

Community perspectives of tourism benefits-the link to conservation attitudes and livelihoods
-A case study at Baghmara community forest, Nepal

Executive Summary

Tourism has often been seen as an approach to link conservation and development. Its potential rests in providing economic benefits while maintaining environmental integrity (Stem et al, 2003). In protected areas, nature-based tourism offers the economic justification for establishing protected area (Brandon, K. 1996) through park entry fees and other tourism related activities. The economic benefits provided through tourism development also help generate conservation support from local communities and can be used to improve conservation efforts.

Numerous studies have shown that the incentives for local people to support conservation are recipient of tangible economic benefits. However, despite this popular notion, it remains to be seen what role tourism benefits play in conservation attitudes, and its interactions with other social economic factors that are in play. In face of a lack of information on the role tourism plays in livelihoods improvement and conservation attitudes, this study attempts to explore how tourism in protected area help link biodiversity conservation with community development. It evaluates the positive and negative effects tourism has had on local residents, and explores whether those factors lead to positive conservation attitudes. The study took place in buffer zone community in Chitwan National Park, Nepal's first protected area and one of the most popular tourist destinations in the nation. By providing the context of this study, the paper introduces the study method and analyzes the results it revealed. Such information will provide policy implications for governments and future tourism operators to prioritize factors that generate supportive attitudes towards tourism and greater support for conservation. The study also helps to develop a better understanding of community needs for designing future development projects that meet community expectations.

Study Area

A brief history of community forestry and protected area management in Nepal

The government of Nepal is a leader among developing countries in setting conservation goals and priorities (Heinen & Shrestha, 2006). They have paid significant attention to incorporate local rural residents in environmental conservation through means of law (Agrawal & Gupta, 2005). A defining point for national formal preservation efforts started in Nepal from 1973 after the passage of the National Park and Wildlife Conservation Act, and the Royal Chitwan National Park (CNP) in central Terai is Nepal's first protected area (Agrawal & Gupta, 2005).

The CNP is famous for its abundant subtropical plants and wildlife species, such as the Royal Bengal tiger, one-horned rhinoceros, gharial crocodile, and Asian elephant. The park is located in south central Nepal, covering 932 sq. km in the subtropical lowlands of the inner Terai (Fig. 1). All communities were consequently resettled outside

of the boundaries of the park (McLean & Stræde 2003; Dhakal et al. 2006). Local residents face ongoing threats of crop damage from wildlife, and restricted uses of resources from the park. To resolve the people-park conflict and to incorporate local people's voice in natural resources management, the Nepalee government established buffer zone in 1996. Following the establishment of buffer zone, 3,622 ha of forestland had been handed over to 22 buffer zone community forest user groups benefiting 9,990 households around Chitwan National Park (DNPWC, 2010). The area increased to 11000 ha in 2016. The key objective of buffer zone community forest (BZCF) is to provide wildlife an expanded habitat and to reduce pressure on resources of the CNP and Buffer Zone Forests (Jones, 2005). The creation of buffer zone has transferred a significant amount of tourism activities to community forests.

In 1988, the Master Plan for Forestry Sector Nepal, endorsed by then central government administration, enabled community forest user groups to fully manage all accessible forest, with the goal of meeting local people's needs for fuel, timber, and other forest products on a sustainable basis, contributing to local economy, protecting forest ecosystems, and prevent land from degradation (Chaudlhary, 2000). Once a potential community forest is declared, it is left to the user groups to define the boundaries of each forest within the regulated area. The chief warden of CNP is required to draft an operational plan to officially hand management rights of community forest to the community. The operational plan is valid for five years and regulates the rules of use for the community forest. The Department of National Parks and Wildlife Conservation and the communities jointly develop the rules, with the assistance of the King Mahendra Trust for Nature Conservation (Jones, 2005).

The operational plan specifies when and how communities can extract resources from community forest. These include that no individual from the community can enter the park for forest products; that no farming activity is allowed inside of buffer zone community forest; community members are allowed to pick up only dead trees for firewood, and short grass for consumptive use; no hunting or poaching is allowed in the buffer zone forest; and member can enter the buffer zone forest to pick up grass and firewood at regulated times and limited frequency. All residents entering the jungle for firewood or grass must obtain a warrant from the government.

There are also designated rules on how community forest is formed. In Baghmara, there are nine villages under management of Baghmara community forest user group, and each village nominates five people to form 45 people committee. The committee is responsible for making decisions on budget allocation, community development, and tourism operation. At the meantime, the government shares 50% tourism revenue with the entire buffer zone community forest based on the institution of bylaw in Chitwan in 1996 (HMGN [His Majesty's Government of Nepal] 1996). As of 2008, it was reported that \$3434197 was allocated to buffer zone development during the 13-year period (DNPWC, 2008).

