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Estimating Recreational Economic Value of Langtang National Park, Nepal

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Abstract

Protected areas are the backbones of biodiversity conservation and effective tools to achieving conservation goals. Besides conservation, they are also the destination of nature based tourism as seen in national parks, among others. Nepal has currently 23.23% of its area designated as protected areas including 10 national parks. In order to evaluate the willingness to pay (WTP) for park entry fee and estimate economic value of the park tourism/recreation in Langtang National Park, contingent valuation study was conducted in the autumn of 2014. Findings suggest that the mean WTP for the park entry fee is USD 53.57 and median WTP is USD 50 which is higher than the current entry fee of USD 30. Further, entry fee of USD 50 yield the maximum revenue of USD 375,400 to the park provided that the hypothesized entry fee is realized and prospective number of visitors are willing to pay for this amount. Total economic value (gross regional economic value) due to the park is estimated to be USD 6,603,898.

Key words: Contingent valuation, economic value, entry fee, Langtang National Park, recreational ecosystem services, willingness to pay

Introduction

Protected Area is defined as a ''clearly defined geographically space that is recognized, dedicated and managed through the legal or other effective means to achieve the long term conservation of nature with associated ecosystem services and cultural values'' (Dudley, 2008). Parks and protected areas are established as the legal entity for in-situ biodiversity conservation along with associated natural and cultural values. The other purpose is for supporting nature-based tourism and recreation, especially for the IUCN II category of protected areas that include national parks. The management objective of tourism and recreation, among others, is clearly indicated as the primary objective of protected areas of IUCN category II (national park), category III (natural monument), and category V (protected landscape). Except in the IUCN category Ia (Strict Nature Reserve), some types of tourism and recreation are likely to occur in other categories of protected areas (Eagles *et al.*, 2002).

In Nepal, 23.23% of its territory covering different physiographic zones is declared as protected areas under different categories. Some protected areas are very popular for nature-based tourism, which includes wilderness experience, wildlife viewing, bird watching, cultural experience, trekking, climbing, and mountaineering. Among various protected areas, Chitwan National Park, Annapurna Conservation Area, Sagarmatha National Park, and Langtang National Park are on top destination list of protected areas for nature-based tourism. Tourism industry of Nepal is labelled as nature-based tourism since there are several types of tourism activities, which are directly linked to nature. National tourism promotion slogan – ''Naturally Nepal, Once is not Enough'' is the key characteristic of tourism in the country (Thapa, 2014a). This is supported by the presence of a huge network of protected areas where more than 40% of the total foreign tourists visit the areas for nature-based tourism activities (ibid.).

Study shows that national parks and protected areas can help achieve regional economic development goals too (Getzner, 2008; Job, 2008). Park tourism is one of the major forms of tourism

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which add foreign currency in the national economy for many developing countries (Emerton *et al.*, 2006). Although not all protected areas of Nepal are tourist destinations, they are potential reserves for future as the trend of tourists visiting parks and protected areas is increasing (DNPWC, 2012). Experiences from numerous countries including Austria, China (Tibet), India, Nepal, Peru, and Switzerland show that ecotourism activities provide income generation opportunities to local people, contribute to poverty alleviation, and support environmental conservation (Odell, 1998 cited in Thapa, 2014). Entry fee levied to the visitors based on their willingness to pay (WTP) has the potential to benefit the growing tourism industry and local people tremendously. However, contingent valuation studies around the world show that the protected areas levy fees far less than what the visitors are actually willing to pay (Thapa, 2014). Therefore, using contingency valuation method, this study assesses the visitors' WTP in the Langtang National Park.

Generating fund for management of protected areas is a challenging task. Very often, limitation of fund determines the degree of management in protected areas. Although various forms of financing mechanisms, which apply to protected areas, exist globally, tourism user fee is valuable in protected areas to benefit local communities and conservation programmes. Nepal adopts three-tier fee system in its protected areas depending on the nationality of the visitors; national, SAARC, and international visitors. Mountain parks and conservation areas do not levy entry fee for Nepalese people. Therefore, using Contingent Valuation (CV) method to explore the WTP, this paper examines the optimum park entry fee that is required to be levied to the visiting tourists inside the park in order to improve the park revenue.

Materials and Methods

The CV method was employed in order to explore the WTP of foreign visitors for entry to Langtang National Park (LNP), Nepal. A payment card method was used to elicit the WTP of visitors, where the payment values ranged from Zero to USD 300 (and more). To explore the visitors' average expenses during the trip to LNP, market expenditure method was employed addressing their expenses in food, accommodation, local travel, necessary permit, souvenirs, and others.

