

Estimating the Value of the World Heritage Site Designation: a Case Study from Sagarmatha (Mount Everest) National Park, Nepal

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Abstract. It estimates the economic value of World Heritage Site (WHS) designation for the Sagarmatha (Mount Everest) National Park, Nepal. In 2012, entrance fees were \$30 per international visitor; lower fees apply to South Asian visitors, and no fees to domestic visitors. We surveyed 522 international visitors to the Park in 2011 to elicit their willingness to pay (WTP) for access, using the contingent valuation method. Logistic regression results show that bid amounts, gender, age, educational attainment, use of a guide, length of stay in the park, information about park substitutes, and knowledge about the park's WHS designation predicted visitors' WTP decisions. The median WTP amount was US\$90.93 per trip; 63.8% of visitors were willing to pay more than the existing entry fee. The revenue maximizing entry fee was \$80 per trip. Knowledge about the park's WHS designation prior to their trip contributed \$16.39 to the median WTP: better marketing of the site's WHS status could add up to US\$ 566, 619 to the site's annual income. Given that many protected areas now suffer falling public sector financial help, accurate knowledge of WTP is increasingly key to supporting sustainable management in WHS sites, and in justifying tourism to them.

Keywords: Contingent valuation; economic value; park entry fee; willingness to pay; World Heritage Site; visitor management.

Introduction

The World Heritage Convention of 1972 is instrumental in protecting natural and cultural areas that are invaluable to humankind by including them on the World Heritage Site (WHS) list (UNESCO, 2014). To date, 165 countries are parties to the Convention, and 1052 sites fall under WHS designation worldwide. Of these, most (814) are cultural sites, while 203 are natural sites. The remainders (13) are mixed sites containing both cultural and natural amenities. Most natural sites are additionally protected within their countries as conventional protected areas, and the vast majority are national parks. The WHC is important in recognizing sites that are of unique international importance and its headquarters in the United Nations Education, Scientific and Cultural Organization (UNESCO) in Paris maintains a trust fund to aid developing countries in maintaining their WHSs (whc.unesco.org/en/list). Countries are motivated to inscribe natural and cultural sites on the World Heritage List because listed sites often receive prestige, increased tourism, international cooperation, and financial assistance for conservation/preservation from the World Heritage Fund. As such, the World Heritage List itself can become a "brand" for marketing sites and attracting visitors (Heinen, 1995a; Ryan & Silvanto, 2009; Shackley, 1998) and WHS designation has substantially contributed

toward promoting tourism to listed sites (Frey & Steiner, 2011). An empirical analysis shows that the number of WHSs within a country is positively correlated with international tourist arrivals (Su & Lin, 2014).

The development of tourism in WHSs could be a boon or bane for several reasons. An increase in visitor numbers due to the WHS designation can positively influence employment creation and revenue generation (Heinen, 1995a; Nyaupane, Lew, & Tatsugawa, 2014) and, because the development of tourism requires good infrastructure and civil order, WHSs can promote development, build support for conservation and advance social harmony (Jha, 2005). On the other hand, tourism development can negatively affect conservation and protection of properties included on the World Heritage List (Batisse, 1992; Okech, 2010). For example, a 130-fold increase in tourist arrivals at the Jiuzhaigou WHS in China over a 30-year period has caused pollution and poses threats to biodiversity (Gu, Du, Tang, Qiao, Bossard, & Deng, 2013). This leads to two important questions: what is the economic value of the WHS designation to visitors and how can an understanding of this value improve the management of listed sites?

WHSs in the developing world frequently suffer from a lack of effective site management (Landorf, 2009) and, as a consequence, maintaining their unique characteristics might be difficult if not impossible (Alberts & Hazen, 2010). Although tourism contributes substantially toward revenue generation for managing protected areas, including WHSs (of WH natural sites), the vast majority are national parks and all are under some form of national protection (Heinen, 1995a), lack of adequate financial resources is one of the major reasons for ineffective management of protected areas in developing countries (Heinen, 2012). It is now well-accepted that protected area managers must devise alternative mechanisms to pay for the maintenance and protection of areas, including the concessions and other infrastructure used by tourists, given the global trend toward decreasing governmental budgets in the conservation sector (Whitelaw, King, & Tolkach, 2014). In a major review of research priorities regarding tourism in protected areas, Eagles (2014) discussed 10 separate issues of importance. Two of those, protected area financing and pricing policy, address budget issues directly. The other issues he discussed, such as assessing economic impacts, promoting public support and building professional competence in dealing with tourism, all require expanded budgets for their successful implementation.

While there is a growing literature on methods to capture rents in support of protected areas from indirect users in the form of carbon sequestration and other ecosystem services (Whitelaw et al., 2014), one of the easiest ways to increase protected area budgets is to increase direct user fees for those who visit (Heinen, 2010). Numerous studies worldwide have shown that there is a general acceptance of higher user fees for many protected areas in many contexts (e.g. Casey, Brown, & Schuhmann, 2010; Lee, Lee, Kim, & Mjelde, 2010), but such acceptance typically varies by any number of factors including the type of protected area, the average length of visit, the gender and age of respondents (see Kline, Cardenas, Duffy, & Swanson, 2012) and less tangible issues (for international tourists) such as the historical, economic, and political context of the society involved (Buckley, 2003).

For these reasons, instituting appropriate entry fees for sites that attract a large number of visitors is an effective way to generate adequate financial resources to mitigate some negative impacts of tourism. Increasing any positive impacts for the site and visitors alike, while reducing negative impacts of tourism are critical management goals in WHSs (Borges, Carbone, Bushell, & Jaeger, 2011). One way of achieving these goals is to identify and examine the willingness to pay (WTP) of visitors to visit any protected area. Additionally, those with WHS designation offer extra opportunities to study WTP in the context of the international designation. In all cases, information generated can be used to determine the extent of extra revenue generation with potentially increased entry fees in the future (e.g. Casey et al., 2010).

This study examines international visitors' WTP to visit Sagarmatha (Mount Everest) National Park, Nepal, which was inscribed on the World Heritage List in 1979 for its extraordinary scenery and geological features. Domestic visitors, or visitors from other Southeast Asian countries, are not considered here because they are relatively few in number and park entry fees are much lower for

them than for people from other parts of the world. Nepal has had a long history of adopting national policies and innovative strategies to foster conservation and manage its national parks and reserves and their surrounding buffer zones and community forests (Heinen & Rayamajhi, 2001; Timilsina & Heinen, 2008) and it is party to a number of international conservation agreements. But, as a least-developed country, Nepal is dependent on foreign aid for up to 80% of its development budget and has a history of facing strong barriers to implementing a number of national and international conservation policies, in part due to political unrest (Baral & Heinen, 2006), but mostly due to weak agencies and limited finances in the conservation sector. This has, for example, hindered the implementation of the Convention on International Trade in Endangered Species (CITES) within the country (Dongol & Heinen, 2012; Heinen, Yonzon, & Leisure, 1995) and its own national non-timber forest products policy (Shrestha-Acharya & Heinen, 2006).