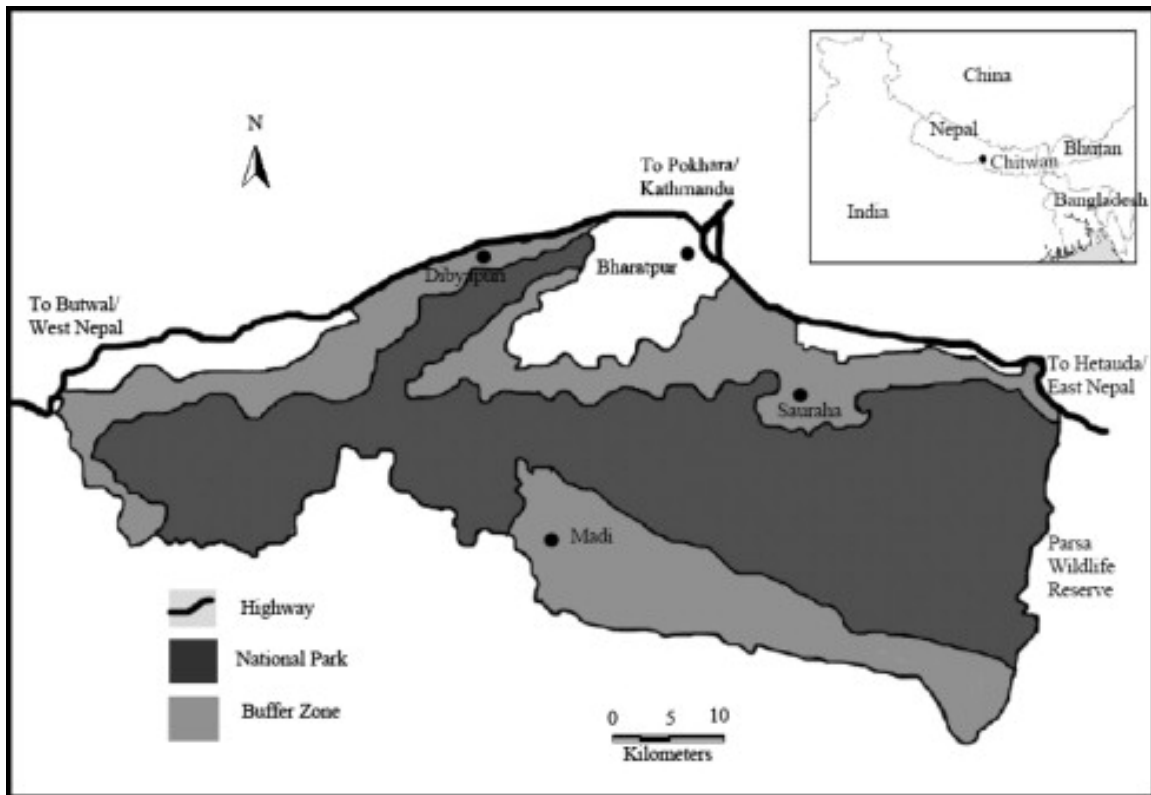


Figure 1. Map of Chitwan National Park and study sites

Source: Nyaupane. G. P & Poudel. S. (2011). Linkages among biodiversity, livelihood, and tourism. *Annals of tourism research*. 38(4). Doi: 10.1016/j.annals.2011.03.006

An introduction to Nature-based tourism in Baghmara Community Forest

Baghamra community forest area is 215 hectare with abundant tourism resources There are approximately 1500 households live within Baghnara community forest boundary. It is the habitat for many rare and endangered species such as tiger, one-horn rhino, and elephants, and it is part of the important biological corridor Barandabhar. Among all households in Baghamra, 25% of them are registered with user group to receive helps to involve in tourism employment. The existing tourism activities are jungle walk, elephant ride, bird watching, canoeing, tower night, and jeep safari. According to Baghmara community forest secretary Hari Acharya, tourism has brought 10 million rupee (\$96000) profits on average each year with a total of 11 million rupee (\$107691) income per year for user group. There are approximately 70,000 tourists visit each year. In addition to tourism, CFUG receives 30% to 50% tourism revenue share from the government. Among all profits, ecotourism remain the main income source for community forest.

The investment of tourism revenue is allocated to community development and conservation. CFUG hires forest specialist to inspect reforestation, wildlife habitat restoration, and the overall health of community forest ecosystem. Existing community development projects include road construction, dam construction, solar electricity subsidy (150 households recipients), toilet installation subsidy (900 households recipients), biogas installation subsidy (400 households recipient), medical bill reimbursement (1000 households recipients), school and scholarships.

Literature Reviews:

Protected areas are recognized as a biodiversity conservation approach to sustain local communities around them. Various development projects have been implemented in and around protected areas in an effort to generate local support for conservation while improving local livelihoods. The rationale behind those initiatives is to enlarge conservation support by providing benefits to offset the opportunity costs of protection (Walpole, & Goodwin, 2001). Following this rationale, successful conservation projects in protected areas should have large community support, and with livelihood improvement,

The positive economic gains or livelihood improvements will act as an incentive to promote positive attitudes towards conservation (Spiteri & Nepal, 2006). In protected area, a common way to provide economic benefits to sustain local livelihoods and sustain conservation is tourism. Compared to other conservation projects, tourism has the potential to consistently provide lucrative financial return per hectare complete with other land uses, while also maintaining the ecosystem integrity (Stem et al, 2003). The residents can be employed in tourism sector to obtain steady income, and tourism can also provide a market to sell goods and service to tourists (Ashley, 2000; Cattarinich, 2001; Scheyvens, 2005). The revenue collected from tourism can be reinvested to benefit the poor through infrastructure building such as roads, water supply, electricity, education, and health systems (Hall & Scheyvens, 2007). Those infrastructures in turn, build capacities and ultimately improve community livelihoods. In addition to lucrative economic return, tourism has the potential to enhance community political empowerment through incorporating communities in decision-making and tourism management, and strengthens community psychological empowerment through “external recognition and appreciation of the unique cultural and natural resources and traditional knowledge” (Scheyvens, 1999).

However, tourism benefits to sustain local development are based on two important factors: benefits are distributed in an equitable manner, and communities should have positive attitudes towards tourism (Walpole & Goodwin, 2001). Many studies have found differences in attitudes towards tourism in communities that do not have equitable benefit distribution system (Pizam, 1978, Pokela, 1978; Schluter & Var 1988; Mehta & Kellert, 1998). The gateway villages (villages that local close to park entrance) usually receive more economic benefits from tourism and conservation than distant villages (Walpole & Goodwin 2000; Sekhar 2003). Further, elites and higher castes appear to have favorable access to benefits, even where management practices of community forest on the surface appear fair (Jones, 2006). Unequal distribution of benefits can undermine the long-term success of tourism and detrimental to communities' support of tourism. Other negative impacts of tourism include the risk of eroding and commodifying local cultures (Mansperger 1995). In some cases, flow of foreign culture in to a community may introduce issues such as alcoholism, drug use, prostitution, religion, or violence within communities (Mansperger 1995 & Sindiga 1996). Larger amount of tourist flow may also result in negative environmental impacts such as soil waste generation, habitat disturbance, and forest degradation (Stem et al, 2003). Finally, restriction to forest products and wildlife crop damage are problems faced in varying degrees by most villages surrounding protected area tourism. They impose pressure on

local communities that depend on natural resources for a living, especially the indigenous Tharu people who are more dependent on resource extraction for a living (Spiteri & Nepal, 2006). Local perceived costs of tourism may worsen their attitudes towards tourism (Kideghesho et al., 2007), whereas residents receive net benefits from tourism tend to view its impacts more positively than others (Groom & Harris 2008; Andereck *et al.* 2005:1061; Shibia 2010; Walpole & Goodwin 2001; Wang & Pfister 2008).

