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Contingent valuation of "Green" tourism within Regional Natural Parks of Sicily: a willingness to pay analysis

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Abstract

"Green" tourism in Regional Natural Parks (RNPs) is an important element for local development and environmental conservation. As tourism production and consumption could harm the environment, therefore, it is necessary to improve the relationship between visitors and the environment. RNPs Authorities play a key role in establishing and managing environmental conservation policies that enable to keep under control the risk of harming environmental resources. A limitation to such activities is a lack of adequate financial resources. Introducing an entry fee to visit park areas could be a way to reach financial autonomy and enhance environmental policies. This paper analyses visitors' willingness to pay (WTP) within the main RNPs of Sicily throughout a contingent valuation (CV) method. The final outcome of this survey indicates that most visitors are willing to pay an entry fee in order to better protect the environment. Although there is no fee to visit RNPs at the moment, our results indicate that there is an opportunity to introduce an entry fee.

Classificazione JEL: *Q5; F64; C33.*

Parole Chiave: *Contingent Valuation, Willingness to Pay, Regional Natural Parks, Green Tourism.*

Affiliations and acknowledgements

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1 Introduzione

According to the survey we conducted regarding an entry fee to visit Sicily's RNPs, most visitors are willing to pay an entry fee in order to better protect environment, suggesting that there is scope to introduce an entry fee. Although, Regional Natural Parks of Sicily receive public funds from regional and national governments to manage protected areas, they are not financially self-sufficient to be able to join both conservation and local development targets. At this point, RNPs Authorities should seriously consider introducing an entry fee to visit the park' areas, to visitors willing to pay to find more "green" facilities in. RNPs manage environmental conservation policies that contribute to reduce damages caused by humans activity with a strong environmental impact and while working to guarantee natural resources conservation, stimulate sustainable production and local development. In this context, ecotourism may represent an opportunity to local development and destination management by keeping under control the risk of harming the environment. This type of policies, however, require abundant financial resources and numerous of RNPs are not financially self-sufficient. The consequence is that RNPs Authorities are not able to achieve preservation and local development targets (Brown *e altri*, 2005). To manage protected areas, Italian RNPs receive public funds from the regional and national governments. A recent debate at National and Regional levels highlighted the needs to enhance Regional Natural Parks' financial sustainability, that means the "ability to find and manage stable and long-term financial resources, to allocate them in a timely manner, to cover the full costs of RNPs administration ensuring that parks and protected areas are managed efficiently and effectively with respect to conservation and development objectives" (Emerton *e altri*, 2006, p.15). In Italy, there is a lack of funds for sustainable preservation, the Italian natural heritage represents an important resource due to its biodiversity and the presence of particular kinds of species, regarding vegetation and animal. All nature-based activities, could be an opportunity to reduce environmental impacts, increase benefits for local communities and all the stakeholders involved, including RNPs Authorities. The revenue generated can be used to fund projects and activities to benefit RNPs and their local communities. RNPs have suffered reductions in structural funds for management, therefore the possibility to become self-sufficient should represent a variety of advantages; to manage fund on middle/long-term cycles (Baral *e altri*, 2007), to maintain responsibility under the control of Regional Natural Parks Authorities (Zaidi, 1999) and to permit sufficient institutional development of internal management (Wells *e altri*, 2004). Today, RNPs work to guarantee conservation but also production.

"Green" tourism, especially ecotourism, is an opportunity for tourism development and environmental sustainable conservation, first of all regarding the regional natural parks. Ecotourism represents a particular kind of "green" tourism involving nature and culture-based travel activities and empowering financial benefits to the local communities. It is a responsible way to travel in which local features are appreciated and where there is a minimized negative impact from visitors (Ceballos-Lascuráin, 1996, p.20). "Green" tourism enhances local environmental awareness and conservation, by reducing tourism impact (Honey, 2008, pp. 29 and 31; Page e Dowling, 2002, pp. 64 and 69; Wallace e Pierce, 1996) it is sustainable way to develop regions with abundant tourism resources (Weaver, 2001, p. 15). This paper analyses visitors' willingness to pay (WTP) within three RNPs of Sicily thoughout a contingent valuation (CV) method by administrating a questionnaire to 3000 visitors (1000 for each RNP) during April and July 2015. A logit regression was used and its results show that group size, visitors' satisfaction and the use of a guide are the most significant predictors of WTP. The

most common explanation for what concerns WTP is a desire towards a better environmental protection. Moreover, this study highlightes that, although there is no fee to visit RNPs at the moment, there is an opportunity to establish this one for the first time.

