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ROLE OF PUBLIC PARKS/GARDENS IN ATTRACTING DOMESTIC TOURISTS: AN EXAMPLE FROM CITY BEAUTIFUL OF INDIA

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Chandigarh-the 'City Beautiful' of India is known for its urban greenery and well planned landscaping in the whole world. More than 0.60 millions of domestic tourists are visiting Chandigarh city each year. In a research study undertaken during 2002-04, an assessment about the annual recreational use value of this city's urban parks and gardens was made by using Zonal Travel Cost Method (TCM) on the domestic tourists coming to the city for tourism purpose. Though man made greenery can not compensate nature's green cover, yet it plays a significant role in attracting domestic tourists towards a city of parks/gardens in a developing country like India.

Key words: *Domestic tourists, Parks and Gardens, Chandigarh, India*

INTRODUCTION

Chandigarh - the planned and modern city of India is known for its urban greenery and well planned landscaping worldwide. The city has more than two thousands parks and gardens making it greenest city of India (FSI, 2005). A number of beautiful avenues with ornamental tree species, tropical deciduous forests along the periphery of the city, 'Sukhna Lake' against the back drop of Lake reserve forest, green belts running across the length and breadth of the city in the form of numerous parks and gardens; add to the ecological, environmental and aesthetic richness of the city. Well maintained parks/gardens, including world-famous Nek Chand's Rock Garden, are attracting not only city dwellers but tourists and other city planners also. These parks/gardens are the

storehouses of intangible or non-market benefits, which include tourism benefits also. A research study was undertaken during 2002-04 to estimate recreational use value of Chandigarh city's urban greenery[1].

WHY VALUING NON-MARKET BENEFITS

Estimation of non-market benefits of urban parks and gardens are often ignored or grossly under estimated, with the result that these are rarely considered into public decision-making in developing countries (More et al., 1988). Valuation of unpriced goods and services is sometimes required and in fact has been used to determine compensations in lawsuits involving loss or damage to the environment. Dispute over the use and management of natural and green resources are expected to increase in future. In India, the Supreme Court, recently, has been very active dealing with cases of environmental and natural resources degradation (SCI, 2002). There will be a greater demand for objective measures of the value of the damage to the environment for litigation purpose. Environmental economists have devised certain methods like Contingent valuation method (CVM), Travel cost method (TCM) and Hedonic Price method (HPM) for assessing intangible or non-market benefits of resources like parks and gardens.

TRAVEL COST METHOD

The travel cost method (TCM) is used to estimate economic use values associated with ecosystems or sites that are used for recreation. The basic theory of the travel cost method is that the time and travel cost expenses that people incur to visit a site represent the "price" of access to the site. Thus, peoples' willingness to pay to visit the site can be assessed based on the number of trips that they make at different travel costs. TCM is a well-tried technique, which generally yields plausible results. The method is based on actual behavior i.e. what people actually do rather than stated willingness to pay-what people say they would do in a hypothetical situation.

Based on data obtained from survey of site users, the basic equation involving visitation rate and travel cost is estimated using regression analysis. This leads to the creation of a "whole experience" demand curve based on visitation rates. To estimate the consumer surplus accruing from the site, the "whole experience" demand curve is used to estimate the actual number of visitors and how the numbers would change subject to different hypothetical entrance fees at the recreational site- in essence

constructing a classic inverse demand curve. In above analysis, it is assumed that an entrance fee is viewed by the visitors in the same way as travel costs to reach the site. It is also assumed that households have equal tastes and preferences. The total area under this demand curve would give the total economic benefits of the site to the visitors (US Water Resource Council, 1983).

PRIMARY DATA COLLECTION

For primary data collection, a questionnaire was prepared for the tourists seeking details about their place of residence, the mode of transport used, cost of travel, time spent on travel and on the site, frequency of visits to the city etc. Data on socio-economic status like occupation, education and household income was also sought. Often, people in developing countries are reluctant to disclose their monthly incomes during surveys; therefore, they were requested to tick mark on the "income band" they belong to like below Rs. 5000/- , Rs. 5001 to 10,000/- per month and Rs. 10,001/- to 15,000/- per month net household income etc.