A total of 289 self-administered questionnaires were filled by international visitors (excluding SAARC country visitors) in Langtang National Park in the autumn of 2014. The researcher was available to the respondents for any clarification during the survey. Most of the survey was performed at Kyanjin Gompa (3850 masl), which is the main attraction place in Langtang National Park trekking route. However, before the researcher reached to Kyangjin Gompa, few tourists were also surveyed at SyafruBensi with those who returned from the trekking trip. Only foreign tourists were surveyed because they are the one to pay the highest entry fee of NRs. 3,000 (about USD 30). LNP is the third most visited mountain park in Nepal and international visitors' number reached more than 14,000 in the fiscal year of 2011/12 for the first time.

LNP is the first Himalayan national park in Nepal, which was established in 1976 and covers 1,710 km^2 as core zone and 420 km^2 as buffer zone. It is a part of the Sacred Himalayan Landscape that connects protected areas of Nepal, India, and Bhutan of the Eastern Himalayas (Figure 1 and 2).

Results and Discussion

Willingness to pay (WTP)

Out of 289 respondents who participated in the survey, only 224 (77.5%) respondents replied the WTP question for the hypothesised increment of park entry fee. About 63.8% of the respondents who replied to the WTP question were ready to pay more than the current entry fee of NRs. 3,000 (equivalent to about USD 30). The highest number of respondents (n = 65) willing to pay the entry fee was USD 50. Median value of the WTP was also found to be at USD 50. Average WTP for entry fee was USD 53.6, leaving ample room for increase of current entry fee. Although this study found that the current entry fee of USD 30 is lower than what the international tourists are willing to pay, for the revised entry fee, the current WTP (mean WTP in 2014 = USD 53.6) is less than the previous WTP (mean WTP in 2013 = USD 63.6) in LNP (Thapa, 2014a; Thapa and Getzner, 2014; Getzner and Thapa, 2015). Comparable to this finding, CV studies in other Nepalese parks – Annapurna Conservation Area and Chitwan National Park also showed that the visitors' willingness to pay is as high as three times the current entry fee (Baral *et al*., 2008; Bardecki and Cook, 2011; Cook, 2011; Wrobel and Kozlowski, 2011). Distribution of the WTP bid amount and the frequency of the respondent for the hypothesised park entry fee is given below (Figure 3).

Economic value of park/trekking tourism

Distribution of WTP bid shows that the visit demand to LNP decreases with increase in entry fee following the law of demand and supply (Figure 4). Since the

