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VALUATION OF THE SALINI NATIONAL PARK

Luciano Pace Parascandalo

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Abstract.

This study aims to obtain a monetary value for the benefits achieved from recreation at the Salini National Park in Malta, using the Contingent Valuation approach through a questionnaire administered to people visiting the park. The main objective is to produce a monetary use-value for the park. Other objectives included the assessment of visiting patterns and of the environmental importance assigned to the park. The study seeks to give an insight on the revealed recreational value of consumers, which in this case are the individuals seeking to recreate themselves in an urban forestry setting which offers open areas for general free play and relaxation. The research hypothesis is that individuals who visit Salini Park for recreation are willing to pay a price for visiting the park and that the use of contingent valuation surveys conducted on individuals visiting the park for recreation will elicit a monetary value for the Park. The study actually proposed a value for the park and derives a number of implications from the responses to the questionnaire.

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Introduction

This study aims to obtain a monetary value for the benefits achieved from recreation in the Salini National Park in the small island state of Malta. The study on the Salini Park site seeks to give an insight on the revealed recreational value of consumers. The consumers in this case are the individuals seeking to recreate themselves in an urban forestry setting which offers open areas for general free play and relaxation. The primary objective of the study is to conduct a Contingent Valuation questionnaire to people visiting the park in order to establish visit patterns, levels of environmental importance and producing a monetary use-value for the park. The research hypothesis was that this dissertation will test the hypothesis that individuals who visit Salini Park for recreation are willing to pay a price for visiting the park and that the use of contingent valuation surveys conducted on individuals visiting Salini Park for recreation will elicit a monetary value for the Park.

The park although not large, is strategically placed in close proximity to the communities of St. Paul's Bay and Qawra in the northern part of the Island. These communities are known for their residential and touristic characteristics with both local residents and a high incidence of hotels in the area. This area of the Maltese Islands is also popular as a location for summer residences for the Maltese people. The park itself is considered to be a semi-natural woodland since it is entirely planted by man and not part of a natural ecological succession however for the scope the study the closest comparison to literature that could be made was to urban forestry recreation.

Studies using contingent valuation method (CVM) in small island states that relate to recreational sites or urban forestry were not encountered in an iterative literature search except for two local unpublished dissertations. Local studies using CVM have focused mainly on summer seaside locations such as Pretty Bay, Birzebbugia in the island of Malta and Dwejra, San Lawrenz in the sister island of Gozo. The absence of a study concerning recreational parks was the reason why the present author chose to perform a CVM study on a public location which is not sea related but more urban forestry related. For this reason, Salini National Park, which is both a recreational park and also an afforestation site was chosen.

In the present study, respondents were presented with a hypothetical

entrance fee to visit the park because this was a question that would not require in depth analysis by the respondent especially since it was put in a referendum type of question with a 'yes' or 'no' reply. This study used a hypothetical entrance fee as the payment vehicle of choice this being simple to understand and respondents would be familiar with entrance fees, although not for parks. Many respondents, fifty seven out of the whole sample of 100 did in fact give an accepted value to the fee that was more than zero. The remaining 43 declared that they would not be willing to pay anything. The choice of paying for the use of the park or not may have been affected by various factors.

This paper is organized as follows. Following this introduction, brief background information regarding the Salini National Park is provided. Section 3 discusses the methodology utilized in the study while section 4 presents the results of the study. Section 5 contains a discussion on the results with some conclusions and implications for policy.

The Salini National Park

The Salini National Park is a site located in the Northern part of the Maltese islands and is one of a few other parks available across the islands. The park is about 2 hectares in area however within this limited space there is a variety of available amenities including open spaces for picnic and recreation, a relaxation area, a children's area and also some areas that have been planted with new trees over the past years and are thus wooded areas.

These wooded areas have been planted with shrubs and trees as part of a national effort for reafforestation of public sites through the campaign Tree

Illustration 1
Google Picture of the Salini National Park

4 U (Tree for you). Locally there has been an increased awareness with respect to the importance of afforestation projects especially following an episode of vandalism in a Natural 2000 site at Mellieha where around 3000 newly planted trees had been cut in May 2007. This episode however resulted in a nationwide awareness with thousands of families attending Tree 4 U activities to plant new trees. These afforestations are coordinated by the governmental department P.A.R.K (Parks, Afforestazzjoni u Restawr Tal-Kampanja) which falls within the auspices of the Ministry for Resources and Rural Affairs (MRRA) and are carried out through donations by the public and corporations. Such campaigns have proven fruitful in recent years in various Maltese locations where thousands of trees have been planted through the above mentioned

4

campaign.

The park has 7 areas with different qualities. The area where the main entrance is located includes sanitary amenities and a central flat walk-through fountain. There is the children's play area and is a closed off area for safety and has some fixed structures for children's recreation. There is also a wide area that is a planted tree site and except for a few picnic benches has not been equipped too much in order to maintain the site in a more natural setting. Further away from the entrance is an open area which has been finished with a proper pavement and has a central monument dedicated to the late John F. Kennedy, hence the alternate more popular name of the park 'Kennedy Grove'. Next to the monument area is an open zone with fewer but bigger older trees and shrubs and is a zone that is open for walking around with small fountains embellishing the site. Finally the is a wider areas with open stretches of space where families usually gather in groups to do picnics, play in groups and occasionally even camp overnight. The park offers a limited parking space for approximately 35 cars however cars tend to spill over in surrounding roads on busy days thus affording more space for cars and users alike. Over the last few years the park has been the subject to an effort of afforestation and regeneration of the area and a wide spectrum of trees and shrubs, some of which are endemic have been planted in the park.