2 Literature review

The literature above contingent valuation (CV) of willingness to pay (WTP) within natural areas highlighted that the value of willingness to pay is positively affected by respondent's income, conservation awareness and perception of damage, general views about natural heritage and the number of values held to be embodied in the area's environmental goods (Verbic, 2006). CV was used to define policy strategies in biodiversity conservation and protected areas management, to estimate environmental value (Verbic, 2006), to analyse cost-benefit and environmental impact assessment (Laitila e Paulrud, 2006; Bateman *e altri*, 2006; Loomis e Rosenberg, 2006) as well as to examine possibilities to enhance revenues through increasing visitors fees to the natural areas. Specifically, it has been used to place an economic value upon species conservation (Baral *e altri*, 2007), protected areas (Togridou *e altri*, 2006). Otherwise, there are few case studies, at international level, regarding analysis of park entry fees (Lee e Han, 2002; Walpole *e altri*, 2001; Bateman *e altri*, 1994).

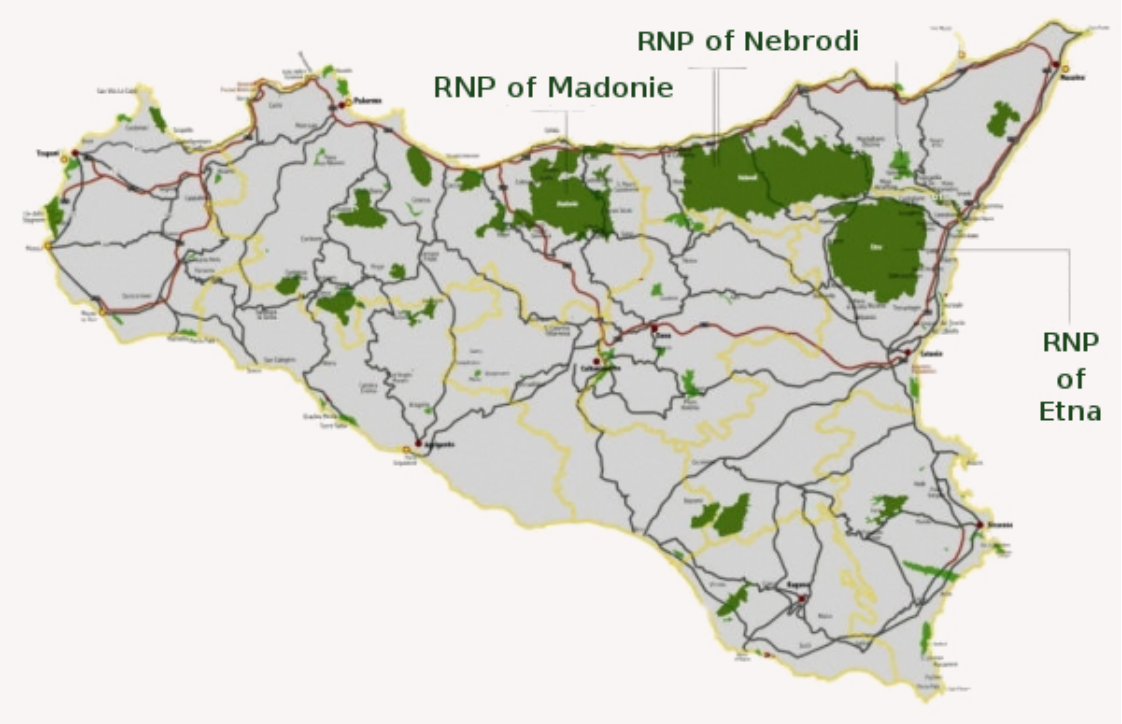
Moreover, the literature showed the lack of funds due to a market and non-market failure (Dixon e Sherman, 1990). This lack has influenced RNPs' conservation areas by limiting the possibility to manage "entities to carry out critical tasks", for instance, education and enforcement. It is clear that income coming from tourism can contribute to improve quality of life (Baral *e altri*, 2008).Long-term financial resources can help to cover the full costs of RNPs and to ensure that they are managed effectively and efficiently (Emerton *e altri*, 2006, p.15). According to Baral *e altri* (2008), tourism charges, resource user fees and payment of ecological services are promising into the areas of high visitation due to the ability to generate income through market-based demand for RNPs products and services. The benefits coming to the RNPs', in terms of revenue from "green" tourism, can be used to fund projects intended to benefit local communities through both conservation and development activities. RNPs are seen as excellent models of community-based conservation for which financial sustainability becomes a good reason for supporting its success.

