

**An assessment of the impact of ecotourism on forest rules
and on the livelihood of various ethnic groups: A case study
of Chitwan National Park in Nepal**

(エコツーリズムが森林規則および多様な民族の生計に及ぼす影響の
評価: ネパールのチトワン国立公園の事例)

Laboratory of Forest Resources and Society
Department of Biosphere Resources Sciences
Graduate School of Bioagricultural Sciences
NAGOYA UNIVERSITY

KANDEL Saroj

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Summary of Ph.D. dissertation

Protected areas (PAs) are critical tools to protect major ecosystem services and to support humans around the world. Nepal has been focusing on implementing several policies aimed at the conservation of PAs. As of now, there is a total of 20 PAs including 12 national parks, 1 wildlife reserve, 6 conservation areas and 1 hunting reserve. Initially, a top-down PA management model was in practice. However, the management did not consult with the local people before making strategies, thus certain factors were not taken into consideration, such as social, cultural, and political issues. The management also intervened in the traditional ways of living and controlled the people's access to previously accessible natural resources. This resulted in the conflict between the government and the people living nearby PAs. A clear example for this is Chitwan National Park. The conflict escalated and it forced the government authorities to reconsider their strategies and formulate policies in order to attain sustainability. Therefore, Nepal amended its National Parks and Wildlife Conservation Act of 1973 for the fourth time in 1993 and introduced the concept of the buffer zone (BZ). In order to manage the BZs, the Buffer Zone Management regulation of 1996 was introduced as a key instrument in promoting community forests. This was seen as a vital policy transformation from the traditional management practice and it introduced a participatory approach in which local people are acknowledged as major partners in biodiversity conservation. Despite the success of the BZ program, there was criticism: most of the policies are at the discretion of government officials, thereby the decision-making power does not lie with the local community. This resulted in conflicts in some BZ villages, because people's use of natural resources, which had been their only means of subsistence, has become illegal. To provide other means with which people can earn a living, ecotourism has been introduced. This study examines the perception of a Nepalese community with regard to the Buffer Zone Community Forest (BZCF) and its rules; and investigates the interplay between the regulations and ecotourism as well as the human-wildlife conflict (HWC). The impact of ecotourism on various ethnic groups and on households of different economic status living in the buffer zone villages of CNP is also taken into account.

Several studies have been conducted. The first and second study was concentrated on local people's dependency on the BZCF, the development of forest rules and their perception. In this study I analyzed the data by splitting the respondents into close and far settlement users, based on the distance of their living space to the forests. A total of 64 respondents from the two villages were interviewed. From the first study it was found that the education level in both villages was really low. The ethnic composition of both study sites revealed that the Tharu community was the majority. From the results it was observed that squatters were found to be living in the encroachment area of the close settlements in both villages. The majority of the respondents were engaged in agricultural activities. Except the far settlements of Kumroj, the majority of the respondents from all settlements were extracting fuelwood. The study shows that respondents living closer to the forest extract more fodder, fuelwood and non-timber forest products (NTFP) than the respondents living farther away. In the context of NTFPs, the respondents were primarily harvesting fiddlehead fern, nettle and fish. Compared to Kumroj, grazing is a rare practice in Amaltari.

The area allocated for grazing is either insufficient or hard to access, which ultimately influenced the scale of animal husbandry. The locals say that due to the lack of easily accessible grazing land and the small size of private land, they were compelled to reduce the number of their livestock. Cows and buffaloes consume a large quantity of fodder, which is not practical in their perspective. It was also revealed that local people were using three types of energy sources: fuelwood, biogas and LP gas. This study showed that respondents are still more reliant on fuelwood compared to the other sources of energy. According to the locals, the scarcity of cow dung due to decrease in livestock has prevented the households from the operation of biogas plant. On the basis of cost, LP gas is not viable for poorer households.

The second study was focused on forest regulations, ecotourism and the HWC in CNP. This study shed light on various aspects. The first topic was forest rules and their developments. It was found that more stringent rules and regulations were gradually imposed following the introduction of ecotourism in the BZCFs. The implementation of more rigorous forest rules contributed to the improvement of wildlife conservation, but also led to a decrease in the accessibility of forest products which affected forest users' daily lives. Another aspect this study looked upon is the level of compliance with regard to the locals. Although the forest users were complying with the existing rules, this study found that some of the forest users followed the regulations not at their own will, but they were concerned about being caught and framed for engaging in illegal activities. The locals perceived the new forest rules positively, since it improved the conditions of the forests, thus the forests became denser. On the other hand, they were not satisfied with these new rules because of negative effects the regulations had on their daily lives. They had no other alternate means to generate their income and their only means of accessing resources was now restricted by the new rules. As stated previously, these regulations did improve the condition of the forests, including the preservation of many wild species; however, this has also led to an increase in the HWC within the vicinity. Respondents also stated that there were too many requirements kept in place if anyone wanted to claim compensation because of the HWC. The respondents felt that the new rules that were imposed to control the extraction led to more problems, as the vines and creepers nearby village area have grown. All in all, it was observed that the new rules had both positive and negative effects on the people. Therefore, forest authorities need to consider this issue and should acknowledge that imposing strict rules on forests does not only help in conservation, but also triggers problems.

In the third study the impact of ecotourism on various ethnic groups living in BZ villages was examined. This study evaluated the impact of ecotourism on multiple ethnic groups and households of different economic status, thereby revealing a more comprehensive picture of the current situation. Based on this study, it is concluded that the introduction of ecotourism has positive and negative effects on the various ethnic communities and households. Communities engaged in multiple activities such as agriculture were the least affected, while ethnicities solely engaged in the sale of forest products and wage labor were the most affected. This shaped the perception of various ethnic groups towards ecotourism and conservation practices. The beneficiaries deem ecotourism as a positive change and wish to increase the number of ecotourism related

activities in their area, but it is still not considered as a major source of income. Despite the negative impacts, especially on those who are engaged in wage labor and sale of forest products, many community members still wish to take part in ecotourism. The information and findings from this study can help policy makers to have an overall understanding from everyone's perspective, i.e., those who own land, those who are engaged in ecotourism, and those who are landless and have not experienced the benefits of ecotourism. This information can help them to design policies with minimal bias and distribute the benefits of ecotourism equitably.

It was found that the education level in both villages is low; therefore, educating the locals is an important tool which can help developing their skillset and also increase their participation. It was also found that some of the locals were resentful that they were not able to participate in certain ecotourism related activities, such as safaris, because the majority of these are conducted by those who are not part of the local community. To allow local communities to experience economic benefits derived from ecotourism, policy makers need to strike the right balance with the effective inclusion of the local communities. In the study, communities were divided into two categories based on their landholding status. Those who own land can engage in agriculture and homestay activities, while those who do not own any land should be given priority to engage in activities such as safaris so that they can participate in ecotourism and realize the benefits as well. An immediate need is to convert the current activities to be more participatory and community-oriented in order to provide benefits to disadvantaged groups who are still struggling to be a part of mainstream ecotourism and have yet to experience any of its benefits. Hence, considering these aspects, policy makers must rethink and reframe the policies in such a way that they will protect the interests of the people with low economic status and those who are at a disadvantage side.