There is increasing awareness worldwide about the importance of properly evaluating natural resources for national economies and considering ways to increase revenues to better manage natural areas and species (Barbier, 2014; Heinen, 1995b). Here we survey international visitors to Mount Everest National Park to elicit their WTP for increased entry fees and we identify visitor characteristics that explain variations in WTP for increased entry fees. We then estimate the mean and median WTP amounts and the use value that could be generated by knowledge of WHS designation using the contingent valuation method because of its design simplicity and suitability to evaluate policy-relevant questions (Hanemann, 1994). Finally, we propose a revenue-maximizing entry fee and discuss policy implications for the sustainable management of World Heritage Natural Sites in general. Specifically, the goals of this study are to survey international tourists to Mount Everest National Park to assess: (1) knowledge about the park's World Heritage Status; (2) added value that visitors place on World Heritage status; (3) WTP more for entry/user fees overall, and because of World Heritage status; and (4) any demographic trends (age, income, gender, etc.) that relate to WTP.

The study area

Sagarmatha (Mount Everest) National Park (E 86° 30'53" to E 86° 99'08" and N 27° 46'19" to N 27° 6'45") was officially established in 1976 to protect unique Himalayan ecosystems within an area of 1148 km² (Figure 1), particularly from the negative impacts of tourism that flourished after the first ascent of Mount Everest in 1953. The park is enclosed by high mountain ranges and elevations vary from 2845 to 8848 m atop Mount Everest, the world's highest peak, which is flanked by 25 or more peaks over 6000 m. An additional area of 275 km² was designated as a buffer zone in 2002. The park's rugged terrain and the unique culture of the Sherpa people attract visitors from all over the world. Important wildlife species include Himalayan tahr (*Hemitragus jemlahicus*), serow (*Capricornis thar*), musk deer (*Moschus leucogaster*), goral (*Naemorhedus goral*), red panda (*Ailurus fulgens*) and Asiatic black bear (*Ursus thibetanus*); snow leopards (*Uncia uncia*) recolonized the region in the early 2000s from neighboring reserves after a 40-year absence (Ale, Yonzon, & Thapa, 2007).

The park is part of Nepal, India and China's Sacred Himalaya Landscape, a trans-boundary conservation area (World Wildlife Fund, 2013), and it is bordered by Makalu National Park to the east, Gauri Shanker Conservation Area to the west, and Qomolangma Nature Reserve in the Tibetan Autonomous Region of the People's Republic of China to the north, the largest single protected area in Asia. The park is a popular tourist destination and attracted more than 35,000 international visitors in 2013 (Figure 2), although there was volatility in visitor numbers in some years in the early 2000's due to political unrest caused by the Maoist insurgency that ended in late 2006 (Baral & Heinen, 2006). The primary sources of livelihoods include potato cultivation, livestock herding, trade and tourism. Of them, tourism is a major driver of the local economy. The provision of guides, porters, lodges, and other trekking and mountaineering services are major sources of employment for local people. About 3500 Sherpas reside in five main settlements and other small hamlets. The park's alpine/subalpine grasslands and scrublands (28%) and forests (3%) provide much needed grazing land for livestock, firewood and leaf-litter, and timber. No strict grazing rules were imposed but the

firewood collection, timber harvesting, and use and collection of non-timber products, as in any national park, have been strictly banned or regulated.

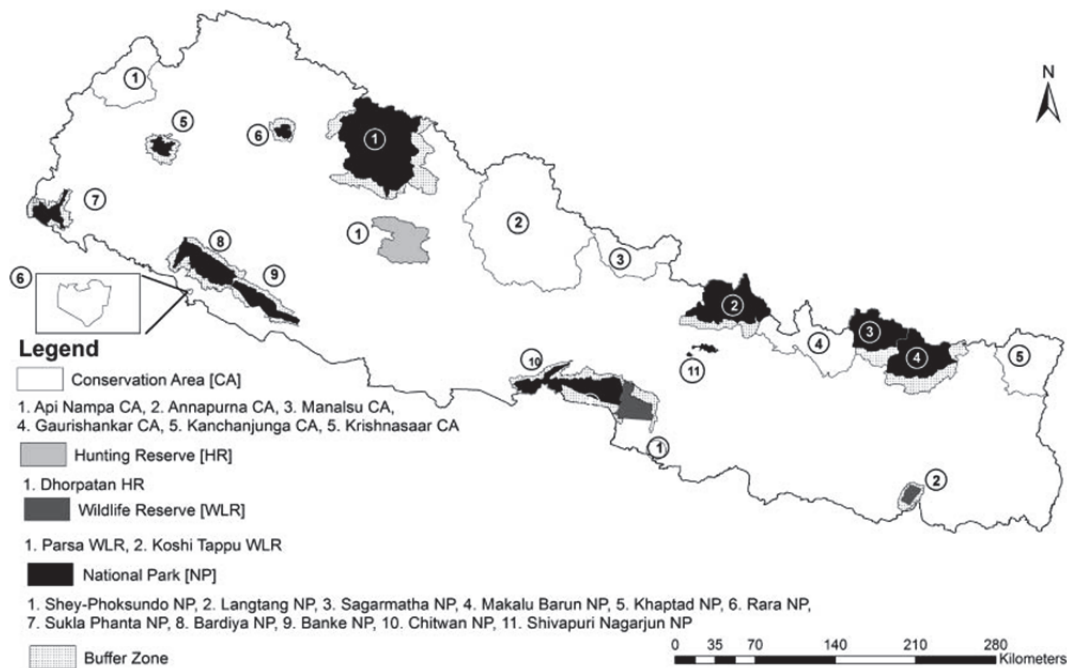


Figure 1. Sagarmatha National Park and its buffer zone (in black represented by 3) along with networks of protected areas in Nepal.

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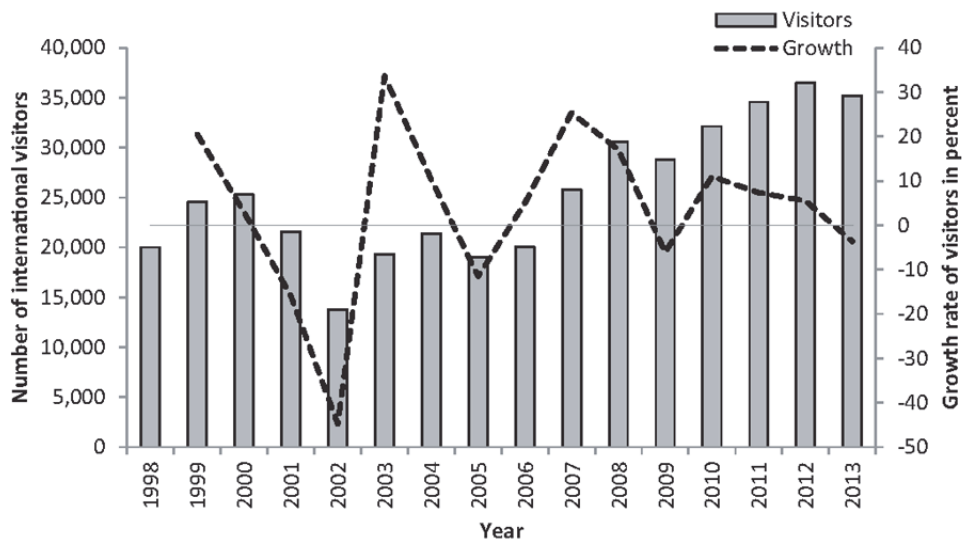


Figure 2. Number of international visitors and their growth rate in Sagarmatha National Park (SNP), Nepal since 1998. The sharp decline in visitor numbers in 2002 can be attributed to the events such as the Royal Palace massacre in Nepal and the 9/11 terrorist attack in the United States. Data source: SNP Tourist Information Center, January 2014.