Thus, the possibility to become financially self-sufficient should represent for RNPs Authorities a variety of advantages, such as to manage funds on middle/long-term cycles (Baral *e altri*, 2007); to maintain responsibility under the control of RNPs Authorities (Zaidi, 1999) and to permit sufficient institutional development of internal management (Wells *e altri*, 2004).

The literature also focuses on the consumers' propensity to pay for a more sustainable tourism. A significant role for people's belief and values in their decision making as well as in their purchasing behavior does exist (Gutman, 1982; Tajfel e Turner, 1986).

Kang *e altri* (2012) showed that there is a positive relationship between visitors' environmental concerns and their willingness to pay a fee for RNPs green activities. Their study emphasized this positive relationship between hotel type and willingness to pay a premium for green initiatives as well as between the grade of hotel and a customer's self-esteem. Green activities represent ancillary services able to provide intangible benefits to the visitors (Manaktola e Jauhari, 2007). Other researches confirmed that visitors have a propensity to pay for corporate social responsibility practices to satisfy their *amour-propre* (Erickson e Eckert, 1977; Sen e Bhattacharya, 2001). Otherwise, an other group of studies revealed the gap between customers'

Figura 1: *The main Regional Natural Parks of Siciliy*



perceptions and attitudes towards corporate social responsibility and their actual purchaising behavior (Boulstridge e Carrigan, 2000; Carrigan e Attalla, 2001; Manaktola e Jauhari, 2007). It is also true that people tend to associate themselves with organizations whose identities are enduring (Bhattacharya e Sen, 2004), distinctive (Manaktola e Jauhari, 2007) and able to increase their esteem. Because RNPs' identity, revealed by green initiatives is relatively enduring, differentiated from others and able to enhance customers' self-esteem, customer who has higher degree of environmental concern is more likely to identify with green initiatives and RNPs.

Therefore, a high level of congruence between tourists and RNPs generated by environmental concerns should tend to create a positive evaluation of RNPs' green initiatives, which leads to a willingness to pay premiums for those initiatives (Brown e Dacin, 1997).

3 Study area

The study considered the following Regional Natural Parks of Sicily: Etna, Nebrodi and Madonie. The reason for chosing them can be summarized within three aspect: 1) by their area in hectars; 2) for sleeping facilties; 3) for tourist flow in terms of arrivals, overnight and average length of stay. RNPs were established around the end of 1980s and the beginning of 1990s and involve 58 municipalities on a territory of 183.623,55 hectares.

The **Regional natural Park of Etna** includes an integral reserve zone (whc.unesco.org) and comprehends nine sites extending the property in various levels, providing protection for 77% of the area according to the European guidelines (whc.unesco.org). The Etna's Park is world famous because of the Volcano, being highest and most active in Europe and recently

Tabella 1: *Territorial characteristics of Regional Natural Parks*

RNP	Municipalities	Size (Ha)	Flora
Etna	20	58,095.00	Larch pine, beech, birch
Nebrodi	23	85,600.00	Quercus cerris, suber, ilex and gussonei, Fagus sylvatica
Madonie	15	39,941.18	Secular olive groves, cork, chestnut, ash-tree ash, rowan-beetroot, holly

declared a UNESCO World Heritage Site (Patti, 2013, p. 124; whc.unesco.org). Etna's Park comprises four different areas: area "A" (19,000 ha) is almost all public property, free of human settlements; area "B" (26,000 ha) is partly formed by small private agricultural lots and it is characterized by rural houses, shelters for animals, palm groves, and houses belonging to the nobility witnessing the ancient and current human presence. The area is characterized by the presence of important natural and cultural resources and a variety of agro-food products especially the AOC Etna wine area, becoming more and more famous and well recognized in the world.