Figure 1. Protected areas of Nepal

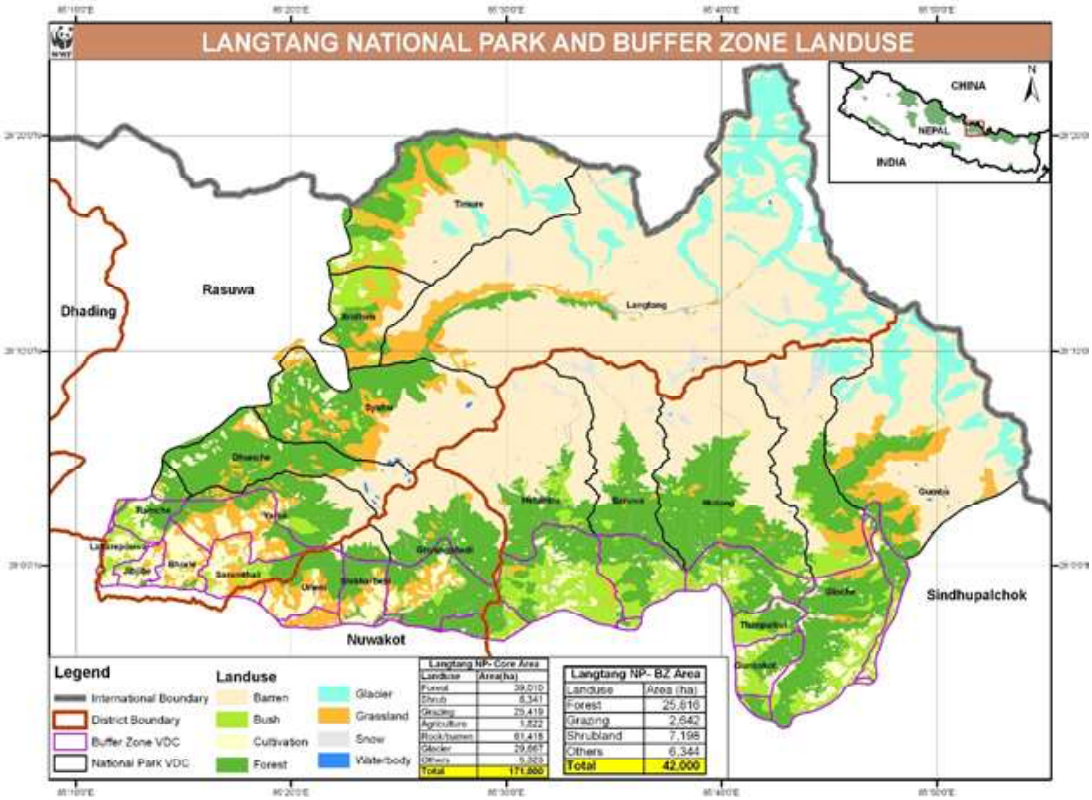

Figure 2. Langtang National Park, Nepal

visitors' trend in LNP is increasing over time (DNPWC, 2012; LNP, 2013), baseline scenario of international visitors entering LNP for the analysis of possible revenue generation from entry fee is taken as 14,134 visitors. Using USD 50 as a new entry fee, the total revenue generation from the entry fee alone increases, but the total number of visitors decreases. However, beyond this level, both the number of visitors and revenue decreases. Finding suggests that the entry fee of USD 50 yield the maximum revenue of USD 375,400 to the park, provided that the hypothesised entry fee is realised and the prospective number of visitors are willing to pay USD 50. Possible visitors' number and the revenue generation from the hypothetical entry fee at various bid amounts are given below (Table 1).

Recreational economic value or local/regional economic impact of LNP is estimated based on the average stays in Langtang region and the average expenditure incurred by tourist each day. While the Free and Independent Tourists (FIT) easily indicated their average expenditure during the trip, tourists with

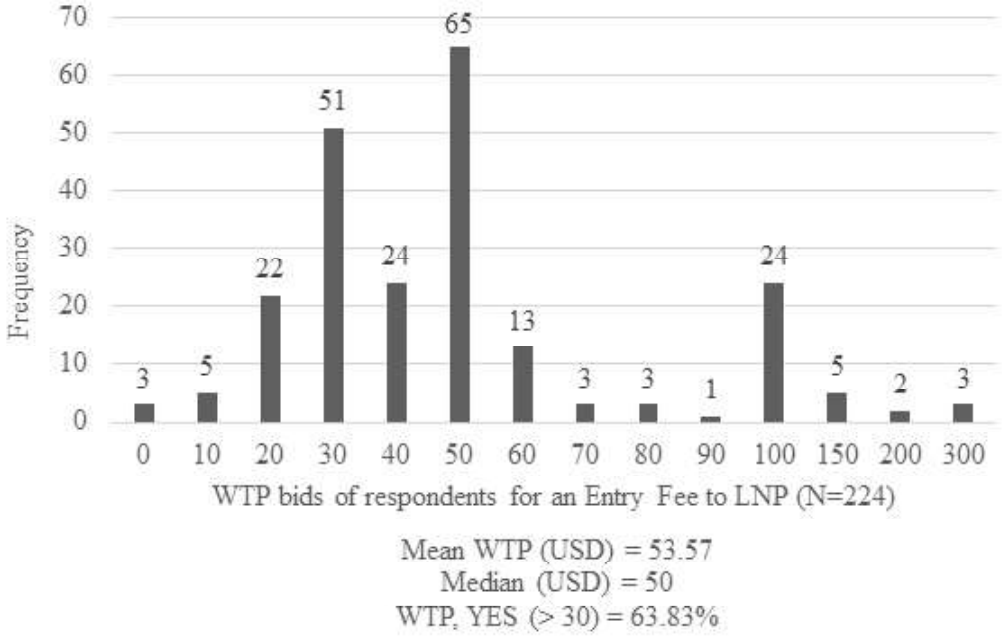

Figure 3. Distribution of WTP bids of the respondents

packaged tours (all cost inclusive) found it difficult to indicate the daily expenses because the expenses are paid directly by the organizing travel agencies. Therefore, the daily expenses of such group of tourists were derived applying the conservative estimate of national average expenditure of tourists visiting Nepal, which is recorded at USD 46.4/day (The Himalayan Times, 2015). Also, because of the profit oriented model of trekking business, the cost of package tours varies between different agencies even though the services, facilities, and offers are similar.

The average length of visitors' stay in LNP was 10.43 days (n = 289) where the FIT tourists represented 53% and group/package tourists represented 47%. Average expenditure for FIT was USD 35.44/day (n =142) and average package tour cost was USD 1,156 (n =126). About 38% of tourists visit the park without trekking guide and 62% hire trekking guide. Tourists on a package tour automatically get trekking guide and other logistic supports including porters and assistants. For the purpose of estimating recreational economic value of LNP, only the cost directly incurred and the number of visit days spent within the park region is taken into account. Therefore, costs incurred outside of the park like expenses made in Kathmandu and elsewhere is not accounted in the analysis.

Total recreational economic value of the park is estimated at USD 6,603,898 (Table 2). The highest income is made from the group travelers or package tourists, which accounted for USD 3,215,861 followed by FIT tourists (USD 2,768,967). Park entry fee contributed USD 424,020. Trekking permit (TIMS) cards contributed USD 195,050.