Methods

Sampling and data collection

Based on our prior experience and literature review, a questionnaire was drafted that was reviewed by 12 experts in the social science field for content, clarity, and organization. The review panel had expertise in sustainable tourism, protected areas management, non-market valuation and questionnaire design. After incorporating the experts' comments and suggestions, the revised instrument was tested with a convenience sample of 30 tourists in Kathmandu. In light of respondents' feedback, some minor changes were made to the instrument for clarity. The final four-page questionnaire contained 42 questions and was divided into five sections starting with trip characteristics, perceptions of the park, contingent valuation of entry fees, and background information. Both closed-ended and open-ended questions were posed. The questionnaire was written in English and variables were measured on dichotomous, ordinal and continuous scales. The questionnaire is available upon request and the contingent valuation portion is provided in Supplemental Data as Table S1 in the web-based version of this paper.

The questionnaire was self-administered and took about 30 minutes to complete. We collected primary data through visitor surveys in November 2011. It was not feasible to get an accurate sampling frame of international visitors a priori, which precluded the use of easier probability sampling techniques such as simple random sampling. We surveyed visitors to the park in two phases, implementing cluster sampling and systematic random sampling strategies in sequence. Our sampling frame consisted of 99 hotels in total within the major trekking routes in the park. We performed cluster sampling of visitors by randomly selecting 3–5 hotels each day through lottery (in total 20 hotels were surveyed at least once). Because visitors are often distributed indiscriminately among the hotels, each hotel cluster can be seen as heterogeneous. A research assistant was trained to carry out field surveys, and collect accurate and complete data following standard survey procedures. He approached all visitors staying in the sampled hotels, briefed them about the research purpose and requested their participation. After soliciting verbal consent, the research assistant handed questionnaires to visitors to fill out on their own and remained in the hotel to answer questions and provide clarification while questionnaires were being completed.

After completing 174 observations, this sampling strategy became increasingly difficult to implement and inefficient. We thus instructed the research assistant to implement a systematic random sampling of visitors at tourist checkpoints within the park, resulting in 348 additional observations. No statistically significant differences were found in important variables between the samples collected through cluster sampling and systematic random sampling.

The self-administration strategy for questionnaire survey not only reduced any potential biases associated with the interviewer but also provided greater anonymity for information people may consider sensitive. Of the 614 visitors who were requested to fill out the questionnaire, 522 actually returned the questionnaires and 51 declined to participate. Declining visitors reported that they were tired, not interested in taking the questionnaire, or lacked the experience as they had just began the trek. The overall response rate was 85%. Eighty-nine questionnaires had missing data on one or another key variable, but there was no systematic pattern in missing data points. We used only complete questionnaires, so the effective sample size for our analyses was 433. Data imputation techniques were not used to replace missing values as they do not add information and this sample size was considered adequate for our purposes.

Theoretical and statistical models

The contingent valuation method was used to estimate the WTP of park visitors for increased entry fees. This method has been successfully implemented to assess entry fees for gaining access to protected areas worldwide (e.g. Baral & Dhungana, 2014; Baral, Stern, & Bhattarai, 2008; Bhat, 2003; Mmopelwa, Kgathi, & Molefhe, 2007; Wang & Jia, 2012; Xuewang, Jie, Ruizhi, Shi'en, & Min, 2011). WTP is defined as the amount that an individual will pay for environmental quality improvement by remaining on the same indifference curve, that is

$$V(y - WTP, q^1, p, X; \alpha, \varepsilon) = V(y, q^0, p, X; \alpha, \varepsilon), \quad (1)$$

where V is the indirect utility function, y is the individual income, q corresponds to environmental quality that increases from q^0 to q^1 , p denotes the vector of prices, X is a matrix containing respondent characteristics, α denotes preference parameters, and ε is the error component.

The WTP question in our questionnaire asked visitors if they were willing (or not) to pay stated bid amounts as new entry fees to provide more funds to cater to visitors' needs, conserve biodiversity and address management problems. As such, the contingent valuation question was framed using the single-bounded closed ended format (Supplemental Data Table S1).

A visitor's response to a closed-ended contingent valuation question is such that

$$R = \begin{cases} \text{"Yes"} & \text{if } WTP > Bid \\ \text{"No"} & \text{if } WTP \leq Bid \end{cases} \quad (2)$$

where R denotes the response and Bid is the stated entry fee posed in the WTP question. We randomly allocated 10 bid amounts (\$20, \$30, \$40, \$50, \$60, \$70, \$80, \$90, \$100, and \$120) in equal proportion to surveyed visitors. Because the entry fee at the time of the survey was \$13 and we targeted visitors who were already inside the park, we chose the above bid amounts (or potential future entry fees) higher than the entry fee based on the pilot survey, prior experience of conducting similar studies (Baral & Dhungana, 2014; Baral et al., 2008) and literature review. In the final samples, the frequency distribution of the 10 bid amounts ranged between 6.6% and 12.4%.

The probability of "yes" and "no" responses to the contingent valuation question can be modeled as

$$Pr(R = \text{"Yes"}) = 1 - F(\alpha + \gamma Bid + X'\beta), \quad (3)$$

$$Pr(R = \text{"No"}) = 1 - Pr(R = \text{"Yes"}) = F(\alpha + \gamma Bid + X'\beta), \quad (4)$$

where $F(\cdot)$ is the cumulative density function, γ is the coefficient for the Bid variable, and β is the vector of coefficients for other independent variables. In our analysis, the variables in matrix X belonged to the following broader categories: visitor characteristics, park utilization, perceptions regarding the park. Visitor characteristics included the variables such as age; gender, educational attainment, and employment status of the visitors (see Supplemental Data Table S2). Park utilization included variables such as whether visitors hired a guide while in the park, the number of days spent in the park and the visitors' overall satisfaction with the trip. Variables such as visitors' knowledge about the park's WHS designation and substitution for the park – and their perceptions regarding the authenticity, unimpaired condition and outstanding universal value of the park – constituted the category "perceptions regarding the park". We also included a variable asking whether the visitors were members of any environmental organizations as a proxy for their attitudes towards the environment. All the above mentioned variables were included in the model because previous studies have shown statistically significant relationships of the WTP to such variables (Baral & Dhungana, 2014; Baral et al., 2008; Chen & Jim, 2012; Lee & Han, 2002; Moran, 1994; Richardson, Rosen, Gunther, & Schwartz, 2014; Shultz, Pinazzo, & Cifuentes, 1998; White, Bennett, & Hayes, 2001). We assume that V is linear in income, therefore "y" drops out of Equation (1) (Hanemann, Loomis, & Kanninen, 1991).

Since the response variable was measured on a dichotomous scale, a logistic regression was used to model the data and estimate the mean/median WTP. We used the logistic cumulative density

function: $F(\cdot) = 1/[1 + e^{\alpha + \gamma Bid + X'\beta}]$ in Equations (3) and (4). With that, the log likelihood function for utility maximization for the two sets of responses (yes and no) is

$$\ln L(Bid, X, \alpha, \gamma, \beta) = \sum_i R_{yi} \times \ln \pi y + R_{ni} \times \ln(1 - \pi y), \quad (5)$$

where R_y is “1” if individual “i” says “yes” to the stated Bid amount, otherwise “0.” Similarly, R_n takes the value “1” if the individual does not agree to pay the bid and “0” otherwise. py is the $\Pr(R=\text{“Yes”})$ from Equation (3). Equation (5) is solved using a maximum likelihood estimator and the mean/median WTP is $(\alpha + \bar{x}'\beta) / \gamma$, where x is the vector containing the means of independent variables.

