"Resource Rich and Income Poor": Payment for Access to Protected Areas in Nepal

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Abstract

Nepalese protected areas contain some of the world's most compelling landscapes, attractive natural features and captivating cultural attractions. As much as they are "resource rich", they are "income poor" in that, as with many similar areas around the globe, successful management of these protected areas has been challenged by their lack financial capacity. Protected areas constitute a stock of natural capital, which if managed sustainably, can continuously yield a wide range of direct and indirect economic benefits. However, there are limited means of capturing revenues in order to manage and maintain these areas. The absence of secure funding sources is often critical. However, in some circumstances protected areas have proven to be significant revenue-earning entities and have the potential to make a considerable contribution to local economies. The concept of total economic value (TEV) (Phillips, 1998; ICEM, 2003) extends these ideas by allowing for:

1. the identification of the goods and services or "products" protected areas offer;
2. an economic valuation of these; and
3. insights into appropriate means for capturing revenues.

The entrance fees charged for visiting a protected area are a means of capturing the value tourists hold for that protected area. Tourists may be willing to pay considerably more for entrance into a protected area if they value access to the protected area to be greater than current entrance fees. When designing a pricing strategy, the underlying basis is to set the price in view of that willingness to pay.

Nepal has a number of exceptional and singular protected areas. The system of national parks, conservation areas, and hunting and wildlife reserves forms the core of these. The norm in all the protected areas is to charge an ascending scale of entry fees for Nepali, SAARC and foreign

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(i.e., other) nationals, although in some cases Nepali nationals can access these areas without fees (Table 1).

Table 1: Protected Areas in Nepal: Entry Fees and Visitation Levels (2007)

Protected Areas	Nepali NR	SAARC NR	Foreigners NR	Total # of visitors
Annapurna Conservation Area	0	200	2,000	60,274
Api Nampa Conservation Area (1)				
Bardia National Park	20	200	500	3,637
Blackbuck Conservation Area (1)				
Chitwan National Park	20	200	500	86,433
Dhorpatan Hunting Reserve	20	200	500	27
Gaurishankar Conservation Area (1)				
Kanchanjunga Conservation Area	0	200	2,000	328
Khaptad (Baba) National Park	0	100	1,000	9
Koshi Tappu Wildlife Reserve	20	200	500	2,166
Langtang National Park	0	100	1,000	8,165
Makalu-Barun National Park and Conservation Area	0	100	1,000	261
Manaslu Conservation Area	0	200	2,000	1,119
Parsa Wildlife Reserve	20	200	500	189
Rara National Park	0	100	1,000	87
Sagarmatha (Everest) National Park	0	100	1,000	26,511
Shey-Phoksundo National Park	0	100	1,000	368
Shivapuri Nagarjun National Park	0	25	250	74,958
Sukla Phanta Wildlife Reserve	20	200	500	136

Sources: DNPWC (2008; 2010)
Notes:
Newly established protected areas; fee levels unavailable.
NR70 ≈ $1US

The fee structure shown in Table 1 provides a low level of revenue, generally insufficient to support more than the most basic of conservation and other programs (Baral *et al*., 2008). For example, the entry fee for foreign visitors to the most visited area, a UNESCO World Heritage Site and among the best surviving example of the lowland natural ecosystems in the Indian subcontinent, Chitwan National Park, amounts to ~$7US. Similarly, for the globally renowned Annapurna Conservation Area, where

typical treks last 5-20 days, foreign visitors pay only ~$27US. Nepali and SAARC nationals pay only a fraction of those amounts.

The higher fees paid by foreign visitors generally means that the protected areas in Nepal depend on these tourists for a high proportion of their revenues. For example, the Chitwan National Park Ticket Office in Sauraha reports (Personal communication, Oct. 2009) that of all those who visited Chitwan National Park in the Nepali year 2065 (April 13, 2008 to April 15, 2009), foreign tourists represented 55.7 percent of visitors, yet they contributed 90.3 percent of the park's revenues from entry fees. By comparison, SSARC nationals were 11.8 percent of visitors and they contributed 7.6 percent of revenues; 32.5 percent of visitors were Nepali nationals and their fees represented 2.1 percent of the total.

This paper explores the economic valuation of protected areas in Nepal, specifically focusing on two recently published willingness to pay (WTP) studies conducted in the Annapurna region (Baral *et al*. 2008; Nepal 2007) and a contingent valuation study by the authors exploring tourists' willingness to pay for access to Chitwan National Park (CNP) (Cook & Bardecki 2012) (Table 2). In each case the focus of the research was on foreign tourists.