Although the WTP for park entry fee increases over time in protected area of Nepal (Baral *et al.,* 2008; Baral and Dhungana, 2014), LNP has reduced WTP for entry fee in 2014 compared to 2013 (Thapa, 2014a; Thapa and Getzner, 2014; Getzner and Thapa,

Table 1. WTP, respondents' %, possible visitors' number and revenue

WTP bid (USD)	% of respondents	Possible visitors number (%)	Possible revenue (USD)
0	100.0	14,134	0
10	98.7	13,945	139,450
20	96.4	13,628	272,560
30	86.6	12,240	367,200
40	63.8	9,022	360,880
50	53.1	7,508	375,400
60	24.1	3,406	204,360
70	18.3	2,587	181,090
80	16.9	2,397	191,760
90	15.6	2,208	198,720
100	15.2	2,144	214,400
150	4.5	630	94,500
200	2.2	315	63,000
250	1.3	188	47,000
300	1.3	188	56,400
>300	0	0	0

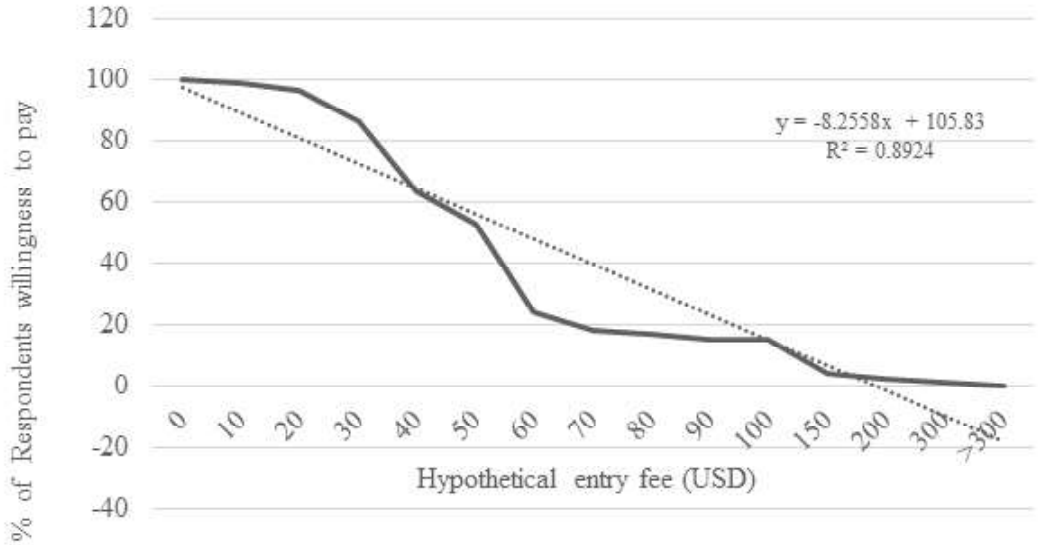

Figure 4. Visit demand at various entry fees (demand curve and regression line)

Table 2. Various sources of revenue from tourists in LNP

Source of revenue	Percentage	Revenue
FIT	53	2,768,967
Groups/packaged tours	47	3,215,861
TIMS card (FIT)	38	107,420
TIMS card Groups	62	87,630
Entry fee	-	424,020
Total	**-**	**6,603,898**

2015). However, the total economic contribution by ecotourism in the LNP region is larger in 2014 than in 2013 (Thapa, 2014a). In Annapurna Conservation Area, Nepal, gross regional economic impact from ecotourism is USD 37,427,359.7 which is equivalent to 51,910 jobs creation (Thapa, 2014b). Most of the tourism businesses in Nepalese Mountain Park are family business and income derived to those families from tourism is very much higher than the national average per capita income of Nepal.

National park and wildlife conservation act (1973) guarantees that the 30% to 50% of the park's income (from entry fees and other revenue generation) has to be invested back into the community for community development, environment conservation, and skill development/capacity building. This has added opportunities to the local communities in addition to direct benefits from tourism. Given the vulnerability of mountain areas to high local natural resources demand from visitors and locals, alternative resources have to be identified to save the mountain environment in order to keep its ecosystem intact.

Conclusion

Protected areas such as the LNP are important sources of income generation for locals and park management authorities, thus contributing to rural poverty alleviation. Past record of visitors' flow in the LNP shows that the trend of tourists visiting the Langtang region is increasing. Collecting entry fee from the visitors and other forms of user fee ensure financial flow and financial sustainability for the protected area management. However, the current entry fee is under evaluated. The CV method in LNP showed that the tourists are willing to pay up to USD 50 for entering into the park area, which will increase revenue for the park. Therefore, increasing entry fee to capture the market potential of ecotourism in the protected areas is useful to tap the untapped potential of visitors arriving in the protected areas.

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