Valuation Methods

Valuation is the process of assessing a value or a price of an object or a service. The valuation for public goods cannot be done through market prices since public goods are non-market goods. The valuation for public goods especially environmental goods is done by using various types of methodologies such as the Contingent Valuation Method (CVM), the Hedonic Pricing Method (HPM) and Travel Cost Method (TCM). The CVM asks consumers directly for their value of the good through appropriately structured surveys. HPM analyses the changes in property prices for properties that are found in proximity to the good in question and how these are expected to change if the use or the state of the good are changed. TCM gathers information on how much is spent by visitors to get to the public

good and these values are used to infer the value of the good to the visitor. Further discussion on these methods is found in Pace Parascandalo (2010) however since this study applies the CVM, a more detailed discussion on this method will follow.

The Contingent Valuation Method (CVM), which is used in this study, is a technique that combines economic theory and methods of survey research in order to achieve a value for public goods through direct elicitation from the consumers (Mitchell and Carson, 1989). The name of the method arises from the fact that the values revealed by the respondents to the survey are contingent upon the constructed or simulated markets presented in the survey (Portney, 1994). Such a valuation of public goods is necessary to estimate the non-market value of such goods, for example national parks, drinking water and various types of environmental and natural resources. In order to decide upon the provision of a public good, a benefit-cost analysis should be done to determine the cost of providing or maintaining the good, versus the benefit achieved from such a good.

Rahim (2008) regards CVM as the most obvious manner of measuring non-market value by means of asking individuals about their willingness to pay for a good or service. This value is elicited by using a survey or questionnaire approach where the respondent is presented with a hypothetical or simulated market and asked for their willingness to pay to 'purchase' such a project (Rahim, 2008). This payment could be presented in the form of a fee- increased taxation or other forms of payment. CVM can also be used t facilitate policy makers in estimating and allocating public funds and at th same time comparing the value of different projects and programs (FAO 2000). Since public funds are limited and can thus be regarded as a scarc resource, then fund allocation will become an economic question and thus any method that can help compare amenities, prioritize projects and value the consumer's value for such amenities is important (FAO, 2000)

WTP Elicitation

Various literatures suggest the possible use of various different methods of

value elicitation for contingent valuation studies. Amongst these methods are open-ended questions, dichotomous choice, iterative bidding (bidding games), payment card based forms or a combination of two of the above methods in the same study.

Methodology

The research design was based on the Contingent Valuation Method (CVM) as advised by the Report of the NOAA Panel on Contingent Valuation (Arrow *et al,* 1993) which suggests step by step issues to be considered in building up a CVM questionnaire. Purposive non-random sampling (Creswell, 2009) was used in order to collect 100 questionnaires which were administered in a face-to-face interview mode (Mitchell *et al,* 1989) from amongst the individuals attending Salini Park in the months of April and May 2010. A questionnaire was formulated by the present author and pilot tested where following the pilot study, minimal changes needed to be carried out before the full sample was collected.

Contingent Valuation Method

The CVM questionnaire methodology was chosen for this study because a discussed in the Literature Review chapter, this method is the one that i used to provide a monetary value for environmental amenities especially i such an amenity is a public good and cannot be valued in a market price fashion. The CVM allows individuals to be asked directly their value for the amenity in question thus achieving an overall value that is then analyze and calculated mathematically to achieve a recreational use-value.

Inclusion Criteria and Sampling

Prior to the onset of the study data collection, an inclusion criterion was set for the participants of the study. Individuals that would be invited to

participate in the study would have to be 16 years and older. The reason being that the questionnaire included questions where issues like household income and payment would be tackled thus it was deemed more suitable to include participants that would be in the working age group with a basic concept of general income and expenditure. Participant inclusion was not limited to Maltese citizens but could also include individuals who have been residing in Malta for at least one year in order to be familiar with the site of the study and also be familiar with available suitable alternatives that could be used instead.

This study was based on a proposed sample of 100 respondents which would enable the researcher to have a good amount of responses to analyze with better possibility for statistical significance. The participants were approached on the same site under study in order to be able to visualize the content of the questions better since they would be familiar with the site. Very few people that were approached refused to participate in the study, in fact with the aim of collecting the first 100 responses to the survey this was achieved after asking only 105 individuals.

Data Collection

The survey data was collected on six consecutive weekends from April to May 2010. A questionnaire prepared by the present author following the guidelines for doing a contingent valuation study of the Report of the NOAA Panel on Contingent Valuation (Arrow *et al,* 1993) was used to collect a range of data that would later be analyzed. Such guidelines explain that quota and even convenience sampling can be used provided one makes sure to avoid sources of bias.

Since a high response rate makes the survey more reliable (Arrow *et al,* 1993), face-to-face questionnaire delivery was chosen especially since according to such literature such a mode is preferred over telephone interviews and even more so with regards to mail questionnaires. Mitchell and Carson (1989) also make an emphasis that personal interviews are far better than other means since they provide the unique opportunity of the interviewer to provide more explanations where needed and can also use visual aids. One must be conscious however that the presence of an

interviewer could lead to some form of social desirability bias (Arrow *et al*, 1993). This means that a person might tend to reply to a face-to-face questionnaire in a manner that he or she thinks the interviewer would like them to reply. Maguire (2009) however finds that sometimes telephone interviewees suffered from such a bias too. Data about visitation on Sundays and visit patterns during the week were observed from the months of July 2009 up to June 2010 where a count of people entering the park between 12pm and 2pm on Sunday was done in order to be able to create a model for the attendance of the whole day of Sunday. Patterns of visitation with approximate density of people present were also observed in order to enable the researcher to estimate the attendances of people during the days of the week as compared to Sundays.