The **Regional natural Park of Nebrodi** includes the most important and largest woodland areas of Sicily (about 50,000 hectares). The best-known arboreal species are *Fagus sylvatica* (situated in the most southern area of diffusion), *Quercus cerris* and *Quercus suber*. It is also possible to find Quercus ilex, Taxus baccata, Ilex aquifolium and significant lacustrine and rocky environments. Both the verterbrate and the invertebrate fauna specimens are very abounding. The park is managed by a public Authority named "Ente Parco Naturale Regionale dei Nebrodi", which is under the control of the Sicilian Region. The park is divided into four areas (A, B, C and D) in which specific prohibitions and limitations operate to preserve and exploit all the resources within it. Finally, it is important to underline the widespread process of progressive acculturation of the Park's territory, which led throughout the centuries to the transformation of Nebrodi from a natural to a cultural landscape.

The **Regional natural Park of Madonie** includes eight areas (Portella-Ferrone, Rocca-Cefalù, Serra Daino-Pollina, Santa Maria-Lascari, Pianetti-Cefalù, Santa Focà-Castelbuono, Gorgonero-Petralia Sottana, Piano Zucchi-Isnello) and a Geo-park, which is a natural protected area where there are important geological sites for scientific quality and training value. The Geo-park includes museums, trails and organizes educational and scientific activities at international level. All the regional natural parks of Sicily include rural and urban areas. They represent a scenario in which it is possible to organize rural and urban ecotourism products. This means that rural and urban goods and utilities are connected each to one another in a unique and exclusive combination. It is a network configuration, where synergy among different local stakeholders is able to guarantee a multiple offer, which confers uniqueness to the territory.

4 The methodology

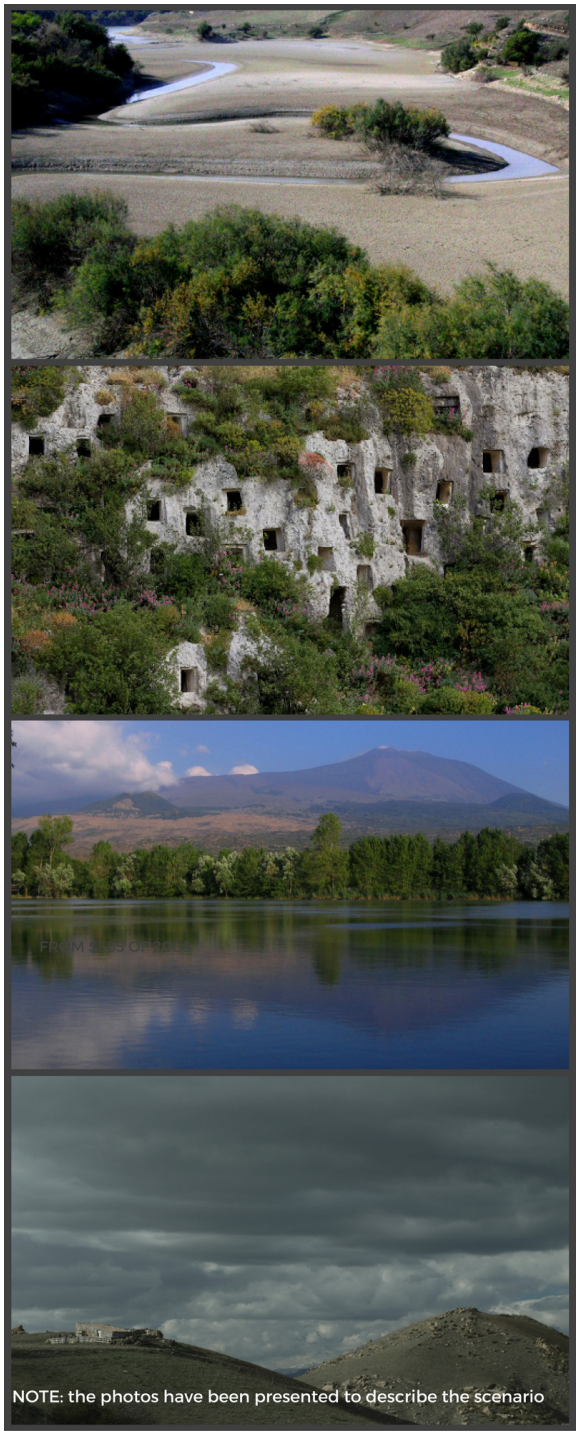
The survey was managed through a self-administered questionnaire, which was divided into 5 sections: 1) motivation, attractive activities and park visit satisfaction, 2) assessment of "green" tourism within regional natural parks, 3) the importance of environment attributes, 4)