All analyses were conducted in Stata 13.0 (StataCorp LP, College Station, TX). The confidence intervals for mean/median WTP were estimated using bootstrap simulations. The “wtpcizr” command in Stata was used to estimate confidence intervals using Krinsky and Robb’s method (Lyssenko & Martinez-Espineira, 2012). This method uses parametric bootstrapping to estimate the empirical distribution of a measure, which is non-linear in parameters. At first, the coefficients of the WTP model and their variance-covariance matrix are estimated. Then a new vector of coefficients is estimated by randomly drawing from the standard normal distribution given the estimated coefficients and variance-covariance matrix. Finally, the new vector of coefficients is used to re-estimate the mean/median WTP. Using these procedures, we ran 5000 simulations to obtain the distribution of mean/median WTP that was used to compute 95% confidence intervals of the corresponding WTP summary measure.

Results

Visitors’ characteristics

A majority of international visitors (81.9%) stated that the primary purpose of their trip to Nepal was to visit Mount Everest National Park. On this trip, 7.7% of visitors were traveling by themselves, 12.5% with family, 31.1% with friends, 7.5% with family and friends, 39.2% with a tour group, and 2.1% responded “others”. On average, the travel group size was 6.73 \pm 5.33. International visitors spent 13.02 \pm 5.32 days, on average, inside the park. Their reported average expenditure was US \$57.01 \pm 160.44 per day, but the median expenditure was \$30 per day, which was more reasonable than the mean. About 15% of visitors had completed high school, 17.9% had associate’s degrees, 30.9% had undergraduate degrees, 30.7% had master’s degrees, and 4.7% had doctoral degrees (see Discussion).

About two thirds of the visitors (65.8%) were employed full time, 6.0% were employed part time, 10.4% were temporarily unemployed, 8.1% were retired, 3.9% were students, and 3.2% were homemakers. Few visitors (2.5%) chose the “other” category to report their employment status. If the respondents were currently in the labor force (i.e. employed full or part time) then their economic status was considered active. Respondents were from 34 countries throughout the world. The top five countries in terms of visitor numbers were the United Kingdom (23.2%), Australia (13.4%), the United States (9.4%), France and Germany (6.7%), and Canada (6.5%), which also match the distribution of actual visitors to the park. See Supplemental Data Table S2 for more information.

Knowledge of and experience with WHS

Many international visitors (47.3%) reported that they learned about Mount Everest National Park from family and friends and 44.3% mentioned the web/internet, 31.5% guidebooks, 16.4% travel agencies, 13.9% magazines, and 2.1% other sources. More than three fourths of visitors (76.2%) were aware of the World Heritage designation but fewer (57.3%) knew that Mount Everest National Park was a WHS prior to their trip. Furthermore, 65.1% stated that the WHS designation did not influence their decision to visit, 22.9% stated that it influenced their decision to a limited or moderate extent, and only 12.0% stated the WHS designation influenced their decision to a large or very large extent. A large majority (81.4%) reported that they did not see the WHS logo inside the park.

Almost all visitors (95.8%) mentioned that they would recommend their family and friends to visit Mount Everest National Park. In general, visitors agreed that the park had outstanding universal value, they reported the park experience to be authentic and they considered the park to be whole and intact (Supplemental Data Table S2).

Predictors of willingness to pay

The logistic regression model appears to be valid and reliable because the statistically significant value of hat ($z = 7.28, p < 0.01$) and the insignificant value of hat squared ($z = 1.1, p = 0.266$) indicate

that the major statistical assumptions were met and the model was correctly specified ($\chi^2 = 122.15$, $df = 14$, $p < 0.001$). In an auxiliary regression, taking predicted values as an explanatory variable and the actual outcome as a response variable, β is a coefficient of the predicted values and β^2 is a coefficient of the quadratic term. Furthermore, the model correctly specified 76.7% of all cases. Of the 14 explanatory variables included in the logistic regression model, seven significantly predicted the people who were more likely to agree to pay higher entry fees (Table 1). Both visitor characteristic variables (gender and education) were statistically significant at the 10% significance level. Males were less likely to agree to pay higher entry fees than were females and the chance of saying “yes” to the WTP question decreases by 38.4% if the respondent was male. Similar gender-specific results have been found in other WTP studies (e.g. Kline et al., 2012).

Table 1. Logistic regression of willingness to pay on trip characteristics and socio-demographic variables. Bold typeface indicates statistical significance.

Willingness to pay	Coefficient	Std. Error	<i>z</i>	<i>p</i>	Effect size
Bid amount	-0.034	0.005	-7.41	0.001	3.4%
Gender	-0.485	0.255	-1.90	0.057	38.4%
Education	0.198	0.112	1.77	0.077	21.2%
Age	-0.001	0.011	-0.05	0.957	0.1%
Economic status	0.036	0.289	0.13	0.900	3.7%
Environmental membership	-0.473	0.321	-1.47	0.141	37.7%
Use of a guide	1.182	0.304	3.88	0.001	226.1%
Visitor days	0.060	0.026	2.33	0.020	6.2%
Park substitute	-0.580	0.296	-1.96	0.050	44.0%
Knowledge of SNP's WHS designation	0.559	0.254	2.20	0.028	74.9%
Satisfaction with the trip	0.104	0.108	0.96	0.336	11.0%
Unimpaired condition of the park	0.083	0.072	1.16	0.248	8.6%
Outstanding universal value of the park	0.011	0.051	0.22	0.827	1.1%
Authenticity of the park	-0.004	0.133	-0.03	0.976	0.4%
Constant	-0.504	0.38	0.704		
Model fit statistics	4, $p < 0.001$, $n = 417$, Log likelihood = -203.03 , pseudo R ² = 0.23, correctly classified = 76.7%				

Higher levels of formal education positively influenced WTP. Moving from one lower level to the next higher level of education, the likelihood of a ‘yes’ response to the WTP question increased by 21.2%. Visitors who hired a guide on their trip to the park were about three times more likely to agree to pay higher entry fees compared to those who did not hire a guide. Those visitors who stayed longer in the park were also more likely to agree to pay higher entry fees than those who stayed for shorter duration. If the visitors thought that a close substitute existed for the park for a similar experience, the odds of their WTP higher entry fees decreases by 44.0%. Prior knowledge of the designation of the park as a WHS also had a positive influence on WTP. For visitors who had heard of Mount Everest's WHS designation, the chance of saying yes to the WTP question increased by 74.9% compared to those who had not. All other variables in our model were insignificant in explaining variation in WTP responses.

As expected, the variable “Bid amount” had a significantly negative effect on the WTP responses. For each one dollar increase in entry fees, the odds of saying yes to the WTP question decreased by 3.4%. On plotting the observed probability of “yes” responses against the bid amounts, there was a downward sloping demand curve (Figure 3). This finding, along with the narrow gap between the observed and predicted probabilities, provided some evidence for the theoretical validity of the model.

In response to a follow-up question about why visitors were willing (or not) to pay higher entry fees, 81.9% of respondents provided written responses (Table 2). The three most important reasons for WTP higher entry fees were that they would like to pay for the protection of the park, the pro-

posed entry fee was affordable and they thought the park to be so unique (in terms of scenery, mountains and trekking opportunities, etc.) as to justify higher entry fees. A few visitors were willing to pay higher entry fees on the condition that the money be used properly. The top three reasons for visitors’ unwillingness to pay higher entry fees were that they could not afford the proposed entry fee, they were willing to pay lower amounts than the proposed entry fee and they distrust government officials for the proper use of money.