The Questionnaire

The questionnaire was structured as follows. The first section enquired about the demographic data of the participant including age, sex, level of education, locality of residence, number of members in household and occupation. The second section enquired about the visitation patterns of the participant and this included the number of attendances, time of attendance and preferred seasons. This section also collected data on the number of attendees in the participant's group and average time spent. The third section asked the participants about their perception on the importance of environment on their quality of life and an open-ended question provided space for the participant to explain briefly the reason for their replies. The fourth section is the section where the participants are given more information with regards to the Salini Park and the facilities it provides and they are then asked for their willingness to pay (WTP) for the use of the amenity.

The value elicitation question was provided in the format of a double bounded dichotomous choice with open ended follow-up question (Bateman, Langford, Jones & Kerr, 2001). This allowed the participant to respond in a 'yes' or 'no' referendum style of question (Arrow *et al*, 1993) together with the possibility of refining his or her answer at the end with the open-ended question. Follow-up questions would be presented according to the initial 'yes' or 'no' answers of the respondent. A second valuation question was presented to enquire if improvements to the Salini Park

would change the participant's WTP.

The fifth and last section of the questionnaire enquired on the disposable income of the participant's household which would enable the researcher to compare the income with effects on the WTP of participants. This section is placed at the end of the questionnaire because according to Mitchell and Carson (1989) questions regarding income are best left for the end of the questionnaire where the participant would not be suspicious of the interviewer having understood the purpose of the questionnaires.

Some Limitations of the Study

Some limitations in the study have been identified and where possible measured to mitigate such limitations and biases were taken. One important bias identified in the study was the non-randomness of the sample. The study used a purposive non-random sampling due to the time constraints for the collection of data as predicted from the pilot study average time consumption. Data was collected over 6 consecutive weekends. Due to time limits, the first available 100 people who accepted to undertake the questionnaire were considered to be the desired sample. Total randomness would have meant that many people present would have to be left out thus requiring much more time to collect data.

Face-to-face or in person interviews can give rise to another limitation, social desirability bias where the respondent would try to answer the way he thinks the interviewer would like him to answer (Leggett, Kleckner, Boyle, Duffield & Mitchell, 2003).

Another bias that could have been present in this study was the starting point bias which would have been cause by the choice of using double bound dichotomous choice question (Flachiare & Hollard, 2007). This means that the initial amount presented to the respondent in the valuation question might have an influence on the maximum WTP. Starting at EUR1 or at EUR5 according to this bias would not have the same maximum WTP. This could happen because the repeated questioning can lead to boredom of the respondent wanting to end the questionnaire soon. In the present study this bias was addressed by using an open ended question at the end of the

dichotomous choice question. If a respondent had a maximum WTP of EUR5 for example, starting at EUR2 and answering yes to both questions would give a maximum of EUR3 but the open ended question would enable the respondent to reply EUR5 if he thinks it is appropriate.

The warm-glow effect (Nunes & Schokkaert, 2003) is another limitation of CVM where respondents could choose a maximum WTP because they feel they want to give just for the sake of feeling good from giving and not as a real value for the good. Nunes *et al* (2003) however argue that for WTP it is completely immaterial whether the respondent gives a WTP out of moral judgment or selfish interest. Whatever the respondent deems to be his or her WTP will be a legitimate source of WTP for the cost-benefit analysis.

Another important limitation encountered in this study was the fact that it was impossible for the present author to gather the exact amount of people visiting the park over the whole year and even through whole days since it was not possible to be there at all times. For this reason, the actual measurements taken every Sunday and the observed patterns of visiting during Sunday and the rest of the week at random were used to produce a plausible model with which the present author could work. Without the use of such a model it would have not been possible to estimate the amount of visitors per year thus not being able to produce a proper valuation.

The last limitation that was identified as possible in this study could arise from the fact that the present author was a novice one where it came to apply principles of contingent valuation method and environmental economics. There was an intense attempt to counter the lack of experience in the subject by trying to learn the methods, structuring of questions with guidance of the supervisor, collection of data and the analysis of the findings while comparing all the above with literature available.

The Results

This section presents the results obtained from the survey described in chapter 4 (Pace Parascandalo, 2010). The number of respondents was 100 and the survey had the structure of a face-to-face interview carried out at the

Salini National Park itself.

Demographic Data Results

The first part of the questionnaire regarded the demographic data of participants. There was a wide variety of towns from which the participants came to visit the park however for analysis purpose, these were divided into 6 districts as described by the 2005 National Population Census of the National Statistics Office (NSO) of Malta. These districts are Southern Harbour, Northern Harbour, South Eastern, Western, Northern and Gozo and Comino. Respondents were allocated according to their towns of origin to any one of the districts and these distributions are found in Table 1.

The Northern Harbour, Southern Harbour and Northern districts were the ones from which 89% of respondents came. This would be expected since residents in the South Eastern and Western districts would consider the Park

Table 1
Distribution of Sample by District

District	Participants
Southern Harbour SH	16
Northern Harbour NH	26
South Eastern SE	4
Western W	7
Northern N	47
Gozo and Comino GC	0

too far away to visit it on regular basis seeking to recreate themselves at a closer location. For the same reason, one would not expect residents from Gozo and Comino to cross by boat regularly to make use of the Park.

The age distribution as gathered from the sample was also divided into groups for analysis purpose and the results are as follows in Table 2.

The third column presents the data with the actual percentages as derived from the NSO Census 2005. These percentages represent the actual percentage of citizens for these age groups as found in the Northern Harbour, Southern Harbour and Northern districts. There are some differences within survey and Census data for some groups and possible reasons for this are discussed in Pace Parascandalo (2010).