Generating local support for conservation is critical in ensuring long-term successful management of protected areas. It has been said that positive tourism attitudes in protected area tend to lead to positive support of conservation. However, existing literatures do not clearly support the direct link between tourism benefits and positive conservation attitudes. For example, a study from Laikipia, Kenya, found that local people receive tourism benefits tend to have more positive view of wildlife (Gadd, 2005). But other studies found that tourism does not formulate support for conservation, even though local people may be supportive of tourism itself (Mehta & Kellert, 1998; Walpole & Goodwin, 2001), and are aware of tourism's relationship with conservation. This implies that multiple factors play roles in shaping people's attitudes towards conservation, apart from tourism benefits. As Emerton et al (1999) pointed out, benefit distribution is not a sufficient condition for communities to engage in wildlife conservation, though necessary (Snyman, 2012). Other factors such as education, socio-economics status, religion, and conflicts with wild animals are considered critical factors affecting conservation attitudes (Fiallo & Jacobson, 1995; Mehta & Kellert, 1998; Newmark et al. 1993; Parry and Campbell 1992). This study attempts to explore whether individuals receive higher tourism benefits have more favorable attitudes towards conservation efforts of the park, and whether their reasons of supporting conservation was affected by tourism benefits. A more comprehensive study evaluating multi aspects of conservation attitudes needed to be done to provide a holistic understanding of the link between tourism benefits and conservation attitudes.

Creating and maintaining positive attitudes towards tourism and conservation in protected area is important to inform regulations to ensure conservation success and to correspond to community needs. It can assist in developing appropriate and efficient benefit-sharing and cost-minimizing programs for communities based on their attitudes, and in the meantime, highlight important opportunities to target key factors that influence positive attitudes and the prioritize revenues for action.

Methods:

Data collection

A series of structured focus group interviews were conducted with CNP park authority, buffer zone council, the National Trust for Nature Conservation, and Baghmara community forest user group during May 2016. Interview transcripts consist of questions relating to buffer zone guidelines, community forest operational plan, investment of tourism-generated money, and support and services provided to the communities through tourism generated revenue. Following the interviews, we obtained an overall understanding of the legislative relationship between park and buffer zone community

forests, their management plans, and investment of tourism-generated money on community development.

After the completion of focus group interviews, structured questionnaires were distributed to 100 households (3 questionnaires have incomplete information and therefore were discarded) in Baghmara community forest, during June 2016. The questionnaires collected both qualitative and quantitative information on communities' perceptions of tourism and conservation, and allowed questionnaire design to be informed by the context of local life. A pilot questionnaire was administered at a similar village to test the comprehension, length of questions, phrasing and sensitivity, and to ensure the interviews' approach is clear, consistent, and non-biased.

We used stratified purposeful sampling to determine the sample population. The total sample size counts for approximately 10% of total households in Baghmara community forest. Nine random starting points were selected in each village, and households were selected randomly from the starting point to the end point of each village. Selection of survey respondents depends on the respondents' availability, and efforts were made to ensure participating households cover the area of the entire village. Three trained local guides who speak fluent English conducted the surveys in Nepali, and recorded the answers in English. The guides were selected based on community forest's recommendations of those possess good English ability and good understanding of tourism, and interviews were conducted to test their English ability and knowledge base. Along with the researchers, the group split into two two-people teams, asked the questions during face-to-face interviews. The surveys were conducted in a conversational style, so the residents were relaxed and willing to speak freely about pertinent issues. Respondents have no knowledge that the survey is subsequently implemented. This ensures independence of data collection.

RStudio was used for all statistical analysis. Parametric tests were used when possible, using transformed data when necessary. Generalized linear model and ANOVAs were used for multivariate analysis, and Chi-square test were used for categorical variables. All statistical tests were two-tailed with a critical P value of 0.05 and alpha value of 0.05.

Results:

Respondents' characteristics and use of resources

The age of respondents was 18-70, with an average of 39. The majority of respondents were male (70%), with the minority being female (30%). From this, it can be assumed that males are the dominant figure in Nepalese households, and therefore males were more active in speaking with and answering questions for visitors. The average number of female members in a single household were 2, with an average household size of 5 people. The education status of survey participants ranged from zero to 14 grades, and grade 14 was equivalent to a college level degree. More than half respondents (n=64) have received basic education, and some (n=33) have received secondary education or college education. About half of the respondents (n=50) were native to the Chitwan area, although half lived somewhere else and moved to this area more than 10 years ago. The indigenous people of our survey area, Chitwan, were Tharu people. About 40% (n=39)

survey respondents were Tharu. Tharu belongs to the third caste of Vaisya in Nepalese fourfold caste system. The majority respondents (n=68) were Vaisya, and some were Brahmin (n=18), the superior caste, and small amount were Chetri (n=9) the second highest caste. One-way ANOVA examination revealed Brahmin was more likely to achieve higher level of education ($R^2=0.044$, $df=95$, $P<0.05$), compared to the other castes. There is no significant wealthy difference among castes.

The primary income source for local households were farming and fishing (76%), even though multiple occupations were typically pursued within a household. Figure 1 summarized household monthly income level in our sample. About half respondents (n=49) received monthly income of more than 15,000 Rupee (\$146). No demographic variable is associated with household monthly income level. Common occupations of respondents' include tourism related jobs, government workers, schoolteachers, vehicle operators, and business owners.