The principal author carried out all the interviews personally during the summer and winter seasons of the year 2002-03. April, May and June were treated as summer months, while October, November and December were considered as winter months. In this way, the peak tourist seasons of both summer and winter holidays were taken in to account. By conducting the survey himself, an effort was made to maintain a neutral stance throughout the interview, to make respondents aware of the questions properly and to minimize various kinds of biases associated with the technique. Pretesting of the questionnaire for the tourists was done during the last week of March 2002. It was observed during this period that on an average, it took 15 to 20 minutes for an ordinary tourist (with his family) to complete the questionnaire. It was also noticed that tourists, mostly other than Government service category, were reluctant in disclosing information even on income band, mode of transport used and complete house address with signatures. To overcome this problem, it was decided that tourists would not be pressurized for giving complete address or affixing signatures on the format. In this way, they were fully assured that the data was being collected for research purpose only and not by income tax or any related government agency. In-person interviews were initiated by informing potential respondents that the survey was being done as a part of research work under Forest Research Institute (FRI) university, Dehradun, India. This eliminates the potential

sponsor bias to a large extent, since respondents look at the university as a neutral body (Navrud and Mungatana, 1994).

All the tourists, who were willing to participate in the survey, were considered. While doing this, it was taken care especially that the sample must represent the true population as far as possible, taking proper proportion of "frequent visitors" (mostly from neighboring states of Punjab, Haryana and Delhi) and other "non-frequent visitors", mostly from far areas. All the interviews were held at prominent tourist places of the city like Rock Garden, Sukhana Lake, Rose Garden and Leisure valley etc. The tourists were also asked specifically to mention before filling up of questionnaire about the primary objective of their visit to the city. If the said objective was not tourism, then they were not considered for the interview. Only adult visitors i.e. above 20 years in age and head of the family/group, who has a defined source of income, were interviewed because they are considered to be more realistic in making personal valuations of their recreational experience at the site vis-à-vis their budget constraint (Brown and Henry, 1989; Navrud and Mungatana, 1994). During the course of survey, a total of 1120 groups/families were interviewed taking in to account the representative samples of frequent and non-frequent visitors. The survey produced information on 3113 visitors, as single questionnaire was used to interview 904 numbers of groups/families. Thus the average family size was 3.45. The travel cost method has some common biases that were accommodated in the calculation of total costs for each individual.

Respondents were asked particularly to mention the percentage contribution of greenery in the form of urban forestry of Chandigarh, which was responsible for making the city attractive from tourism point of view. They were presented with a range of choices like 25%, 50%, 75%, 100 % or others. Under "others" category, they were free to record any other reason making city attractive for the tourists. Out of 904 respondents, 556 numbers (61.50 %) were of the view that urban greenery of the city was responsible to the extent of "cent percent" in making city attractive from tourism point of view. In other words, if urban parks/gardens were removed from the city; the tourism value of the city would become zero. About 27.50 % of the tourists were of the opinion that urban parks/gardens were responsible to the extent of "seventy five percent" in making the city attractive from tourism point of view i.e. rest twenty five percent marks were credited to city's other features like architecture, infrastructure, culture etc from tourism point of view. Thus majority of the domestic tourists (89%) considered city's urban greenery in very high esteem as far as city's tourism scenario was concerned (Fig-