Table 2
Age Groups Divisions of Sample and Population

Age Group (Yrs)	Sample	Population
18-29	25%	22.09%
30-39	32%	16.43%
40-49	18%	18.29%
50-59	7%	18.82%
60+	18%	24.35%

Table 3
Number of Members in Family of Respondent

No. of Members	% of Respondents
1	0%
2	10%
3	22%
4	48%
5	16%
6	2%
7	2%

The mean age of the sample (n) population was 40.12 years and the mean age for the total population (N) was 38.5 years. The mean ages include the males and females together for both data sets. Gender distribution for the survey data was 54% males and 46% females. The Census 2005 results are 49.6 males and 50.4 females. The slight difference in percentages could be explained by the reluctance of some females approached in undertaking the questionnaire while at the same time asking their male partners to take it instead. This only occurred in a few cases however the sample of 100 could prove to be quite sensitive to such occurrences.

Another demographic piece of information gathered in the survey was the respondent's family size. The results are shown in Table 3:

Table 4
Profession Categories of Respondents

Profession	%
Clerical	7%
Skilled/technical	19%
Self employed	6%
Professional	19%
Student	13%
Pensioner	10%
Housewife	19%
Unemployed	7%

Table 5
Education Level for Sample and Population

Education Level	% Respondents	% Total Population
Primary	4%	25.52%
Secondary	44%	45.26%
Post-Secondary	27%	13.80%
Tertiary	25%	9.58%

None of the respondents lived alone and the minimum family size of respondents was 2 people. The most common household size was 4 people with 48% of respondents giving this answer. The information given by participants about their professions was classified in table 4 in order to be able to analyze the data in a simpler manner. The final data gathered with respect to demographics was the education level of participants. Table 5 presents the highest level of education attained by participants to date of the survey being carried out. The third column presets the same type of data which was published in the Census of 2005 for the total population of the Maltese Islands.

Table 6
Frequency of Visits for 2009

Number of Visits	% Respondents
0	4%
1	0%
2	1%
3	3%
4	5%
5	14%
6	12%
7	11%
8	14%
9	2%
10-15	29%
16-19	3%
20-29	1%
30+	1%

**Figure 1**
Frequency of Visits in 2009
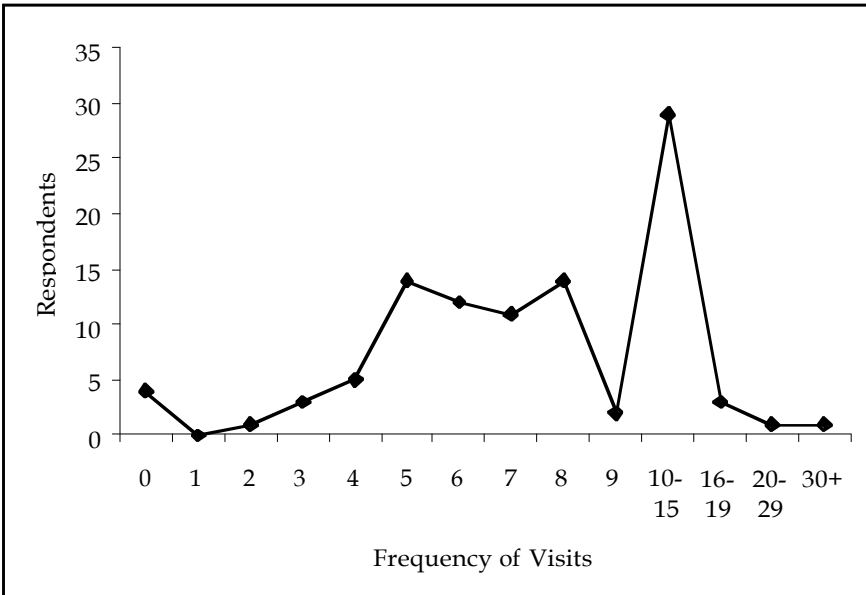
Visitation Pattern Results

The second part of the questionnaire asked questions pertaining to the preferences and patterns of visits to the park by the participants. The respondents were asked about the number of times, if any, they had visited the park in the previous year, 2009.

Whereas there was a variation in visitation patterns for the previous full year as recalled by the participants, the visits of 10-15 times were the predominant choice with 29% of respondents. Figure 1 shows the frequencies of the respondents' visits in 2009.

Preferences for the time of visits to the park were also enquired from the participants and their distribution can be seen in Figure 2. Respondents predominantly (48%) preferred late morning visits to the park followed by the choice of early afternoons (32%) and early morning (19%) with only one respondent choosing late afternoon (1%) and none chose evening.

Figure 2
Preferred Time of Visit
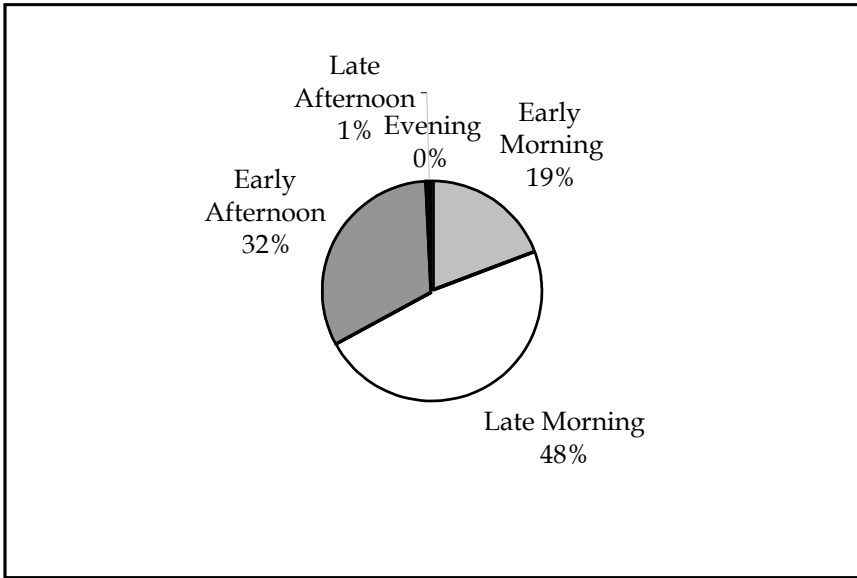
The next question asked respondents about the average time spent at the park on their normal visits. Table 7 presents the results for the time spent.