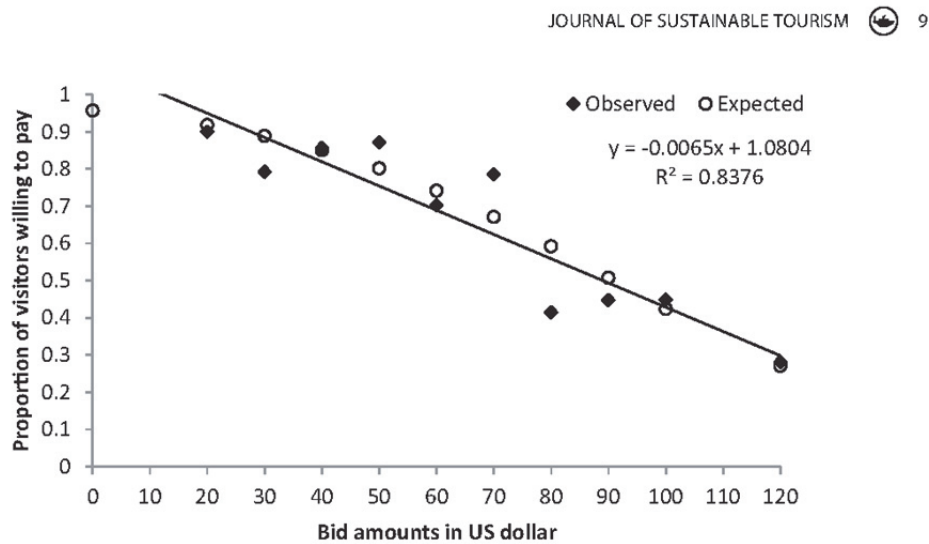


Figure 3. A demand function derived from the observed frequency of “yes” responses (y) to various bid amounts (x) presented as potential future entry fees.

Value of WHS designation

At the time of the survey, 63.8% of visitors were willing to pay higher entry fees than the (then) park entry fee of US \$13 per visit. The mean and median WTP was \$91.45, and the 95% confidence intervals for the mean ranged from \$83.56 to \$102.82. More than two thirds of respondents (68.4%) thought that the new entry fee would be acceptable to visitors. To examine the association between visitors’ income levels and their WTP decisions, we also specified another WTP model by including the income variable. As expected, income had a positive and significant impact on WTP (Figure 4). The fitted regression line between median WTP and different income categories showed that the median WTP amount would increase by about \$6 while moving from any one lower level of income bracket to the next higher level.

Table 2. Summary of visitors’ stated important reasons for their WTP decisions regarding increased park entry fees.

Emerging categories of the stated reasons	Frequency
Individuals who responded “Yes” to the WTP question, n = 281	
Pay for preserving, protecting or conserving the park	23.5%
Proposed entry fee is affordable	13.9%
Pay for the uniqueness of the park	10.7%
Pay only if the money is used properly	3.6%
Help the region financially or otherwise	1.1%
Individuals who responded “No” to the WTP question, n = 145	
Proposed entry fee is not affordable	44.1%
Willing to pay a lower amount than the proposed entry fee	8.3%
Distrust of government officials for the proper use of money	5.5%
Entry fee hike reduces tourism because only wealthy people can visit the park	3.4%

We also evaluated the impact of the WHS designation on WTP. There was a statistically significant difference between visitors who were aware of the WHS designation prior to arriving in the park and those who were not regarding the WTP. Thus, one way to assign the value for the WHS designation was to predict the median WTP amounts separately for each type of visitor. The difference between the two median WTP amounts could be assigned as the value of WHS designation. The median WTP amount for visitors who were aware of the park’s WHS designation was \$97.73 compared to \$81.34 who were unaware. Thus, the median difference due to the WHS designation was \$16.39. Given 34,571 international visitors in 2011, the total economic value that could be generated by the WHS designation was US \$566,619. Hence, the WHS designation alone accounted for 21.3% of the median WTP amount in this case.

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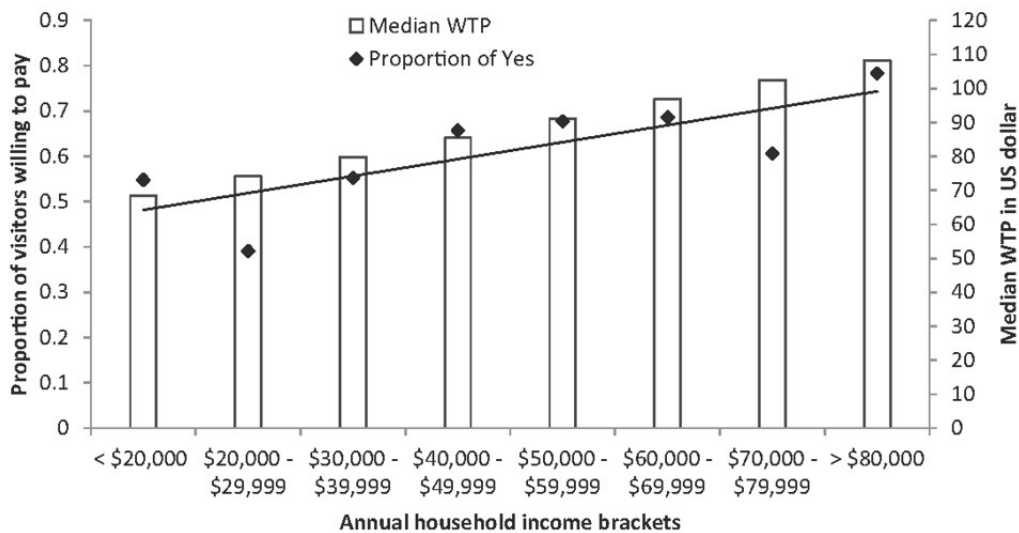


Figure 4. Relationship between visitors’ income levels, their WTP decisions and median WTP amounts.

Finally, based on our WTP results, we found that there is an opportunity to raise park entry fees. We conducted simulations with four potential future entry fees between \$40 and \$91 to project revenues and identify the revenue-maximizing fee. We projected the expected number of visitors and expected revenue with these entry fees and computed the revenue surplus in comparison to the status quo scenario (that is, the entry fee at the time of the survey) for seven years into the future (Table 3). If the park entry fees were increased to \$40, on average, total revenue would increase by 12.5% compared to the status quo over the next seven years. Similarly, if entry fees were increased to \$60, \$80 and \$91, the average increase in the revenue would be 39.4%, 45.7% and 43.2%, respectively, compared to the status quo over seven years (Figure 5). The estimated revenue maximizing entry fee was \$80.

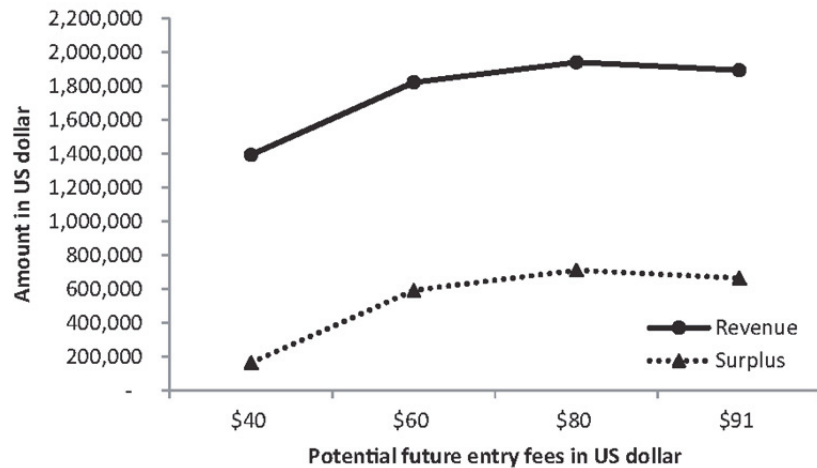


Figure 5. Average amount of revenue generated per year over the next seven years (2014 to 2020) and surplus revenue compared to the current entry fee under the scenarios of four potential future entry fees.

