behind the visible exterior of great apes, should be exploited for tourism.

Therefore, it seems worth trying to enhance the commercial value of the information provided through local guides and exhibitions as part of great ape tourism. If information products become a primary source of tourism income, then the visual contact becomes less important. It would then be possible to reduce the habituation levels of great apes so that the risks associated with habituation would be minimized. Moreover, by implementing the educational content in the information products, it might be possible to achieve higher educational effects with tourists.

Narratives for tourism: A trial of information product exploitation through community involvement at MDNP

The Gabonese National Agency for National Parks (ANPN) is operating tourism development projects in all 13 National Parks, including MDNP (CNPN 2006). Gorilla tourism is supposed to be the core component of tourism in MDNP, and community tourism has also been enhanced. Consistent with this policy, we have attempted to develop gorilla tourism products that incorporate the outcomes of our gorilla research.

We try to find a way to develop tourism products in collaboration with local communities. It is not simply because the participation of local people facilitates sharing revenue from tourism with them (Macfie and Williamson 2010), but also because we think collaboration with local people might contribute to developing more attractive information products with higher commercial value.

The "narratives" on gorillas by our local research assistants stimulated me to think that way. In order to provide job opportunities to local people, our project policy is to hire research assistants from among the people who live in the villages nearest to our base camp. These local assistants, as they gain experience with gorilla observations, spontaneously began to recount episodes of gorilla behaviors that they have observed, to other villagers and temporary visitors, speaking in a dynamic, animated way. These "narratives" impressed me very much, and seem to have great potential as tourism resources, if they are associated with scientific authentication and appropriate marketing strategies (Macfie and Williamson 2010).

I find the charms of these "narratives" by the local assistants are as follows. First, local assistants talk about the particular groups, individuals, or events that they have observed, rather than explaining gorillas in general. Such specific information might provide greater satisfaction to tourists who travel to the site, than the general explanations of gorillas that are available in textbooks. Second, they are motivated to share their experiences with their audience, and therefore their talk is rather subjective. Such subjective, empirical information might be of more interest for tourists than objective, theoretical information, even thought scientific rigor would be spoiled a little. Third, their
"narratives" do not consist simply of their experiences in research activities, but are interspersed with traditional knowledge about the wildlife and the forest, and their way of telling reflects the local culture. Thus, not only are the contents discussed, but also the talk itself might provide cultural experiences for the tourists. As such, "narratives" by local people might have potential for providing attractive tourism resources. In addition, these "narratives" might provide opportunities for tourists to experience local knowledge of the nature and traditional culture. This, in turn, would lead tourists to pay more attention to the people living close to the gorillas.

Another reason for developing information tourism products in collaboration with local people is that the collaboration might enhance local people's understanding of nature and its conservation, and result in their proactive contribution to conservation activities. The majority of villagers, particularly the young ones, used to move around the country as employees of large companies for timber exploitation or patrolling (Matsuura et al. 2013). Therefore, they did not develop a deep knowledge of the local forest at the beginning of the projects. The fact that such people developed an attachment to gorillas, and an understanding of nature through research activities, might suggest that research and conservation activities themselves could provide good opportunities for environmental educational awareness activities for local people. Macfie and Williamson (2010) point out that well-designed environmental education and awareness programs should be necessary, and professional educators should participate in the development of such programs. However, it does not necessarily mean that education and awareness programs should be developed independently of research and tourism activities. Researchers and professional educators could collaborate to develop research programs with educational value for local assistants.

Accordingly, we launched a successive project of PROCOBHA for community tourism development. This project aims to develop what we call "narrative tourism," i.e., a guide program of the gorilla habitat with local "narrators," who provide narratives on gorillas and corresponding natural and cultural contents with scientific backgrounds. To achieve this objective, we encourage local people to produce narratives, create information products with high commercial value from those narratives, and train community members as local narrators. I hope this upcoming project provides an opportunity to examine the potential of "narratives" as tourism resources. Further elaborations and improvements should be made through practice.

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