willingness to pay and 5) demographic profile. It consisted of multiple-choice, dichotomous yes/no and ordered-rank responses, though a few open-ended questions to provide explanations for checked responses (Balestreri *e altri*, 2001). In order to describe RNPs characteristics and information useful to better understand the scenario (Champ e Bishop, 2001), some RNPs' photos (Figure 1) and maps were showed to the respondents. The questionnaires were written in Italian and English to maximize respondents understanding. They were administered to 3000 RNPs' visitors, from April to July 2015, but only 2200 responses were valid; 800 responses were not valid, because of 340 respondents declined and 460 returned non usable questionnaires.

Researchers intercepted visitors along the trekking routes, at tourist information points and in the accommodation dining halls. Moreover, they visited all accommodation with tourists during this time, over a four month period, explained the research and requested verbal consent from all visitors in the dining hall to fill out the survey. Most tourists taking trekking routes into the regional park areas spend some time there. Moreover, there are a number of accommodation facilities in the regional parks, most of them are farmhouses, wine-farms and B&B and most visitors can relax in a dining hall in the evening. In this study, contingent valuation method was able to assess a tourist's willingness to pay (WTP) for an entry fee as well as to value trips regardless of whether the destination in question is the primary or secondary purpose for the overall trip (Alves *e altri*, 2014; Voke *e altri*, 2013; Blackmore e Williams, 2008). Moreover, contingent valuation (CV) was designed to simulate as closely as possible a real market, it was minimized design and operational biases by establishing bids based upon an entry fee (Alberini e Kahn, 2006; Lee e Han, 2002). Although CV presents some weaknesses because of the biases within its hypothetical propositions, which involve subjectivity in the establishment of initial payment; operational that refers to unfamiliarity with the good to be valued, hypothetical and strategic biases (Adams *e altri*, 2008; Baral *e altri*, 2008, 2007; Diamond e Hausman, 1994), according to the literature it is possible to control CVs biases by carefully studying design, which allows for reasonably reliable results (Venkatachalam, 2004; Nunes e Schokkaert, 2003). Moreover, entrance fee to the RNPs provide a concrete contingency factor (Jorgensen *e altri*, 2001; Turpie, 2003). Unfortunately, strategic bias might not be eliminated, since it is related to individuals' intention not to reveal their true preferences (Baral *e altri*, 2008). However, in this work, CV was used because it is considered a valid and useful method to determine the amount of good to be supplied, also if transaction's cost data are not valuable. This method is based on stated preferences and determines the value of good without market throughout the individual willingness to pay to obtain a good/service (Momigliano e Giovannetti Nuti, 2001). It is clear that environmental good presents absence of rivalry and excludability. The conflict resolution between environmental protection and economic growth of RNPs' local communities requires to establish the price system as well as to choose the quantity of tourist supply that is able to satisfy the criterion of economic viability.

An explanation about the opportunity to introduce an entry fee to conserve RNPs biodiversity, enhance visitor's experience and promote local development was preceding the WTP questions. There is not entry fee at the moment, it would be the first time that an entry fee is fixed by RNPs Authorities of Sicily. Respondents were presented a referendum-type WTP question asking if they would be willing to pay an entry. Eight bid amounts were assigned randomly, one bid amount for each survey: euros 2,5, 5, 10, 15, 20, 25, 30, 35. Respondents' reason was solicited in an open-ended follow-up question. The responses were coded and tallied. High responses rate on all questions highlighted the method's success. Furthermore, it was computed the gross economic impact of "green" tourism on the local economic development based on tourists' reported expenditure and visit-stay. It was asked visitors how many days they were

Figura 2: *RNPs Photos*



in RNPs areas and how much were spending each day.