Table 3. The expected number of visitors, the amount of revenue generated in the status quo scenario of present entry fee, and the expected revenues and surpluses compared to the status quo scenario under the four potential future entry fees calculated based on the parameters estimated by the WTP model.

Year	Predicted visitors	Status quo revenue	Fee increased to US \$40			Fee increased to US \$60			Fee increased to US \$80			Fee increased to US \$91		
			Visitors	Revenue	Surplus	Visitors	Revenue	Surplus	Visitors	Revenue	Surplus	Visitors	Revenue	Surplus
2014	36,539	1,096,159	31,065	1,242,606	146,447	27,082	1,624,946	528,787	21,635	1,730,762	634,603	18,558	1,688,776	592,617
2015	37,927	1,137,813	32,246	1,289,825	152,012	28,112	1,686,694	548,881	22,457	1,796,531	658,718	19,263	1,752,949	615,136
2016	39,368	1,181,050	33,471	1,338,838	157,788	29,180	1,750,789	569,739	23,310	1,864,799	683,749	19,995	1,819,561	638,511
2017	40,864	1,225,930	34,743	1,389,714	163,784	30,289	1,817,319	591,389	24,196	1,935,662	709,732	20,755	1,888,705	662,775
2018	42,417	1,272,515	36,063	1,442,523	170,008	31,440	1,886,377	613,861	25,115	2,009,217	736,702	21,544	1,960,475	687,960
2019	44,029	1,320,871	37,433	1,497,339	176,468	32,634	1,958,059	637,188	26,070	2,085,567	764,696	22,362	2,034,973	714,102
2020	45,702	1,371,064	38,856	1,554,238	183,174	33,874	2,032,465	661,401	27,060	2,164,819	793,755	23,212	2,112,302	741,238

Predicted visitors: The average growth rate of visitors from 1998 to 2013 was 3.8% per year. Based on the assumption that there would be average growth in the future, the estimates of visitors were made for the next seven years.

Status quo revenue: The current revised entry fee is about US \$30 (it varies slightly due to exchange rate fluctuations). The multiplication of predicted number of visitors and the current entry fee yielded the status quo revenue.

Visitors: If the entry fee is increased, the econometric model predicts the decrease in the number of visitors. The predicted number of visitors in the status quo scenario is adjusted by the appropriate decline rate for each proposed entry fees.

Revenue: This is the sum of visitors (the expected number of visitors to park in a particular scenario) times the proposed entry fee. Surplus: This is the additional revenue expected if the entry fee is increased by this particular amount.

Discussion

Our results indicate that, on average, international visitors to Mount Everest National Park were willing to pay much more (over \$90) in entry fees to cater to visitors' needs, conserve biodiversity and address management problems, a general result in concordance with other such studies (e.g.

Casey et al., 2010; Lee et al., 2010). In 2012, the Government of Nepal increased the park entry fee to approximately US \$30 for international visitors. Our results indicate that international visitors were willing to pay about three times higher, on average, than the revised entry fee. Variation in WTP was explained by socio-demographic and trip characteristics such as gender, educational attainment, use of a guide, length of stay within the park, perception of substitution for the park, and knowledge about the park's WHS designation, general results that agree with other related studies (e.g. Buckley, 2003; Kline et al., 2012). In our study, visitors who knew about park's WHS designation prior to their visit were willing to pay about \$16 more on average than those who did not. WHSs thus can be seen as unique cases, which in turn can lead to ascribing greater values for designated parks.

As such, visitors who attach a higher value to a specific site are likely to agree to pay higher entry fees. A potential future entry fee of US \$80, slightly lower than the median WTP (\$91) found here, is the revenue maximizing entry fee based on our model. The results of this study support previous findings that many attractive protected areas have not fully captured the economic values that visitors place on them via entry fees (Baral & Dhungana, 2014; Baral et al., 2008; Casey et al., 2010; Hadker, Sharma, David, & Muraleedharan, 1997; Lee & Han, 2002; Reid-Grant & Bhat, 2009; White & Lovett, 1999). Highlighting the economic value of WH Sites can motivate policy makers and park management to revise entry fees and generate more revenue. This argument is also supported by the finding that the WHS designation positively influences visitors' willingness to visit sites elsewhere (Poria, Reichel, & Cohen, 2011). However, increasing entry fees to public parks can lead to social inequity by preventing access to people who could not afford them. Such inequity is not an issue in this case because there is no entry fee for Nepalese citizens and people from neighboring South Asian countries pay much lower fees (about \$3.00 at the time of our study). Compared to the total travel cost to Nepal, even the increased park entry fee is small for visitors from developed countries. Also other studies have indicated a higher WTP for general park admissions by tourists to Nepal (e.g. Baral & Dhungana, 2014; Heinen, 1990; Heinen & Thapa, 1988).

In our study, visitors were willing to pay more toward the entry fees for several reasons. Most visitors reported that they would pay a higher amount in order to preserve, protect and conserve the park, and for the uniqueness of the park. This is consistent as quality improvement is one of the prime motives for WTP. Moreover, many visitors reported that the proposed entry fee was affordable. However, some visitors suggested that they would pay only if the money was used properly implying that the park authorities need to demonstrate greater transparency and accountability in determining an entry fees and spending the revenue. Furthermore, a few visitors who were not willing to pay higher fee reported distrust with the government officials in using the collected money properly. This finding again reinforces the idea of demonstrating greater accountability in revenue and cost management by the park authorities.

Based on the regression results, the management authority can evaluate four variables to gain support of visitors if they decide to increase entry fees. First, the median WTP is the amount that at least 50% of visitors are willing to pay, so we can assume that increasing the fee at a rate lower than the median WTP would receive support from a majority (more than 50%) of visitors. Second, the management authority can encourage visitors to hire a guide and introduce programs to increase the visitors' length of stay within the park. Over 70% of visitors did not hire a guide and more return on investment could be gained by increasing the length of visit. Third, the management authority could focus on marketing the World Heritage designation to international visitors because more than 40% of visitors to Mount. Everest did not know that the park was a WHS before the survey was conducted. It is likely that many visitors might not know about the WHS designation even after their arrival because only 18% of visitors in our sample reported seeing the WHS logo inside the park. Thus, promoting and marketing the park's WHS designation could help to gain visitors' support for increased entry fees. Knowledge of a substitute site is shown to affect park valuation negatively (Willis, 2009). This is potentially because substitute sites can be seen as options for switching in case of rising costs of the primary site. Several high Himalayan sites in Nepal, such as Annapurna Conservation Area and Langtang National Park, are already well-visited and well-known, while others (e.g. Manaslu, Gaurishankar, Api Nampa and Kanchanjunga Conservation Areas) are not (Lama & Job, 2014).

However, these are also harder to reach, more challenging logistically and lacking in visitor facilities compared to better-known sites.