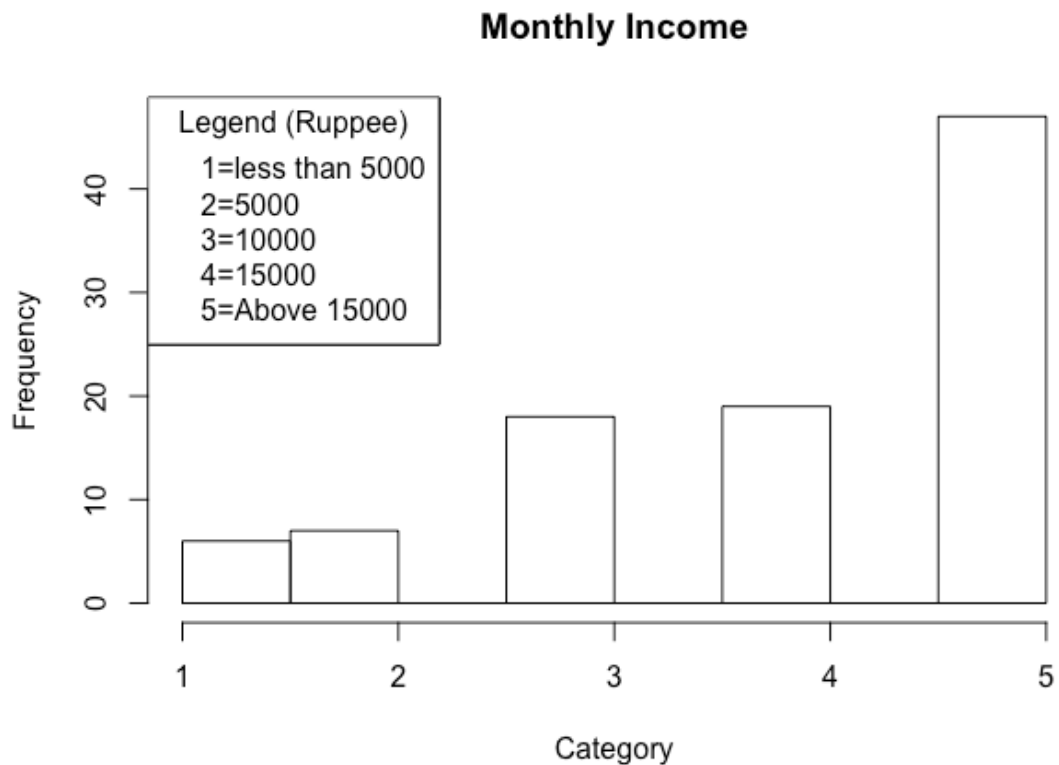


Figure 1. Household monthly income distribution

Tourism benefits

There are two indicators of direct benefits received from tourism: one or more members of a household employed in tourism sector or household operated tourism-related business. Around 62% (n=60) households in our sample received monetary benefits from tourism, and the average benefits received from tourism for respondents were 37,872 rupee (\$361.46) per month (Figure 3). Welch t test revealed that tourism income

significantly increased households' overall income level ($P < 0.01$), but only 55% ($n = 54$) of respondents responded that they experienced an increase in income because of tourism (Figure 5). Half of respondents have one or more members involved in tourism-related business ($n = 51$), such as shops, restaurants, family-hosted lodges, and 66% respondents received monetary benefits through tourism employment ($n = 61$). Common employment types include restaurant servers, tour guides, housekeepers, vehicle operators, and handicraft and souvenir makers. Chi-square test revealed households involved in tourism were more likely to experience higher monthly income ($R^2 = 0.142$, $df = 95$, $P < 0.01$), especially for tourism business owners and operators. Gender and cast attribute to direct benefits received from tourism ($R^2 = 0.067$, $df = 92$, $P < 0.05$), with male tend to obtain more economic benefits from tourism than female. Tharu people, the indigenous people of Chitwan, received less income from tourism than other casts ($X^2 = 5.529$, $df = 1$, $P < 0.05$). Nevertheless, there is no difference in overall monthly income between Tharu and other casts ($X^2 = 0.0005$, $df = 1$, $P > 0.05$). Interestingly, education level doesn't have a significant effect on household monthly income or tourism income. We did not find correlation between other social economical factors with tourism income.

Even though majority were happy with tourism's impacts on their economic status, (53%), local residents revealed that tourism income was highly unstable and that employment in this industry was no better than other jobs. The tourist amount in Chitwan National Park declined 50% after the April 2015 earthquake, and many people lost their jobs in the tourism sector as a result. Few people depended on tourism income for a living, and the majority is employed in other jobs such as agriculture, construction, and employment in government or private sectors to support their livelihoods during low seasons of tourism.

Tourism benefits were not distributed equally across villages. Those employed in tourism sector were heavily clustered in villages that are close to the park entrance. Sauraha and Odra, two villages that are connected to park entrance ticket office, had their average tourism monthly income \$275 and \$529 per month per household. In contrast, villagers that live 2.5 or 3 kilometers away from park entrance, such as Paderia and Maninaha, barely received any direct income from ecotourism (Table 1). Linear regression revealed that tourism income decreased as distance to park entrance increased ($R^2 = 0.195$, $df = 95$, $P < 0.01$). Those residing closer to the park entrance have significant more opportunities to obtain economic benefits from tourism, or those who have capital and market expertise.

Village	Total Households	Households Surveyed	Number of households involved in tourism	Percentage households involved in tourism	Average tourism income per month per household (\$)	Distance to park entrance (km)
Sauraha	118	10	73	62%	275	Connected
Odra	104	10	57	55%	531	0.50

Laukhani	125	10	26	21%	480	1.00
Malpur	137	13	22	16%	63	1.00
Badreni	139	14	19	14%	162	1.50
Baghmara	87	9	22	25%	87	2.00
Sisuwar	88	9	5	14%	197	2.00
Mainaha	102	10	4	4%	24	2.50
Paderia	117	12	4	3%	34	3.00
Total	1017	97	232 (23%)	23%	209	