Table 7
Average Amount of Hours Spent at the Park

Hours Spent	% Respondents
< 1	0%
1	0%
2	7%
3	20%
4	30%
5	15%
6	23%
7	3%
>7	2%

Table 8
Preferred Season of Visits

Season	% Respondents
Autumn	3%
Winter	33%
Spring	64%
Summer	0%

The average time spent by all respondents in total was 4.44 hours or 4 hours and 26 minutes. 88% of respondents spent between 3 to 6 hours at the park with only 7% spending less than 3 hours and 5% spending more than 6 hours.

Question 5 of the questionnaire enquired from the participants their preferred season for visiting the park and this required the participants to rank the four

Figure 3
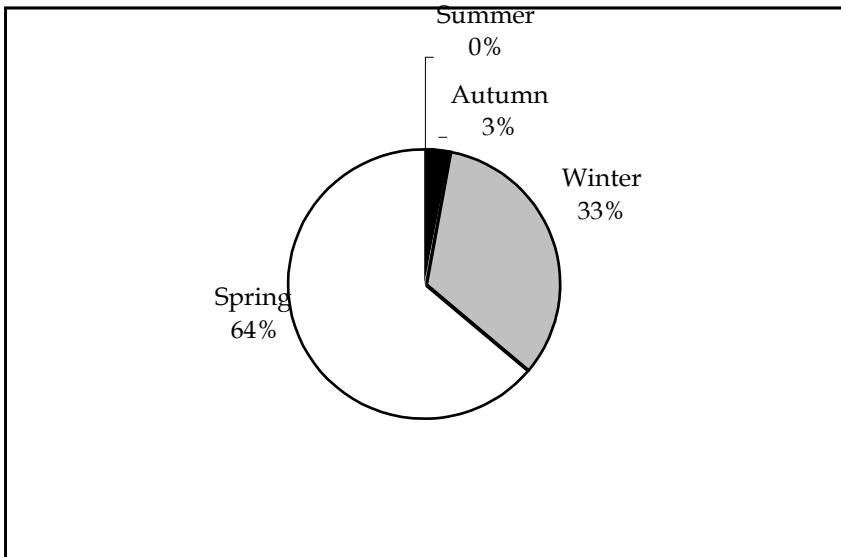## First Preference Choice Distribution

Table 9
Group Size During Visits

Group Size	% Respondents
1-2	4%
3-4	42%
4-6	14%
7-8	17%
9 or more	23%

seasons in the order of preference according to their likelihood to visit the park. All respondents picked up a choice for first preference however data for 2nd, 3rd and 4th preference of season is sometimes missing indicating that some participants only chose one season when they would attend the park. The results for the first preference choice of respondents are seen in Figure 3.

The number of people making up the group during the visits was also asked in the questionnaire since the number of people in a household and the number of people visiting together could differ because people could choose to visit the park with friends or in conjunction with other families making bigger groups.

The most frequent group size was that of 3-4 persons with 42% of choices followed by the larger groups of 9 people or more with 23% of responses.

Table 10
Environmental Importance

Env Importance	% Respondents
Not at all	0%
Not imp	0%
Don't know	16%
Imp	47%
Very imp	37%

Figure 4
Environmental Importance
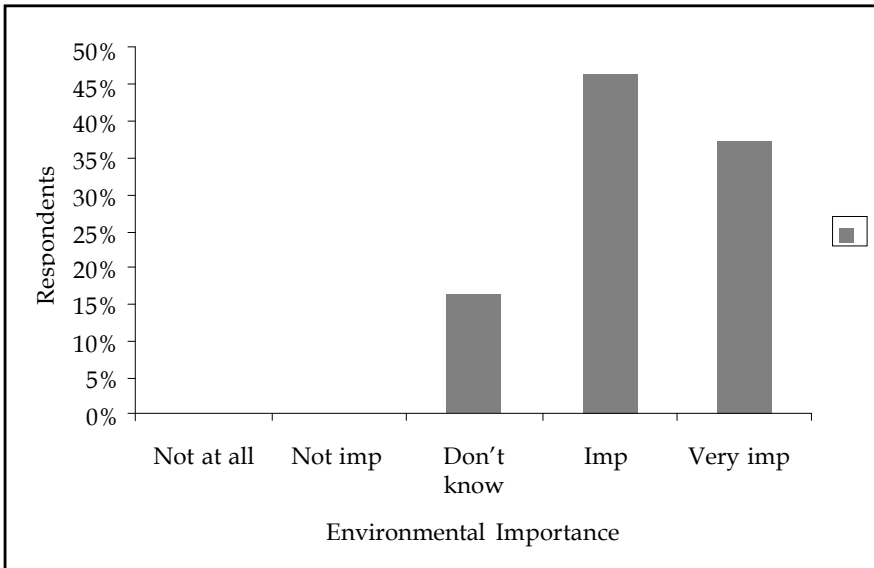

Environmental Importance

The third section of the questionnaire investigated the perceived importance of the environment towards the quality of life of the respondents both via a choice question and also with an open-ended question where participants could give a reason for their choice.