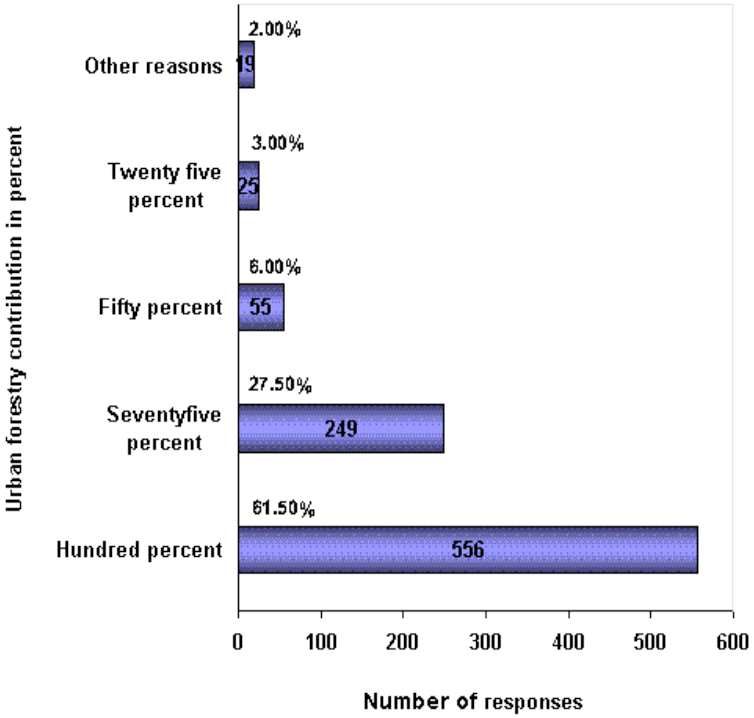
1). Another question was added for the tourists who visited the city beautiful more than once during last 15-20 years and were requested to mention whether green cover of the city in the form of tree-avenues, parks and gardens etc. had improved or deteriorated during that period. Out of 904 numbers of respondents, 584 answered that they visited Chandigarh more than once during last 15-20 years. Out of these, 487 gave their opinion about improvement or deterioration in city's urban greenery. Maximum numbers of respondents (76.88%) were of the opinion that city's green cover and parks/gardens had improved during this period, while only 6.50 % disagreed with this statement. Rest 16.62% did not answer the question as they were not in position to judge the situation about the city's greenery. By inserting such questions, respondents' perception and interest in the field of urban greenery, parks/gardens, environmental conservation and landscaping was sought for.

A majority of tourists i.e. 92.80% (839/904) had not visited the Sukhana Wildlife Sanctuary, near Sukhana Lake. The reason being, 824 were not aware at all about the existence of such a spot in the city and rest did not get time to visit it. Those who knew about the sanctuary were mainly from the nearby Punjab State. It is pertinent to mention that Sukhana Wildlife Sanctuary and nearby Kansal & Nepli reserved forests are the only natural habitats in Chandigarh city which can be of some relevance to the tourists but majority of them showed ignorance about these spots. This is also a testimony to the fact that the tourists come to the city for its urban parks and gardens and not for natural spots.

Four biggest metropolitan cities of India i.e. Delhi, Kolkata, Mumbai and Chennai accounted for only 12% of the tourists (109/904). About 58% of total tourists (525/904) came from nearby areas up to 400 km from the city i.e. covering bordering states of the city, while about 68% of tourists came from areas up to 1000 km from the city. Remaining 32% of the tourists (from 1000 to 3000 km.) mainly came from other big cities like Bhopal, Bangalore, Mysore, Nagpur, Cuttack, Coimbatore, Madurai, Salem, Vadodara, Indore, Gandhi Nagar, Ahemdabad, Hyderabad, Pune, Jabalpur etc. apart from Kolkata, Mumbai and Chennai. This type of trend, where tourists from big cities (other than biggest metropolitan cities) are more interested in moving out, has also been reflected in a consumer survey conducted by a reputed management consultancy firm and published in "The India Today" magazine, June 2003. The survey tracks urban consumers in 20 cities of the country, covering 10,000 upper and middle class families, with average monthly income of Rs. 12000 and Rs. 8000, respectively (Techno pack, KSA, 2003). As per the survey, the families covering these classes (particularly below 35 years of age) had

spent more household income in year 2002 in comparison to 1999 on vacation and entertainment, which includes traveling and sightseeing.