Table 1. Tourism benefits distribution across nine villages in Baghmara

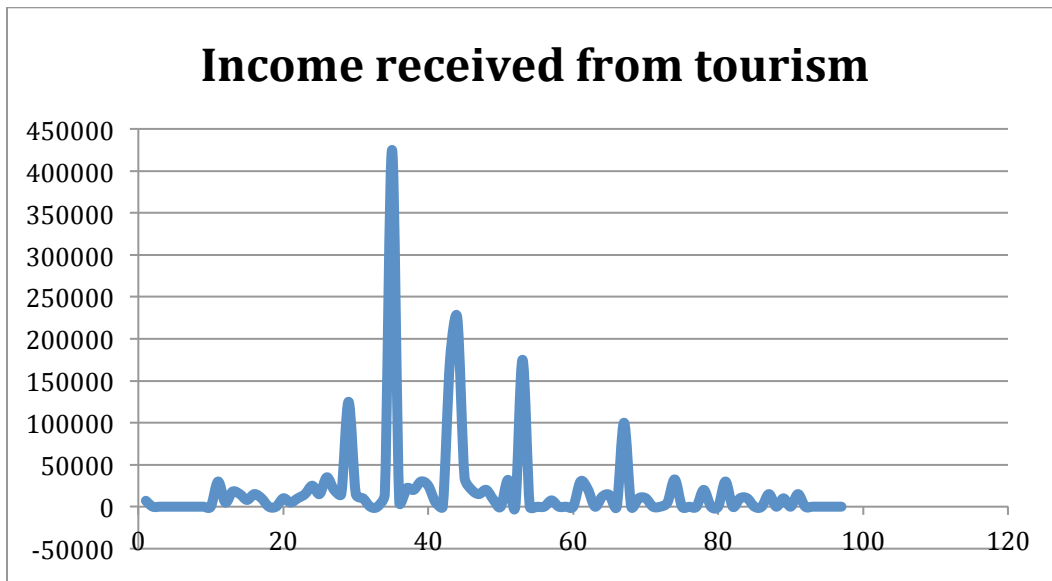


Figure 3. Household monthly tourism benefits distribution

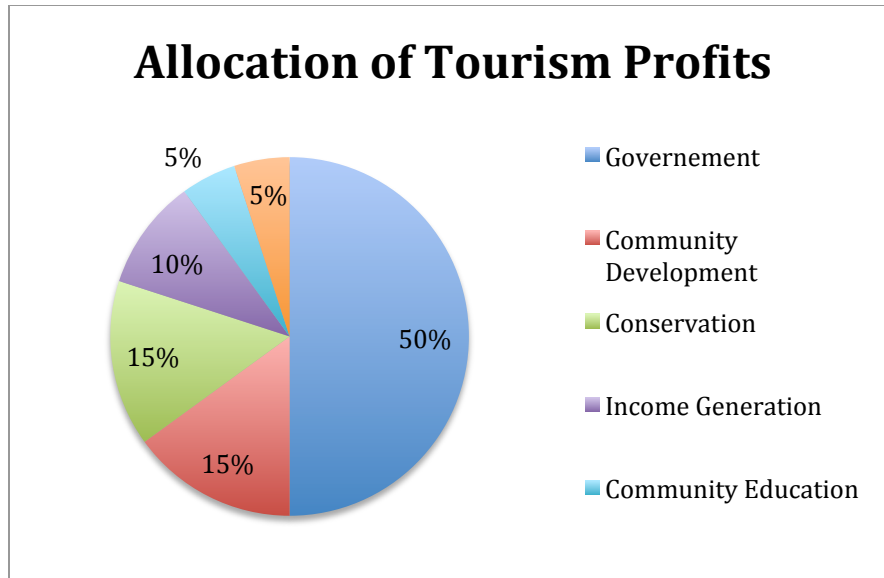


Figure 4. Allocation of tourism profits

Besides direct economic benefits, residents received indirect benefits from infrastructure development through revenues collected from tourism. Figure 4 shows the distribution of tourism profits. The government of Chitwan National Park shares 50% of total tourism revenue with 25 buffer zone community forest councils, and 15% of the profits were invested in community development projects. Figure 5 illustrates the level of satisfaction households had towards each community development project. The majority preferred road construction, schools and scholarships, biofuels, and toilet installation, instead of irrigation and health centers. Respondents' common complaints include health center and school is not easy to access; the subsidy for biogas and toilet is not enough to make installation affordable; and health center do not benefit those who have severe health conditions. Road construction and school scholarship are among the highest rated programs, because they provide better transportation means and education to children.

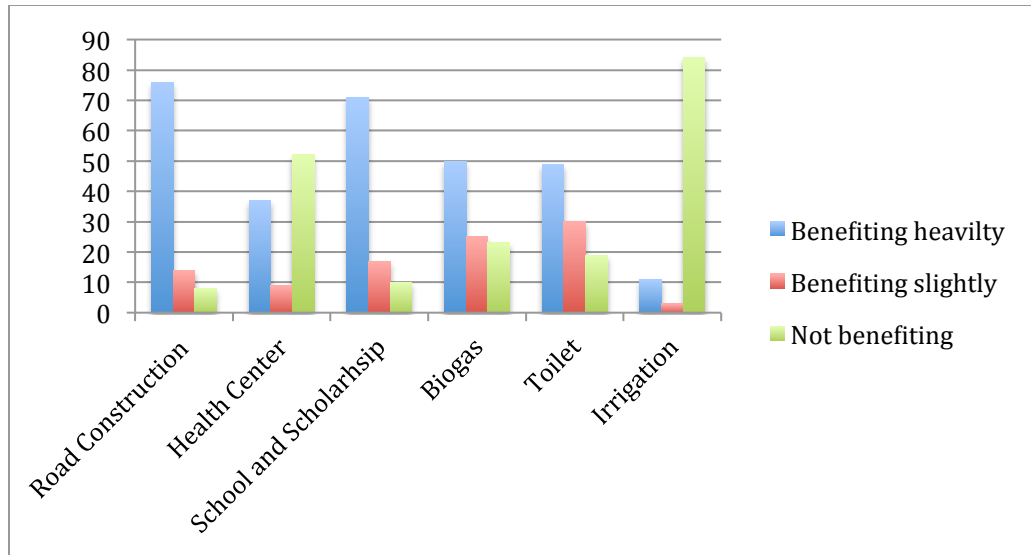


Figure 5. Responses to question ‘how much do you benefit from community development projects?’ (n=97, response selected from 3 likert scale)

Under the management of CFUG, villagers also received training opportunities to obtain knowledge and experience in the tourism sector. Among survey participants, 54% reported that they have received some type of training. Figure 6 shows that types of trainings respondents have received from CFUG and NTNC.

Waiter Training	Tour guide Training	Tailor Training	Women skill development	Language Training	Cook Skills Training	Housekeeping Training	Tourism Business Training and loans
5	16	6	6	9	2	1	11
Computer Training	Loan for building club house	Farming and livestock	Conservation Training	Handicraft workshop	Hospitality workshop		
2	1	4	5	2	1		

Figure 6. Community capacity building activities

The answers indicated the existing training programs that respondents knew of in the community. However, this does not mean that respondents have participated or received those trainings, but rather of their awareness of those training opportunities. Villagers will have to pay for receiving trainings, and one villager reported that, due to a lack of tourists in the village, they were not interested in participating in those programs.

Respondents’ attitudes towards community forest were generally positive. 66% respondents had high satisfaction with community forest management. Commonly mentioned problems were not receiving enough firewood and grass from CFUG, and benefits were not distributed equally. A few people reported that CFUG benefit rich

people and more pro-poor programs should be implemented. Some under the table trade existed, such as those with more money got more resources from CFUG.