The results for the open ended question regarding the reasons for the environmental importance are summarized in the Figure 5. Good health, good recreational space and a better future for children were the 3 most common responses for the reasons why environment was important for quality of life.

Valuation Elicitation Results

Question 8 of the questionnaire was presented to the participants in the form of a double bound dichotomous choice with an open ended question in

Figure 5
Reasons for Environmental Importance
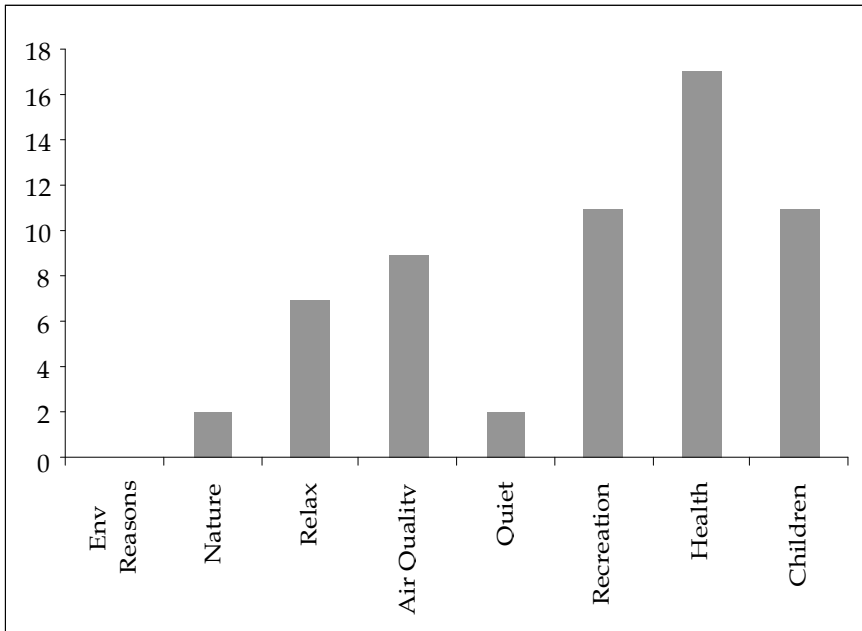
order to get the respondent's final willingness to pay (WTP) to access the park in its present condition without any improvements. With the sample n = 100, 43% of respondents replied that they were not willing to pay anything to access the park if an entrance fee was enforced. The remaining 57% had some form of WTP with varying Euro amounts given. The total values given by respondents were added and amounted to EUR84.63 and this had to be divided by the sample size to achieve the mean WTP for the whole sample i.e. EU0.84.

Calculating the Number of Visits to the Park

The data collected in the questionnaire produced a mean time spent by individuals at the park of 4.44 hours. Since it was impossible to be present at the park at all times of the day, a model had to be created in order to make use of the measurements taken between 12pm and 2pm on Sundays and producing an estimate for the whole of Sunday's attendance. Using the data

Figure 6
Weekly Visiting Distribution
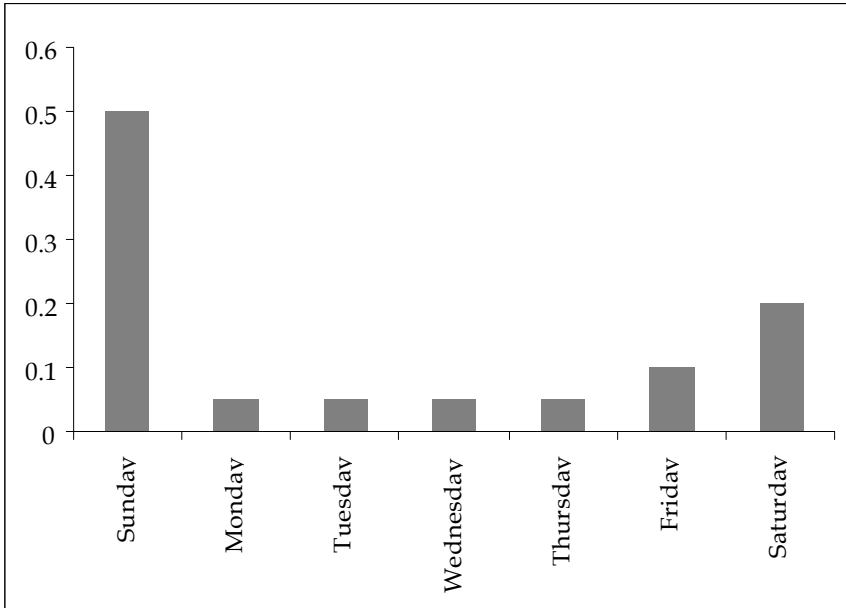
from the questionnaire, people who were counted to arrive at the park at the measuring times were considered to make up the count for people who attend the park in the early afternoon. It follows then that the count taken could represent the 32% of the sample who chose to visit the park in the early afternoon. In order to achieve the total of people attending on Sunday in all the times this value would be computed to produce the 100% of visitors. This model was necessary to enable the present author to produce figures for the whole day. It is important to note that it could be plausible for other researchers to use different models to calculate attendance however for the transparency of this dissertation the above model as explained was used.

For example if the measurement for a particular early afternoon period on a given Sunday is 320 people, then the total people visiting on that Sunday would be an estimate of 1000.