Logar (2010) reviewed a number of policy incentives that have been proposed in the literature, which should be evaluated for their effectiveness in managing tourism in case of Mount Everest National Park. An eco-tax levied on tourists is specifically earmarked for improving environment quality and may be beneficial for a low-resource country such as Nepal. Park quotas on the other hand limit the number of visitors that can be admitted to a site during a time period. Quotas may help manage tourism by reducing overcrowding and burden on park management staff, and also provide exclusivity to tourists thereby enriching their experiences. Yet, quotas work on the principle of excluding some visitors and that may be seen as unfair and restraining tourists' rights and equality. These alternative mechanisms need to be evaluated in the light of their feasibility in implementation, the elasticity of demand of park visitors, and how these mechanisms could result in reduced numbers of visitors as well as future revenues.

Although the WTP method is widely used, there are some limitations in this and related studies that should be taken into consideration when interpreting results (e.g. Carson & Mitchell, 1993; Hausman, 2012). First, the contingent valuation method has some potential biases and other sources of error. For example, people are asked if they are willing to pay more knowing that they will not be asked to pay more on this trip if they say yes, which could artificially inflate estimated WTP values. Also, much of the world was still suffering from the Great Recession in 2011, when this study was conducted, and unemployment was high in a number of Western countries, especially for young adults. This may have reduced the numbers of lower earning (and younger) trekkers to Nepal, which may have inflated our estimate. Notice, for example, that about 35% of the respondents in our sample reportedly had advanced graduate degrees (master's or doctorate), which is a much higher average educational attainment than has been reported in other foreign tourism studies in Nepal (e.g. Baral & Dhungana, 2014; Heinen & Thapa, 1988). People at the high end of educational attainment are also at the high end of income distribution in developed economies, which may have further inflated our estimated WTP.

Although we did our best to minimize some biases through a rigorous research design and extensive sampling, the nature of the study itself, and when it was completed, raises these questions. It is typical in contingent valuation literature to evaluate marginal effects of knowledge, attitude, awareness, and socio-demographic variables on WTP estimates (e.g. Buckley, 2003). We used visitors' prior knowledge of the WHS status of the park to evaluate the average marginal impact on WTP, and the economic value of the WHS designation was estimated here through statistical control that is not as powerful as conducting actual experiments. Future studies could use quasi-experimental approaches by administering at least two sets of questionnaires: one in which the World Heritage designation is not highlighted and another in which it is highlighted, to establish the economic value of the WHS designation more directly. Nonetheless, the findings provide insights into potential values of the WHS designation and we would assert that, even with the issues raised above, the park entry fee was well below the amount that could be charged to improve management, a common finding from related studies elsewhere (Asafu-Adjaye & Tapsuwan, 2008; Casey et al., 2010; Shultz et al., 1998). Given that high entry fees only to apply to international tourists who must spend much more than Nepalese or citizens of other South Asia nations in travel to Nepal, the higher suggested rate should not deter tourism or reduce equity in any substantial way.

Conclusions

The findings of this study are important for several reasons. Evaluating WTP associated with the WHS designation is beneficial for examining the overall value of the park to visitors to assess whether entry fees could be raised from existing levels. The attraction that leads to excess tourism can be turned into financial resources to implement more effective management policies to protect the park from potentially negative impacts of tourism.

The study shows that WHS designation has an economic value in and of itself. In order to market WHSs as a brand, it is important to clearly communicate the value of WHS designation to visitors. By

doing so, visitors can feel good about making a greater return on their investment to visit the site (Steckenreuter & Wolf, 2013), which in turn can increase the likelihood of agreeing to pay higher entry fees.

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References

1. Alberts, H.C., & Hazen, H.D. (2010). Maintaining authenticity and integrity at cultural world heritage sites. *Geographical Review*, 100(1), 56–73.
2. Ale, S.B., Yonzon, P., & Thapa, K. (2007). Recovery of snow leopard *uncia uncia* in Sagarmatha (Mount Everest) National Park, Nepal. *Oryx*, 41, 89–92.
3. Asafu-Adjaye, J., & Tapsuwan, S. (2008). A contingency valuation of scuba diving benefits: Case study in Mu Ko Similan Marine National Park, Thailand. *Tourism Management*, 29(6), 1122–1130.
4. Baral, N., & Dhungana, A. (2014). Diversifying finance mechanisms for protected areas capitalizing on untapped revenues. *Forest Policy and Economics*, 41, 60–67.
5. Baral, N., & Heinen, J.T. (2006). The Maoist people's war and conservation in Nepal. *Politics and the Life Sciences*, 24(1–2), 1–11.
6. Baral, N., Stern, M.J., & Bhattarai, R. (2008). Contingent valuation of ecotourism in Annapurna conservation area, Nepal: Implications for sustainable park finance and local development. *Ecological Economics*, 66(2–3), 218–227.
7. Barbier, E.B. (2014). Account for depreciation of natural capital. *Nature*, 515, 32–33. Batisse, M. (1992). The struggle to save our world heritage. *Environment*, 34(10), 12–32.
8. Bhat, M.G. (2003). Application of non-market valuation to the Florida keys marine reserve management. *Journal of Environmental Management*, 67(4), 315–325.
9. Borges, M.A., Carbone, G., Bushell, R., & Jaeger, T. (2011). Sustainable tourism and natural world heritage – Priorities for action. Gland: IUCN.
10. Buckley, R. (2003). Pay to play in parks: An Australian policy perspective on visitor fees in public protected areas. *Journal of Sustainable Tourism*, 11(1), 56–73.
11. Carson, R.T., & Mitchell, R.C. (1993). The issue of scope in contingent valuation studies. *American Journal of Agricultural Economics*, 75, 1263–1267.
12. Casey, J.F., Brown, C., & Schuhmann, P. (2010). Are tourists willing to pay additional fees to protect corals in Mexico? *Journal of Sustainable Tourism*, 18(4), 557–573.
13. Chen, W.Y., & Jim, C.Y. (2012). Contingent valuation of ecotourism development in country parks in the urban shadow. *International Journal of Sustainable Development & World Ecology*, 19(1), 44–53.
14. Dongol, Y., & Heinen, J.T. (2012). Pitfalls of CITES implementation in Nepal: A policy gap analysis. *Environmental Management*, 50(2), 181–192.
15. Eagles, P.F.J. (2014). Research priorities in park tourism. *Journal of Sustainable Tourism*, 22(4), 528–549.
16. Frey, B.S., & Steiner, L. (2011). World heritage list: Does it make sense? *International Journal of Cultural Policy*, 17(5), 555–573.
17. Gu, Y., Du, J., Tang, Y., Qiao, X., Bossard, C., & Deng, G. (2013). Challenges for sustainable tourism at the Jiuzhaigou world natural heritage site in western China. *Natural Resources Forum*, 37(2), S103–S112.
18. Hadker, N., Sharma, S., David, A., & Muraleedharan, T.R. (1997). Willingness to pay for Borivli National Park: Evidence from a contingent valuation. *Ecological Economics*, 21(2), 105–122.
19. Hanemann, W.M. (1994). Valuing the environment through contingent valuation. *Journal of Economic Perspectives*, 8(4), 19–43.
20. Hanemann, M., Loomis, J., & Kanninen, B. (1991). Statistical efficiency of double-bounded dichotomous choice contingent valuation. *American Journal of Agricultural Economics*, 73(4), 1255–1263.
21. Hausman, J. (2012). Contingent valuation: From dubious to hopeless. *Journal of Economic Perspectives*, 26(4), 43–56. Heinen, J.T. (1990). The design and implementation of a training program for tour guides in Royal Chitwan National Park, Nepal. Bangkok: FAO. Tiger Paper, 17(2), 11–15.
22. Heinen, J.T. (1995a). International conservation agreements. In W.A., Nierenberg (Ed.), *Encyclopedia of environmental biology* (volume 1) (pp. 375–384). San Diego, CA: Academic Press.
23. Heinen, J.T. (1995b). Applications of human behavioral ecology to wildlife conservation and utilization programmes in developing countries. *Oryx*, 29(3), 178–186.
24. Heinen, J.T. (2010). The importance of a social science research agenda in protected areas management. *Botanical Review*, 76, 140–164.
25. Heinen, J.T. (2012). International trends in protected areas policy and management. Retrieved 16 March 2017 from <http://www.intechopen.com/books/protected-area-management/international-trends-in-protected-areas-policy-and-management>
26. Heinen, J.T., & Rayamajhi, S. (2001). On the use of goal-oriented project planning in Nepalese protected area management. *Environmental Practice*, 3(4), 227–236.
27. Heinen, J.T., & Thapa, B.B. (1988). A feasibility study of a proposed trekking trail in Chitwan National Park. Kathmandu: Tribhuvan University. *Journal of the Forestry Institute*, 10, 19–28.
28. Heinen, J.T., Yonzon, P.B., & Leisure, B. (1995). Fighting the illegal fur trade in Kathmandu, Nepal. *Conservation Biology*, 9(2), 245–247.
29. Jha, S. (2005). Can natural world heritage sites promote development and social harmony? *Biodiversity and Conservation*, 14(4), 981–991.
30. Kline, C., Cardenas, D., Duffy, L., & Swanson, J.R. (2012). Funding sustainable paddle trail development: Paddler perspectives, willingness to pay and management implications. *Journal of Sustainable Tourism*, 20(2), 235–256.
31. Lama, A.K., & Job, H. (2014). Protected areas and the road development: Sustainable development discourses in the Annapurna Conservation Area, Nepal. *Erdkunde*, 68(4), 229–250.
32. Landorf, C. (2009). Managing for sustainable tourism: a review of six cultural World Heritage Sites. *Journal of Sustainable Tourism*, 17(1), 53–70.