Tourism costs

The two major costs associated with protected area tourism are restricted access to forest products and crop damage from wildlife. Firewood, grass, medical herbs, and non-timber forest products are the primary needs of villagers. We identified each type of resource's sufficient level of supply. Firewood was identified as the most demanded resource (n=83), providing about 75% of residents' energy consumption. Grass for livestock grazing was the second highest-demanded resource (n=68), followed by non-timber forest products (n=30). Chi-square test indicated that receiving benefits from tourism reduced villagers' dependence on natural resources ($\chi^2=9.875$, $df=2$, $P<0.01$), regardless of how much benefits were received from tourism. Higher levels of household monthly income also reduced villagers' dependence of forest products. Residents living closer to park entrance also have a lower demand of forest products ($R^2=0.09$, $df=92$, $P<0.01$). Crop damage doesn't affect the level of demands, nor does any demographic. However, the majority does not feel they were able to receive enough firewood and grass from CFUG (figure 2), and they needed to seek other employment opportunities for sustainable income.

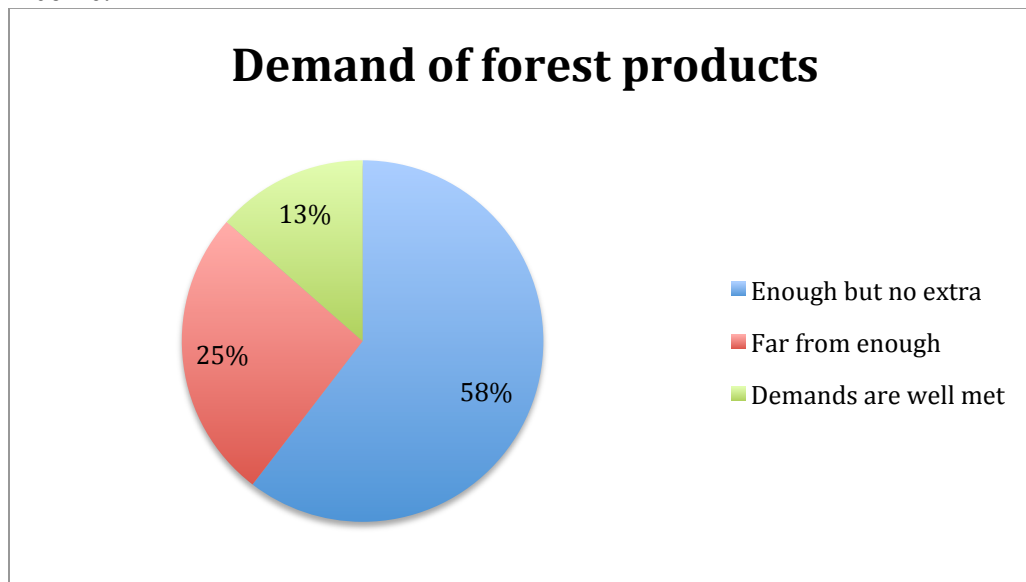


Figure 2. Response to question 'do you receive enough resources from community forest?' (n=97; response selected from a 3 point likert scale)

Crop loss from wildlife was another major perceived costs of living around protected area. Findings showed that more than half respondents have experienced crop loss from animal infestation (n=68), with rhino being the most common animals, followed by wild boar, elephant, and deer. The majority experienced crop damage a few times a month (n=34), while few reported almost everyday (n=7). When these infestations occurred, at least half of the crops were damaged. Villagers can apply for compensation for crop damage from CFUG, but half of respondents were not satisfied with the compensation system, stating that it took a long time to obtain compensation,

and, even when they applied, compensation was not guaranteed. However, there is no correlation between distance to park entrance and frequency of crop damage, nor does household demographic variable. Our study found that there is a slightly significant association between crop damage and indigenous Tharu ($X^2=3.71$, $df=1$, $P=0.05$). Tharu people are traditionally farmers and fishers, own most agriculture lands. This may explain the reason why Tharu suffer from crop damage the most.

Attitudes towards tourism

We surveyed respondents' opinions of tourism's impacts on economy and conservation. As shown in table 3, the majority of respondents held positive attitudes towards tourism's impacts on environmental conservation. Respondents' revealed that tourism resulted in a significant decrease in poaching, raised environmental awareness, shared knowledge about wildlife conservation, and incentives for people to participate in conservation. However, many reported that tourism has created many new environmental problems, including lack of waste management in communities, overloaded tourism activities in the jungle, noise disturbance to wild animals, plastic pollution from tourists, and damage to the riverbank due to the concrete hotels being constructed there.

Impacts of tourism on conservation

Conservation improves a lot	Conservation improves somewhat	Conservation does not improve at all
63%	34%	3%

Impacts of ecotourism on economy

Economy improves a lot	Economy improves somewhat	Economy does not improve at all
53%	43%	4%

Table 3. Responses to question 'what do you think of tourism's impacts on conservation and local economy?' (n=97; responses selected from 3-point likert scale)

The generalized linear model showed neither household demographic variable nor their monthly income is significantly associated with attitudes towards tourism's impacts on conservation. However, tourism income do ($X^2=5.023$, $df=1$, $P<0.05$). Those received more economic benefits from tourism are more supportive of tourism's positive impact on conservation ($R^2=0.042$, $df=95$, $P<0.05$). To the contrary, there was no correlation in household income increase through tourism and support for tourism's impact on conservation. This indicated that household overall income increase does not affect attitudes towards tourism's impacts on conservation, but tourism income do. Satisfaction with community forest user group also affects attitudes towards tourism ($X^2=8.459$, $df=2$, $P<0.05$). Chi-square test revealed that residents who were satisfied with user group tend to be more supportive of tourism. However, frequent crop loss from wildlife did not affect attitudes towards tourism's impacts on conservation, neither did demand of forest products. No social economical variables were found associated with attitudes towards tourism.

Regarding tourism's impacts on local economy, about half (53%) respondents responded with strong support. Examples given included creation of employment, business opportunities, increase of land value, market expansion, and finance for community development. However, 43% respondents were not very satisfied with tourism's impact on regional economy, stating that tourism benefits were not equally distributed, where wealthy people received more opportunities to be involved in tourism employment for economic benefits. The majority did not have the opportunity to involve in tourism employment or business. Satisfaction with user group marginally affects their attitudes towards tourism's impacts on economy ($X^2=3.81$, $df=1$, $P=0.05$).

Given the reasons of involving in tourism, the majority (58%) responded money was the primary motivator, followed by having no other job (22%), and meeting people (21%). Respondents also had mixed views on tourism's impact on local culture. The most commonly mentioned impact was dress code. Majority perceived dressing western as negative, with few felt that younger generation dressed modern have positive connotation. Other commonly mentioned impacts included speaking more confidently and forward, learning English, expanded circle of contacts, became friendlier and open minded, and learning about new culture. Drinking and smoking, drug use, sexual assaults, and forgetting about traditional culture were common negative impacts of tourist visits. In addition, traditionally inherited Hindu and Nepali religions were challenged by the influence of Christianity through tourist's interactions.