The observations made at random in the rest of the week days during the period under study provided the present author with an estimate in the

Figure 7
Willingness to Pay for Improvements

Pay More with Improvements
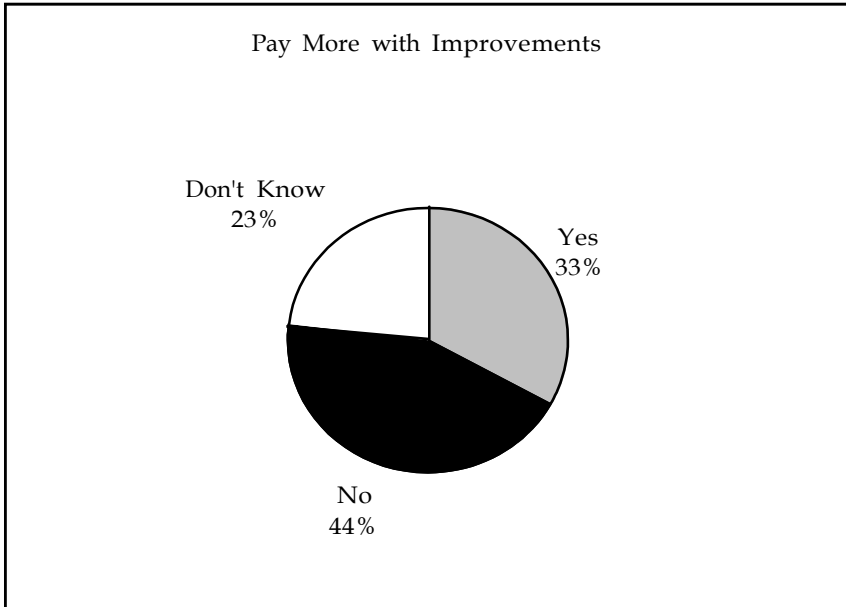
density of attendance. Sunday was predominantly the most frequented followed by Saturday.

It was observed that Sunday visits could be considered to be half of the total of visits that the park receives in the whole week. This means that taking the figure achieved for visits in a Sunday, the rest of the week can be worked out by doubling the Sunday figure. For example if the total of Sunday is 1000 people, then the whole week's attendance would be taken as 2000. Using these models together with the counts of people visiting on Sunday, the present author was able to produce a monthly visit figure together with an approximate yearly figure.

Calculating the Contingent Value of the Park

The total estimate of visits for the whole year is 145,556 persons. The response rate for the questionnaire was 95.23% and thus the percentage of people not willing to participate in the survey are subtracted from the total

Table 11
Respondents' Income Bracket Distribution

Income Bracket (EUR)	% Respondents
<12,000	27%
12,001 - 19,000	24%
19,001- 25,000	16%
>25,000	33%

estimate producing a figure of 138,613. In order to get the number of visitors who were willing to pay for the use of the amenity the 43% of respondents with zero WTP were deducted leaving us with a 79,010 people with some degree of WTP (Jim *et al*, 2006). This number is multiplied by the mean WTP of respondents (EUR0.84) to create the total WTP of visitors. The discount rate of 3% as described in the literature review chapter (Weitzman, 2007) was used. In order to achieve a total value for the park the total WTP of respondents is considered to be the 3% discount rate thus the 100% value of the park is thus estimated to be EUR2,212,267.

Willingness to pay for improvements

The respondents were then asked if they would be willing to pay more if improvements were done to the park with a general description of what the improvements would be being given in the questionnaire such as better sanitary facilities all around the park, a better equipped children's play area and a BBQ policy. From all the respondents, 33 answered that they would be willing to pay more, 44 said they would not pay more and 23 were not sure if they would pay more.

Participants who answered that they would be willing to pay more were asked how much more they would be willing to pay. This was added to their original WTP. The new total WTP was EUR0110.63 with the mean WTP for the sample becoming EUR01.11. There was also 14% of the sample who had no WTP for the present state of the park but had same form of WTP for an upgraded park. This would change the calculations since the total population on whom the valuation is worked has to change since the zero response has decreased. This would give a positive WTP response for 71% of respondents.

The workings of this calculation can be found in Pace Parascandalo (2010). The new total value of the park as given with the respondent's WTP was EUR3,641.369

Income Ranges Results

The fifth and final section of the questionnaire enquired about the level of disposable income of the respondents' households. The income brackets were divided as found in the table 11.

Conclusions and Implications

The research hypothesis of this study was set out on the outset with the aim of testing whether individuals who visit Salini National Park were willing to incur some form of price for using the amenity. The hypothesis also proposed testing the idea that the contingent valuation method could be used successfully to elicit an overall monetary value for the benefit derived by users that visited the park. The park is a public good that is provided for by the central government. Decisions are taken by those responsible on how much is worth spending on the upkeep of the park. As discussed in the literature review, optimal provision of public goods and services is not a straightforward decision since there is always some form of budgetary limitation thus choices have to be made. Cost-benefit analysis should be carried out to weigh together the expenditure and benefit derived for proper financial decisions. This study was structured in order to achieve enough information from participants to enable the present author to derive a value for benefit of users.

A very important socioeconomic factor was definitely the environment and how important people regarded it in their lives. The study tried to assess and analyze the importance that respondents gave to environment in order to see how this could affect the willingness to pay for this park. If the environment is regarded very highly one might expect that their value for environmental amenities such as parks would be high. The questionnaire thus had a section dedicated to the subject of environmental importance as perceived by respondents. Participants were asked if they thought the environment was important for the quality of their lives and if so, to give reasons for their answers. Environment appeared to bear importance to many people since four out of five respondents stated that they considered the environment to be either important or very important.

A correlation analyses carried out by the present author relating to the

environmental importance attached to the park indicated that there was a strong relationship with income levels. This suggests that people with more disposable income held the environment as more important in the quality of their lives. One may argue that people who are financially more comfortable may have more resources to allow them to focus more on 'less important' issues such as the environment. Poorer people may be too focused to make ends meet to be bothered with the environment. This same argument is found in the international community where developing countries expect developed countries to help them if they are expected to meet emissions levels since this would be very costly on their developing economies.