Fig. 1. Percent contribution of urban greenary in making city attractive from tourism point of veiw



RECREATIONAL VALUE OF PARKS/GARDENS

A detailed account about estimation of annual recreational use value of Chandigarh city's urban parks and gardens has been given by Chaudhry and Tewari (2006). Zonal travel cost methodology (TCM) was applied on the domestic tourists in the study and a consumer surplus per tourist visit of Rs. 308 (approx US $ 6) was estimated by developing 'net recreational demand curve' as per the procedure prescribed by U S Water Resource Council (1983). This is a measure of average willingness to pay by the domestic tourists for the recreational benefits provided by the urban parks and gardens of the city. The revenue generation for the parks/gardens visit

and total utility at this point would be maximum. In economics-cardinal approach terminology, this amount pertains to the point of saturation i.e. at which the total utility reaches maximum and marginal utility becomes zero. In other words, we can say that after this point, the consumer (tourist) generally begins to get disutility from consumption of additional units of commodity (i.e. number of visits). Since TCM does not produce reliable results when tourists are coming from far off distances, therefore taking a conservative estimate of annual 0.30 millions of domestic tourists up to 1000 kms from the site, annual recreational value of urban parks and gardens of the CITY BEAUTIFUL was estimated as Rs. 308 x 0.30 = Rs.92.40 millions.

CONCLUSION

The evolution of urban forestry has been recognized as an essential means of maintaining urban ecosystem health, improving human living conditions, fostering harmonious human-nature relationship and ultimately achieving urban sustainability (Carreiro et al. 2008). One of the obvious indicators of urban sustainable development is the quality and quantity of green spaces in the city (Huang et al. 1998, Schauman and Salisburry 1998). However, high density of human population in cities and the consequent need for space for recreation, buildings and transportation may make the urban nature conservation difficult.

In the research case study undertaken in Chandigarh city, it was found that not only the residents of the city have willingness to pay for the maintenance of urban parks and gardens (Chaudhry and Tewari, 2008) but domestic tourists also like such spots. The consumer surplus/visit enjoyed by the tourists was found quite high, indicating possibility of utilizing some portion out of this consumer surplus as entrance fee for parks/gardens. Therefore the city administration must take all sorts of measures in maintenance and development of existing parks/gardens and for creating additional ones by using above consumer surplus. The natural spots like that of Sukhna wild life sanctuary can be opened up for the domestic tourists on limited basis initially for nature trails/walks. The developing countries in the region can take a clue from Chandigarh city's model of urban greenery for their urban land use planning and create a livable atmosphere not only for the residents but for the tourists as well.

REFERENCES

Brown, Jr.G. & Henry, W. (1989). *The economic value of elephants. The London Environmental Economics Center.* London, paper 89-112.

Carreiro, M.M., Song, Y.C. & Wu, J. (2008). *Ecology, Planning and Management of urban Forests: an International Perspective*. New York, Springer.

Chaudhry, P. & Tewari, V.P. (2006). A comparison between TCM and CVM in assessing recreational use value of urban forestry. *International Forestry Review*, Vol.8, No.4, pp. 439-448

Chaudhry, P & Tewari, V.P. (2008). WTP Vs WTA for assessing recreational benefits of urban forests: a case from a modern and planned city of a developing country. *Forests, Trees and Livelihoods,* Vol. 18, No.3, pp.213-231.

FSI. 2005. *State of Forest Report*. Forest Survey of India, Dehradun.

Huang, S.L., Wong, J.H & Chen, T.C. (1998). A framework of indicator system for measuring Taipei's urban sustainability. *Landscape and Urban Planning* Vol.42, pp.15-27.

More, T.A., Stevens, T. & Allen, P.G. (1988). Valuation of urban parks. *Landscape and urban planning,* Vol.15, pp.139-152.

Navrud, S. & Mungatana, E.D. (1994). Environmental valuation in developing countries: The recreational value of wildlife viewing. *Ecological Economics,* Vol. 11, pp.135-151.

Schauman, S. & Salisburry, S. (1998). Restoring nature in the city: Puget Sound experiences. *Landscape and urban planning,* Vol.42, pp. 287-295.

SCI. (2002). *Supreme Court of India order in I.A no.566 on creation of compensatory afforestation fund and charging net present value of forest land diverted for non-forest use.*29/10/2002.

Technopack, K.S.A. (2003). Urge to splurge. *India Today* (*weekly magazine*), June 9, 2003.

U.S. Water Resource Council. (1983). *Economics, environmental principles and guidelines for water and related land resources implementation studies.* US Government Printing office, Washington, DC.

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ENDNOTES

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