Evaluating Socio-Environmental Benefits of Recreational Theme Park by Applying Contingent Valuation Method

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1. Introduction

Huis Ten Bosch is a famous private recreational theme park opened in March 1992 at an approximate cost of $ 2.5 billion, created by transforming 152 hectares of industrial wasteland through various environmentally affable mechanisms. The concept of Huis Ten Bosch is "coexistence between ecology and economy". With the year 2002, HTB concluded 10th year of operation and published *Huis Ten Bosch Environmental Accounting Report: 1992-2001*. In this report, they have calculated the *total cost and benefits* of the HTB project till March 2002. However, regarding the benefits they have only calculated the benefits received by HTB itself through various environmental activities and failed to quantify the *social benefits* provided by HTB. This study is attempted to do this job of estimating the benefits derived by the society, though the activities of HTB for all these ten years, by applying both actual (travel cost method) and potential (contingent valuation method) behavioral methods. It would also indicate whether HTB would be sustainable in future, even if the economic condition get worsen due to the gradual decrease in the number of visitors (see Fig.1).

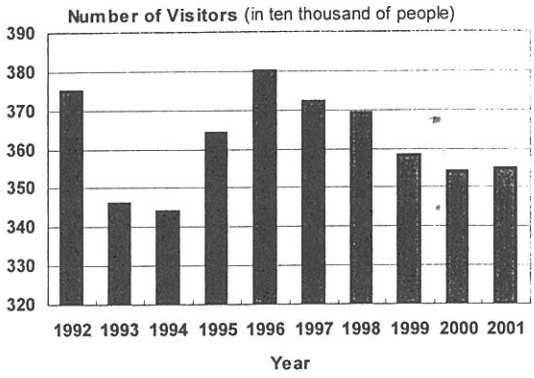

Fig. 1 Number of visitors visiting HTB

2. Objective of the Study

The main objective of this study is to calculate the socio-environmental benefits of private recreational theme park by taking the case of Huis Ten Bosch (HTB) located in Nagasaki, Japan, and to insert the socio-environmental value calculated in the environmental accounting of HTB.

3. Methodology of the Study

Primarily Contingent Valuation Method (CVM) would be used to estimate the socio-environmental benefits provided by HTB. And later on, Travel Cost Method (TCM) would also be applied to compare the results derived from CVM. Mail survey technique and both open-ended (OE) and dichotomous choice (DC) elicitation methods are considered to be used for collection and analysis of data.

4. Results of the Pre-testing Study

The first pre-testing study has already been conducted among a sample of 25 respondents and it is revealed that the average willingness to pay (WTP) are 2,750 yen and 2,452 yen under dichotomous choice (DC) elicitation method and open-ended (OE) elicitation method respectively (see **Table 1**). The findings of the pre-testing study are reviewed and accordingly the final questionnaire were finalized and distributed.

From the pre-testing study we have grasped the following lessons:

1. Although willingness to pay ratio is lower in DC method compared to OE method, but the average WTP is higher in the former.
2. Respondents have reservations to pay under DC method, but usually agree to pay under OE method.
3. Socio-demographic questions should be placed at the final stage of the questionnaire as asking private questions might result in non-response of the willingness to pay (WTP) questions.
4. Payment vehicle appeared to be very important in the pre-testing study as respondents have negative attitude in willingness to pay as taxes. Hence in the final questionnaire we have used *contribution to a fund* as a vehicle of payment.

Table 1. Results of the pre-testing study

Description	Elicitation Method	
	DC Method	OE Method
Number of Bid Values	4	-
Number of Respondents	25	25
Willing to Pay (YES) (% YES)	20 (80%)	24 (96%)
Mean (WTP) in yen	2,750	2,452
Median (WTP) in yen	3,000	2,000

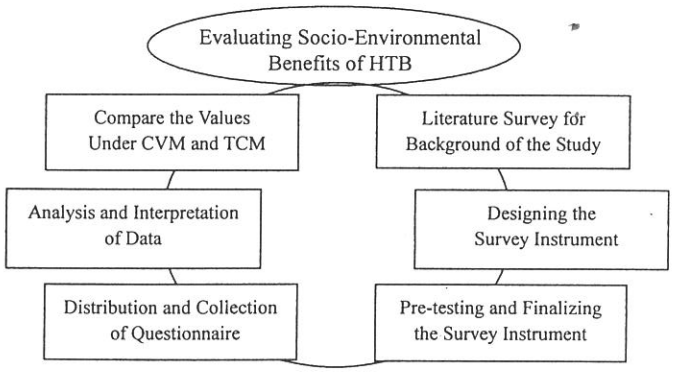

Fig. 2 Study plan in brief

5. The Final Study Plan

The final survey questionnaires were distributed at the beginning of January 2003. A total of 2,000 questionnaires were distributed, 1,000 in Sasebo (the city where HTB is located) and 1,000 in Nagasaki (the capital city of the prefecture where Sasebo is located). The respondents are selected randomly from published telephone directory. The expected response rate is from 20 to 25 percent as evident from the experience of the similar studies. The entire study plan is as shown in **Fig. 2**.

6. Expected Results of the Study

This study would reveal how much people value the various environmental activities undertaken by HTB. With the gradual negative trend in the number of visitors coming to HTB, the results of this study would indicate whether HTB would be sustainable in future, even if the economic condition get worsen and to what extent.

References

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