The choice of recreation for persons with lower income might be linked to the choice of recreation in locations that are free of charge and offer a safe and clean environment. This element of individuals with lower income grouping in bigger numbers for recreation may merit some further research in the area of sociology since there might be some sociological reason for such a tendency. This issue however although interesting to take note of, was not part of the scope of this study and no further analysis was done. There was also a tendency for people who had a relatively larger nuclear family to report visiting the park in larger numbers. Although the numbers being reported were larger than the quantity of the family itself, the tendency of people to visit both with family and friends would make groups larger when the family itself is already big.

The relationship between the choice of whether to accept to pay for the park's use or not and income level was a significant albeit a negative one indicating that when income levels increased, the willingness to pay for the park tended to decrease. One would have expected persons that have more disposable income to be more willing to pay for the use of the park, however this was not proven to be the case since the correlation was a negative one. This unexpected tendency could have been brought about because persons with higher income tend to fall within higher taxation brackets. People would be aware that if they are earning more, they are paying more taxes and this would bring about the attitude that since government is already taxing them a lot, then they should not be asked to contribute more for use of a public good. Some respondents also made off-the-record comments during the survey that they were already being taxed highly by government and putting a fee, even if hypothetical was considered by them unacceptable since this would mean more taxation in their view. Such respondents may have given a zero WTP in a form of protest zero as described by Mitchell & Carson (1989) where respondents try to make a statement to authorities through their lack of WTP.

Another interesting possible reason why individuals with a higher income would be less willing to pay for the use of the amenity could be that due to their higher disposable income, the choices for recreation are larger. While a person with low income may be limited in choice and resort to free public places, the higher income person might opt to recreate himself in another place, which he might consider more worthwhile paying for its use.

The study showed that CVM could be used successfully to elicit a monetary value for the benefit derived by users of the park. Using the model described in the results chapter and the measurements gathered by the present author both in quantity of visitors and WTP, the mean WTP for the sample, the total estimate of yearly visits and thus the total use-value for the park for a whole year was estimated to be EUR2,212,267. Through personal contact with the persons in charge of the park's upkeep and management, the present author managed to get an estimate of the actual yearly expenditure for the park (see Pace Parscandolo, 2010). This included the cost that is incurred by government in the upkeep and management of the park over a yearly period including the wages of personnel working at the park (EUR153,255).

The two values above are very important when one is discussing the value of the park and policy decisions that need to be taken by the policy makers with respect to its maintenance and possible upgrading. When one is considering a policy change or expenditure change, cost-benefit analysis should be performed. The comparison in this case should be made between what is actually being spent (EUR153,255) and the value that respondents and visitors give to the park through the valuation study (EUR2,212,267).

The benefit reported to be derived by individuals using the park through CVM is approximately fourteen times larger than the actual cost being incurred at present in maintaining the park in its present state. In literature, this difference between benefit and cost has been reported to be even higher as in the study of Tyrvainen (2001) where the individuals were willing to pay an amount twenty times the amount being spent.

Following the first WTP question, respondents were asked if their WTP would increase if certain improvements described in the questionnaire. The results show that the amount of respondents who had some form of WTP changed. The increase in individuals having a value for WTP other than zero could   mean that they would value the new benefit derived from the improved park highly enough to be willing to pay for its use whereas they were not willing to do so in its present state. This may also signify that on their own, the park's facilities and their uses

are important enough to affect its value. There is a relatively wide gap between people's value for the park and what is actually being spent on it. This gap grows bigger with the proposed improvements. Such changes then should be seriously considered keeping in mind that the expenditure to perform them would be a fraction of their derived benefit by users.

The mean WTP increased from the original mean WTP and this alone would have been enough reason for the valuation to increase. This however was not the only change since there was an increase in the number of respondents with a willingness to pay from fifty seven to seventy one. This made the sample for calculation of total valuation even larger with value almost becoming double (EUR3,641,369) what it was before the hypothetical improvements. One may also note that considering the size of the park, although there exists no exact real estate value for it as a piece of land, the valuation process still gave what appears to be a relatively low value for the park's land area in its present state. Other land which is developed and occupies a smaller footprint may be sold in the real estate market for a higher price. One factor which could affect this difference is that it has no permit for development and the lay person in general would expect the place to remain a green space and not be developed. Individuals who are into the real estate market might still give it a relatively lower value since they would be aware of how difficult it could be to achieve any kind of development permit for such a piece of land.

Implications

The process of collecting data and the analysis enabled the present author to note certain gaps that could be addressed by future research and by policy makers. Research in this area locally is still very limited with only a few dissertations being available on the use of contingent valuation method. Being so effective in valuing public goods, CVM should be used more especially for cost-benefit analysis of planned future projects since the method would enable planners to assess the feasibility of the project.

Locally many National Parks such as the one situated in Ta' Qali and also the newly inaugurated Park tal-Majjistral in the Northern part of the Island amongst others could benefit from a CVM where the valuation of users would produce better data for cost-benefit analysis in maintenance and upgrading of such sites. It is also important to note that parks likes the ones mentioned above and the Salini Park itself are mostly located in the upper half of the island. One cannot underestimate the importance of such sites for recreation of the whole population, thus the

development of such sites in the southern parts of the islands would be highly beneficial.

With regard to policy making, this study shows that the current expenditure on Salini National Park is much lower than what it is valued by users thus one should consider upgrading the park with more facilities and better overall finishing. One should also consider suggestions made by consumers themselves with respect to designated areas for controlled barbeque facilities on site. This would make the experience for families and groups of friends more pleasurable in its totality. This increased expenditure and improvement of facilities should be considered in view of a 65% increase in value to consumers when presented with a hypothetical improvement to the Park.

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