Table 2: Summary Characteristics of WTP Studies for Access to Nepalese Protected Areas

	Nepal (2007)	Baral *et al*. (2008)	Cook and Bardecki (2012)
Location	Annapurna CA	Annapurna CA	Chitwan NP
Character of WTP question	Payment of (additional) eco-fee	Increase to entry fee	Increase to entry fee
Entry fee (NR)	2,000	2,000	500
Mean WTP for entry (NR)	2,492 ($33.64US) (current fee + eco-fee)	5,126 ($69.20US)	1,535 ($21.94US)
Mean WTP/Current Entry Fee	1.25	2.56	3.13
Key significant relationships with WTP	Age, income	Family size, visitors' satisfaction, use of a guide, group size	Age
Key non-	Gender, visitors'	Age, education,	Education,

significant relationships with WTP	satisfaction	gender	gender, visitors' satisfaction, group type
Central form of analysis	Statistical tests of significance between WTP and independent variables	Logit regression model of the relationship of WTP to independent variables	Determining estimates of consumer surplus and demand elasticity

As with most willingness to pay research, the three Nepali studies sought to establish demographic, psychological and behavioural correlates with individuals' expressed willingness to pay values. And as has often proven to be the case in similar research elsewhere, few relationships were uncovered and with little consistency identified among studies.

The central approach adopted in each of the studies to assess willingness to pay, the contingent valuation method, uses a direct approach to valuing environmental goods or services in that it asks people through surveys or experiments what they are willing to pay for different natural resources or other public goods and services presented to them in a hypothetical market or, alternatively depending on the circumstance, the amount they would be willing to accept for the loss of the good or service (Mitchell & Carson, 1989). Broadly, the studies by Baral *et al*. (2008) and Cook and Bardecki (2012) are most comparable in their application of the contingent valuation method, albeit examining different areas. In these cases the central question related to a hypothetical increase in the entry fee, whereas Nepal (2007) introduced the idea of a voluntary eco-fee specifically to support conservation efforts and queried the amount his respondents would be willing to contribute through that mechanism.

In each of the protected areas those involved in management face challenges of protection, conservation, addressing concerns of those living within and adjacent to the park, and dealing with increased pressures (including those from tourist numbers). Research from a variety of areas has revealed that tourists often place a much higher value on their access and use of protected areas than the level of entry fees would suggest. Although the studies differ in approach, detail, and the form of the analysis, the research results of the three Nepalese studies suggest the potential for increased revenue streams as a means to further conservation and development efforts. This is illustrated in Table 2.

The purpose of the hypothetical increase in costs used by Nepal (2007) in his contingent valuation question was more explicitly (and thereby

narrowly defined)—that is an eco-fee for conservation purposes. This may offer an explanation for the comparatively lower amount found in that study (i.e., a willingness to pay a total amount 1.25 times the current entry fee in contrast to 2.56 times (Baral *et al*., 2008) and 3.13 times the current fee (Cook & Bardecki, 2012). Nonetheless, in each case the expressed willingness to pay of visitors was found to be, on average, considerably higher than the current fee.

In the case of Cook and Bardecki (2012), the survey was administered in Sauraha by face-to-face interview. Foreign tourists were approached in a variety of locations. In total 203 partially useable surveys were collected, 186 of which provided a categorized response concerning their willingness to pay. A double-bounded dichotomous choice method was employed (Loomis, 1990). Respondents were presented with an initial dichotomous choice as to whether of not they were willing to pay a specified amount for access to Chitwan National Park starting with the existing daily entrance fee of 500NRP (approximately $7US). In addition, a range of socio-economic variables and travel characteristics were collected. After providing a WTP value, respondents were queried regarding the basis for their valuation.

A demand function was established and from the willingness to pay responses, and estimates of consumer surplus and demand elasticity were derived. The analysis revealed that most foreign visitors were found to be relatively insensitive to the amount of the entry fee. This would have been a reasonable assumption given the modest level of the fee and the small proportion of the total trip costs which it represents. The elastic demand exhibited among those who expressed a low WTP may be partial evidence of "anchoring bias" (Kahneman & Tversky, 1973) whereby respondents fixed on the existing entry fee which was used as the initial bid rather than a genuine price sensitivity.

Certainly there is scope for considering the additional revenue which could be derived from the entry fees paid by foreign tourists. The three studies provide a basis for insights on ways to assess and capture the total economic value and to aid conservation management efforts in Nepal's protected areas. The results suggest that foreign tourists are willing to make a monetary contribution to such efforts and that the current price of the entrance fees might be increased with minimal negative results on tourist numbers. Crucially, an increase in the entry fees could provide valuable additional resources which could go towards conservation efforts in the protected areas and to support of sustainable development initiatives in communities within and surrounding them.

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