38. Lee, C.K., & Han, S.Y. (2002). Estimating the use and preservation values of national parks' tourism resources using a contingent valuation method. *Tourism Management*, 23(5), 531–540.
39. Lee, C.K., Lee, J.H., Kim, T.K., & Mjelde, J.W. (2010). Preferences and willingness to pay for bird watching tours and interpretive services using a choice experiment. *Journal of Sustainable Tourism*, 18(5), 695–708.
40. Logar, I. (2010). Sustainable tourism management in Crikvenica, Croatia: An assessment of policy instruments. *Tourism Management*, 31(1), 125–135.
41. Lyssenko, N., & Martínez-Espineira, R. (2012). Been there done that: Disentangling option value effects from user heterogeneity when valuing natural resources with a use component. *Environmental Management*, 50(5), 819–836.
42. Mmopelwa, G., Kgathi, D.L., & Molefhe, L. (2007). Tourists' perceptions and their willingness to pay for park fees: A case study of self-drive tourists and clients for mobile tour operators in Moremi Game Reserve, Botswana. *Tourism Management*, 28(4), 1044–1056.
43. Moran, D. (1994). Contingent valuation and biodiversity: Measuring the user surplus of Kenyan protected areas. *Biodiversity and Conservation*, 3, 663–684.
44. Nyaupane, G.P., Lew, A.A., & Tatsugawa, K. (2014). Perceptions of trekking tourism and social and environmental change in Nepal's Himalayas. *Tourism Geographies*, 16(3), 415–437.
45. Okech, R.N. (2010). Socio-cultural impacts of tourism on World Heritage sites: Communities' perspective of Lamu (Kenya) and Zanzibar Islands. *Asia Pacific Journal of Tourism Research*, 15(3), 339–351.
46. Poria, Y., Reichel, A., & Cohen, R. (2011). World Heritage Site – Is it an effective brand name? A case study of a religious heritage site. *Journal of Travel Research*, 50, 482–495.
47. Reid-Grant, K., & Bhat, M.G. (2009). Financing marine protected areas in Jamaica: An exploratory study. *Marine Policy*, 33(1), 128–136.
48. Richardson, L., Rosen, T., Gunther, K., & Schwartz, C. (2014). The economics of roadside bear viewing. *Journal of Environmental Management*, 140, 102–110.
49. Ryan, J., & Silvano, S. (2009). The World Heritage list: The making and management of a brand. *Place Branding and Public Diplomacy*, 5, 290–300.
50. Shackley, M. (Ed.). (1998). *Visitor management: Case studies from World Heritage Sites*. Oxford: Butterworth-Heinemann.
51. Shrestha-Acharya, R., & Heinen, J.T. (2006). Emerging policy issues on non-timber forest products in Nepal. *Himalaya*, 26(1–2), 51–54.
52. Shultz, S., Pinazzo, J., & Cifuentes, M. (1998). Opportunities and limitations of contingent valuation surveys to determine national park entrance fees: Evidence from Costa Rica. *Environment and Development Economics*, 3(1), 131–149.
53. Steckenreuter, A., & Wolf, I.D. (2013). How to use persuasive communication to encourage visitors to pay park user fees. *Tourism Management*, 37, 58–70.
54. Su, Y.W., & Lin, H.L. (2014). Analysis of international tourist arrivals worldwide: The role of world heritage sites. *Tourism Management*, 40, 46–58.
55. Timilsina, N., & Heinen, J.T. (2008). Forest structure under different management regimes in the western lowlands of Nepal: A comparative analysis. *Journal of Sustainable Forestry*, 26(2), 112–131.
56. UNESCO. (2014). *Operational guidelines for the implementation of the World Heritage Convention*. Paris: World Heritage Center. Retrieved 24 November 2014 from <http://whc.unesco.org/en/guidelines/>
57. Wang, P.W., & Jia, J.B. (2012). Tourists' willingness to pay for biodiversity conservation and environment protection, Dalai Lake protected area: Implications for entrance fee and sustainable management. *Ocean & Coastal Management*, 62, 24–33.
58. White, P.C., Bennett, A.C., & Hayes, E.J.V. (2001). The use of willingness-to-pay approaches in mammal conservation. *Mammal Review*, 31(2), 151–167.
59. White, P.C.L., & Lovett, J.C. (1999). Public preferences and willingness to pay for nature conservation in the North York Moors National Park, UK. *Journal of Environmental Management*, 55, 1–13.
60. Whitelaw, P.A., King, B.E.M., & Tolkach, D. (2014). Protected areas, conservation and tourism – Financing the sustainable dream. *Journal of Sustainable Tourism*, 22(4), 584–603.
61. Willis, K.G. (2009). Assessing visitor preferences in the management of archaeological and heritage attractions: A case study of Hadrian's Roman Wall. *International Journal of Tourism Research*, 11(5), 487–505.
62. World Wildlife Fund. (2013). *The Sacred Himalaya Landscape*. Retrieved 16 March 2017 from http://assets.worldwildlife.org/publications/326/files/original/The_Sacred_Himalayan_Landscape.pdf?1345732409
63. Xuewang, D., Jie, Z., Ruizhi, Z., Shi'en, Z., & Min, L. (2011). Measuring recreational value of world heritage sites based on contingent valuation method: A case study of Jiuzhaigou. *Chinese Geographical Science*, 21(1), 119–128.

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