Attitudes towards conservation

Respondents' support for park conservation was incredibly high. The majority (79%) strongly felt the park existence is benefiting them, economically and environmentally. When asking the necessity of park existence, only two respondents replied that they saw no need for the park to exist. About half of respondents stated that the benefits from park were fresh air and a green environment, while the other half emphasized the economic benefits of the park. Two-sample t-test indicated that there is no difference in answering receiving benefits from the park between those received monetary benefits from tourism and those did not, nor between those who experienced crop damage and those who did not. This result indicated that economic benefits from tourism and crop damage have no significant effect on attitudes towards park conservation. Further, there was no effect of tourism benefits on support of the park conservation activities, probably because support for park conservation efforts was already very high.

Conservation behavior

The activity of entering the jungle to collect forest products and wild meat consumption indicated whether conservation attitudes were reflected in behaviors. About 60% respondents ($n=58$) have illegally entered the park to collect forest products, mostly firewood and grass. Few people have killed animals when they came to damage the crops for meat consumption, despite that they were well aware of the regulations and consequence of behavior. Generalized linear model revealed tourism benefits and household monthly income do not affect their conservation behavior. The main reason of entering the jungle during restricted time was that villagers don't get enough firewood

and grass from community forest. Besides cooking fuel and livestock grazing, firewood was also the main source of material for furniture making. The existence of subsistence and livelihood needs prevent people from obeying these conservation regulations, even though support of conservation was high. Chi-square test also did not find correlation between conservation attitudes and conservation behavior. The reason might be support for conservation was already very high.

Effects of tourism benefits on reasons given for importance of conservation

Regarding reasons and motivations for conservation, majority responded with attracting tourists (93%), wildlife protection (87%), preservation of future generation (85%), followed by generating income source (68%), providing fresh air (39%), and beauty of nature (38%). Two-sample t test revealed tourism income ($R^2=0.07$, $df=95$, $P<0.01$) and village location ($R^2=0.121$, $df=95$, $P<0.01$) had a significant correlation with villagers' awareness of wildlife protection. Higher caste and higher level of education were associated with a higher level of awareness of preserving the environment for future generation ($R^2=0.11$, $df=57$, $P<0.05$). Satisfaction with community forest user group and participation in decision making affect residents' awareness of preserving environment for future generation as well ($X^2=4.05$, $df=1$, $P<0.05$). Locality and tourism income were associated with the notion of protecting environment for attracting tourists.

Discussion:

Tourism benefits distribution

Our study revealed that tourism benefits can provide substantial income for households and to be reinvested by CFUG to support conservation efforts, but more equitable distribution of benefits is needed to formulate more positive attitudes towards tourism. Communities living in or adjacent to park entrance tend to receive significantly more economic benefits from tourism than those living further away from the park, despite some deviations, such as village Sisuwar and Baderani. This is in agreement with existing literatures of regional inequities in protected area tourism benefits distribution, where gateway villages receive significant more benefits than distant villages (Walpole & Goodwin 2001; Sekhar 2003). Distant villages are most in need of natural resources and forest products, due to a lack of alternative income from tourism, and thus future tourism management should put greater emphasize on those communities to improve the livelihoods for all community members.

However, our study did not find correlation between distance to park entrance and crop loss from wild animals, despite the fact that numerous studies have showed that distant villages experience greatest costs associated with protected area conservation (Walpole & Goodwin 2000; Sekhar 2003). Our study found that male and higher casts tent to receive more direct benefits from tourism, and this concurs with common findings that women and the poor benefit the least in protected areas tourism in developing countries (Wells & Brandon, 1993; Goodwin & Roe, 2001). It is surprising to find that the indigenous ethnic group, Tharu, is less involved in tourism compared to other castes, and therefore received less direct economic benefits from tourism that others. In addition,

previous findings showed that Tharu were more dependent on resource extraction, even though in our study this trend is not identified. Tharu suffer from crop loss resulted from protected area the most, and this suggest that tourism is not targeting the most local of local residents who are most likely depend upon natural resources for livelihood, and consequently those whose support for conservation are most needed. Further studies are needed to provide evidence on to what extent tourism are targeting Tharu people, in comparison to other castes. There is a much room for improvement in tourism benefits distribution, and future tourism planners shall focus on to address equity issues and to target indigenous residents, women, and the poor.

In terms of stability of tourism income, there is seasonality and vulnerability to natural disasters that affect using tourism benefits. Tourism employment opportunities in Chitwan diminished due to the overall decline in tourist arrivals to Nepal since 2000 (Bhattarai, Conway & Shrestha, 2005). The devastating earthquake in 2015 significantly decreased tourism employment opportunities and resulted in significant economic loss. This explains the fact that few people in our study site depend on tourism income for a living, and the majority possess other jobs during tourism low seasons. Previous studies also suggested that tourism employees should have higher income, a sense of achievement, and a number of additional benefits (Lindberg 2003 & Scheyvens 1999). Responses in our survey agree with this statement, suggesting that respondents want tourism jobs to have better wages and benefits. Overall, tourism's contribution to residents' income was moderate. The direct economic benefits received from tourism were market dependable, not distributed equally, and more programs should be introduced to target the poorest and woman, despite that tourism benefits provide local residents a new source of income and reducing their dependence on resource extraction.

Collective tourism benefits are invested in community development projects and conservation. Local residents benefit from those infrastructure development projects, such as school, scholarship, health clinics, subsidy for biogas and toilet construction, training opportunities, and roads. However, dissatisfaction with infrastructure development is common in survey respondents. Other studies have found that community development projects have no meaningful contribution toward local livelihoods (McIvor 1997; Archabald & Naughton-Treves 2001), especially in distant villages. This may explain the high amount of complaints among our study respondents.

While resource extraction from community forest constitutes a significant portion of residents' daily activities, respondents indicated that resources provisions in community forest are inadequate. Previous studies found that inadequate resource provision was supplemented by illegal extraction from the Park (Walpole & Goodwin 2000; Sekhar 2003). During our research session, women were most often observed unlawfully collecting resources in the Park, and our studies found about 60% respondents have frequently collected firewood and grass in restricted forest areas.

