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Value Based Approach for Recreational Planning in Horton Plains and Kawdulla National Parks in Sri Lanka

By

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(M.Sc, PG. Diploma, B.Sc. Sp. (Hons))

Thesis submitted to the University of Sri Jayewardenepura, Sri Lanka for the award of the Degree of Doctor of Philosophy in Environmental Economics.

DECLARATION

I hereby certify that the work described in this thesis was carried out by me under the supervision of Dr. (Mrs.) U. A. D. P. Gunewardena, Senior Lecturer, Department of Forestry and Environmental Sciences of University of Sri Jayewardenepura, Sri Lanka, and a report on this has not been submitted in whole or in part to any university or any other institution for another Degree.

4th July 2013

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SUPERVISOR'S CERTIFICATION

I certify that the statement made by the candidate is true and this thesis is suitable for submission to the Faculty of Graduate Studies of University of Sri Jayewardenepura for the purpose of the award of the degree of Doctor of Philosophy in Environmental Economics.

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ABBREVIATIONS

AMP	-	Accelerated Mahaweli Development Programme
ASLP	-	Abijata Shala Lake National Park
CBD	-	Convetion on Biodiversity
CBSL	-	Central Bank of Sri Lanka
CNPPA	-	Commission on National Parks and Protected Areas
CS	-	Consumer's Surplus
CVM	-	Contingent Valuation Method
DWC	-	Department of Wildlife Conservation
EEZ	-	Exclusive Economic Zone
EV	-	Equivalent Variation
FD	-	Forest Conservation Department
FFPO	-	Fauna and Flora Protection Ordinance
FSMP	-	Forestry Sector Master Plan
GDP	-	Gross Domestic Production
GWA	-	Grand Weighted Average
HPNP	-	Horton Plains National Park
HTCM	-	Hypothetical Travel Cost Method
ITCM	-	Individual Travel Cost Method
IUCN	-	World Conservation Union
JC	-	Jungle Corridor
KBNP	-	Kibale National Park

KNP	-	Kawdulla National Park
KuNP	-	Kuscenneti National Park
MAB	-	Man and the Biosphere
MENR	-	Ministry of Environment and Natural Resources
MER	-	Managed Elephant Reserve
MFE	-	Ministry of Forestry and Environment
MFE	-	Ministry of Forestry and Environment
MnNP	-	Minneriya National Park
MNP	-	Marine National Park
MWA	-	Mean Weighted Average
NP	-	National Park
NR	-	Nature Reserve
NWTC	-	National Wildlife Training Centre
OLS	-	Ordinary Least Squares
RP	-	Revealed Preference
RUM	-	Random Utility Model
SCC	-	Social Carrying Capacity
SLTB	-	Sri Lanka Tourist Board
SLTDA	-	Sri Lanka Tourism Development Authority
SNR	-	Strict nature Reserve
SP	-	Stated Preference
TCM	-	Travel Cost Method

TTC	-	Total Travel Cost
UNEP	-	United Nations' Environmental Programme
UNESCO	-	United Nations Educational, Scientic and Cultural Organization
UWNP	-	Uda Walawe National Park
VCC	-	Visitor Carrying Capacity
VERP	-	Visitor Experience and Resource Protection
VR	-	Visitation Rate
WCPA	-	World Commission on Protected Areas
WHC	-	World Heritage Convention
WLS	-	Weighted Least Squares
WTO	-	World Tourism Organization
WTP	-	Willingness to Pay
YNP	-	Yala National Park
ZTCM	-	Zonal Travel Cost Method

Value Based Approach for Recreational Planning in Horton Plains and Kawdulla National Parks in Sri Lanka

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ABSTRACT

Protection of the resources and provision of high quality visitor experience are the ultimate goals in recreational planning. Concern over rising visitation in parks, and accompanying impacts on resources and on visitor experience, and lack of adequate funds have been the major issues in the management of National Parks in Sri Lanka,

Although there have been certain quantitative and qualitative indicators for identifying the quality of visitor experience, economic values are rarely been used in recreational planning. The overall objective of the present study is therefore to propose a value based framework for recreational planning at Horton Plains National Park (HPNP) and Kawdulla National Park (KNP) in Sri Lanka in order to enhance the quality of visitor experience.

This study adopted the hypothetical travel cost method (HTCM) in order to examine how consumer's surplus (CS) changes could be applied in measuring the quality of visitor experience under different scenarios. Onsite surveys were conducted with 200 local visitors and 100 foreign visitors at each site in order to gather information on visitor characteristics and perceptions. Visitor carrying capacity (VCC) was estimated using a normative approach

at five view points for HPNP and at one site for KNP using randomly selected visitors and acceptable levels were recorded and social norm curves were drawn for each viewpoint.

A zonal travel cost method (ZTCM) was applied with 200 local visitors at each site to estimate the present consumer surpluses. Ecotourism potential for both parks were assessed applying evaluation criteria for the available secondary data. The values obtained for each component was used in formulating recreational scenarios which presents improved recreational planning setup. Under each scenario, visitors are asked how many visits they would like to make to the site.

Results indicate that the ecotourism potential is high at both sites, and more ecotourism schemes and concessions could be developed for local community. Visitor characteristics are almost same at both sites and different views and perceptions were presented for improving ecotourism and visitor services at both parks. Results of the VCC study indicate that minimum acceptable number of vehicles within 25 m radius at KNP was nine. The VCC standards for viewpoints at red bridge, chimney pool, Baker's fall, mini and greater world's ends at HPNP are 21, 15, 38, 42 and 44 respectively. According to results of ZTCM, CS values per visitor (per visit) were Rs. 228.71 and Rs.370.16 at HPNP and KNP respectively.

Results of the HTCM indicate that visitors were willing to visit more than once within a year under improved condition. Therefore, under the scenario 1 at HPNP the CS per visitor was

Rs. 3793.75, and it was Rs.7045.45 for scenario 2. For scenario 1 at KNP the CS per person was Rs.5433.33 and Rs.11295.00 was recorded for scenario 2.

The present value of benefits (PVB) at HPNP and KNP based on the current CS values are Rs. 516.8 million and Rs. 19.2 million at 10 per cent discount rate. If the alternative scenarios are implemented the PVB for HPNP will be Rs. 6433.42 million and Rs. 15245.39 million for scenarios 1 and 2 respectively, at KNP these values will be Rs. 476.19 million and Rs. 1529.65 million under scenario 1 and 2 respectively. The estimated CS values are considerably higher than the current annual investment and operation expenditures of the HPNP and KNP. It could be concluded that if the value based approach is applied, the recreational planning could be done understanding the quality of visitor experience under alternative planning schemes.

Application of value based approach, diversification and establishment of new ecotourism and visitor services schemes, implementation of visitor impact monitoring programme, allocating more funds and human resources to conserve the undervalued natural resources, and introducing new fee structure for national parks are the major policy directions in the present study for both recreational planning and conservation of the natural resource base in national parks.