Attitudes towards tourism

On community level, our study results showed that community members held positive attitudes towards tourism's impacts on local economy and conservation, and demonstrated near-unanimous support for the park. They also recognized the link between park existence and the local tourism industry. This corroborates other research

findings that tourism in Chitwan National Park help change local people's attitudes toward biodiversity conservation and reduce people's dependence on natural resources (Walpole & Goodwin 2000; Sekhar 2003). Results also show that attitudes towards tourism were greatly affected by economic benefits received from tourism. Those directly benefited from tourism held positive attitudes towards tourism's economic and conservational impacts, despite their household financial status. Further, residents recognized tourism's positive impacts on wildlife conservation even though they were bearing the loss from crop damage. This fact highlights the importance of tourism's economic value to communities' attitudes, in other words, regardless of household's social economic status, tourism economic benefits create supportive attitudes. Policies should prioritize villagers further away from park entrance with more opportunities to engage in tourism or design benefit-sharing mechanisms that privilege communities living further away from the park, and in this way generate broader support for tourism.

In addition to tourism benefits, community forest management greatly affects attitudes towards tourism as well. In our study, failure to obtain compensation from CFUG and dissatisfaction for CFUG management have resulted in less positive attitudes towards tourism. Previous studies show that increased crop loss from wildlife can be contributed to ineffective grassland management, the quantity and quality of habitat outside of the park (MFSC [Ministry for Forests and Soil Conservation] 2000; McLean & Stræde 2003; Heinen & Shrestha 2006). Given the frequency and severity of wildlife conflict, improvements of mitigation and compensation scheme should be implemented and would significantly contribute to improved livelihoods and increase support for conservation.

Finally, our survey results indicated that local residents in Baghmara buffer zone community forest believed the physical environmental were improving even though some negative impacts from concrete hotel building, trash disposal, noise and swage were observed. Local residents also strongly felt the overall economy in the community was greatly improved through tourism. They also acknowledge the necessity of park existence, despite limited access to forest products and loss of crops from wildlife. In general, benefits received from the park and tourism overshadows costs associated with living around protected area, and only when communities perceive net benefits, can community formulate support of tourism and the park.

Last but not least, tourism impacts community cultural and traditions. This is shown through responses associated with religion, dressing codes, and languages. Majority respondents mentioned that their religion was threatened by the arrival and influence of other religions, and fewer young people inherited their family's religious practices. Female start to dress western cloth, which was considered "showing too much skin" and being perceived as inappropriate. However, the majority valued the opportunity to learn English through interacting with tourists, and desired more opportunities learn a new culture that they have little exposure to in the absence of tourism. This finding corroborate with existing literatures. The most interesting finding from our study was that people value the ability to speak up and be expressive through interacting with tourists. The fact that communities value the opportunity to learn new culture and become more open minded are not often discussed in existing literatures. Our research opens up further discussion regarding tourism' cultural impacts on community lifestyle, mindset, values, and way of thinking. More research in this area will be beneficial for tourism operators to

gain comprehensive understanding of the interaction among locals and tourists, and for both local and tourists to communicate with each other better. Opportunities for direct and increase interaction between local residents and tourists such as homestay and cultural exchange activities, will be directed in an effort to introduce local traditions to the world and to educate visitors about cultural diversity and respect of authenticity.

Attitudes towards conservation

Respondents generally showed highly supportive attitudes towards conservation with demonstrated awareness of wildlife protection and jungle conservation. We did not find a correlation between tourism benefits and conservation attitudes, and the reason may be because conservation attitudes were already very positive. This corroborates with other studies that tourism often do not directly lead to appreciation of conservation. For example, Walpole & Goodwin (2001) found that direct recipient of tourism benefits at Komodo National Park was linked with support for tourism, but not to positive attitudes for conservation. This implies that other factors play into influencing conservation attitudes, such as education, relationships with park rangers, religion, extra. Local interaction with park authorities was not investigated in this study but may play an important role in shaping local attitudes towards conservation.

In terms of reasons why respondents want to protect the environment, wildlife protection is the top answer. This indicates that local awareness for wildlife protection is very high, despite of education or income levels. Tourism benefits increase people's awareness of wildlife protection. It also serves as a tool to spread conservation knowledge. Those involve in tourism have better knowledge of the value of conservation. As many respondents indicated in the interviews, tourists come to see wildlife, and the more they conserve, more tourists will come, which brings revenue to the community. By understanding the motives for people to participate in conservation, tourism operators and conservationists will be able to prioritize revenues to target incentives or factors that can be changed and to create a more supportive environment for tourism and conservation.

Conclusion:

Overall, our study results showed that tourism has mixed impacts at Baghmara community forest as a conservation and development tool. The establishment of community forest tourism strengthened community based participation and livelihoods improvement, yet we argue that this scheme could be made more effective if differences in benefit distribution can be addressed in the delivery of incentives. Current benefit distribution has failed to take into account distant villages, the indigenous Tharu people, and the costs borne by the different households and villages.

The reasons we emphasize the importance of equitable benefits distribution is that benefits recipients from tourism have more positive view of tourism and display greater support for tourism. Alongside this, we support that greater community support in turn generates long-term success in tourism management for integrating livelihoods improvement and conservation practices. However, direct economic benefits do not directly lead to greater support for conservation. Education, religion, relationship with park authorities, locality, and other social economic factors all factor into communities'

conservation attitudes. Further research is needed to determine what other factors are associated with conservation attitudes, how are they affecting conservation attitudes, and what role tourism benefits can play to formulate greater and broader conservation support.

In our study area, CFUG consistently struggles with gaining more democratic decision-making power with the government to obtain more shares of forest resources and tourism revenue. It is expected that if residents' basic demands were not met, their support for CFUG will decline, which leads to decrease in conservation support. Only when their basic needs are met, can conservation participation become realistic among local communities. The presumption of successful community based tourism operation must lead to improved livelihoods, with net benefits provided to community members. Livelihoods improvement is the key to create incentives for communities to participate in conservation, and to support tourism development. Further studies regarding the interplay between tourism benefits and conservation attitudes should be conducted to explore more in depth about intrinsic relationship between environmental conservation and livelihoods development.

We acknowledge the limitations in our studies. The survey respondents may not always respond in the most genuine way to questions such as "do you collect wood inside the park". The sample size is not big enough to produce statistically significant results, and larger sample size will be more statistically reliable. Further, our sample was tested at one point of time, and therefore the data do not show causation but correlation among variables. Future data collection with the same sample will generate data that can be used to analyze causation regarding which variable leads to the other.

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