5 Logit regression and WTP econometric model

A logit regression model was used to relate the binary dependent variable (WTP) to the independent variables (Table 2). The variables were chosen following other contingent valuation studies concerning natural resources (Lee e Heo, 2016; Baral *e altri*, 2008; Lee e Han, 2002; White *e altri*, 2001). Thus, it has been hypothesized that respondents who were male, older, with higher education level, who were members of environmental organizations and travel in group (at least two people), would be willing to pay an entry fee to visit the RNPs more than others.

Tabella 2: *The Logit Regression Model variables*

Variables	**Description**	**Mean ± S.D.**
Age	Ratio scale: respondents wrote their actual age	42.8 ± 14.0
Gender	Binary scale: Female = 0; Male = 1	0.55 ± 0.49
Education	Ordinal scale (0 to 5): 0 = no degree 1 = secondary education, 2 = associated degree, 3 = BA, 4 = Master, 5 = PhD	2.85 ± 1.25
Environmental membership	Binary scale: if member = 1; if no member = 0	0,25 ± 0,44
Customer satisfaction	Ordinal scale: (1 to 10), 10 = most positive	8.26 ± 1.33
Group size	Ratio scale: The number of visitors including respondents traveling together	4.78 ± 3.90
Bid amount	Ratio scale: the bid amount ranged from euros 2,5, 5, 10, 15, 20, 25, 30, 35	17.81 ± 13.23
WTP	Binary scale: willing to pay = 1, not willing to pay = 0	0.51 ± 0.50

To verify WTP, some questions were introduced considering dichotomous choice option: respondents were asked if they would be willing to pay or not a given bid amount (Lee e Han, 2002; White *e altri*, 2001). An utility model where discrete choice probabilities are independent from tourist's income was used. Therefore, in the logit regression model (LRM) income was not considered, just to combine a statistical model with the utility maximization hypothesis (Hanemann, 1984). To estimate the model, the following equation was setted-up:

$$\begin{aligned}\text{Probability (WTP)} =& \alpha + \beta_1 \text{bid amount} + \beta_2 \text{age} + \beta_3 \text{gender} + + \beta_4 \text{education} \\ &+ \beta_5 \text{income} + \beta_6 \text{environmental membership} + \\ &+ \beta_7 \text{customer satisfaction} + \beta_8 \text{group size} + \epsilon\end{aligned} \tag{1}$$

where α is a constant and β_i represent the coefficients of the explanatory variables. The maximum log-likelihood ratio was estimated to fit the goodness of the model.

About the willingness to pay, respondents answered to a dichotomous response option (would or would not be willing to pay a given bid amount). The probability that a respondent would be willing to pay a given bid amount is assumed by following a standard logistic variate (Baral *e altri*, 2008; Hanemann, 1984):

$$\text{Prob (Yes)} = (1 + e^{\alpha+\beta A+X\Phi}) \tag{2}$$

where α is a constant, β represents the coefficient of the bid amount A, X is the vector of other explanatory variables that influence the response and Φ is the vector of the slope parameters. Through the parameters estimates, the median WTP was computed as:

$$\text{WTP} = \alpha + X\Phi/\beta \tag{3}$$

The mean WTP was the numerical integration of the WTP's expected values (from 0 to the max amount spent in a day). To test the associations among categorial variables, it was used the chi-squared test of independence. The goodness-of-fit of the model was estimated using the maximum log-likelihood ratio. We did not include respondents' income in the logit regression model in order to make a statistical model compatible with the economic hypothesis of utility maximization. We used a utility model in which discrete choice probabilities are independent from the individual's income (Campbell *e altri*, 2007; Greene *e altri*, 2005).

6 The Results

6.1 Respondent's profile

The survey has collected information on 2,200 respondents. They were predominantly males (55 percent), between 31 and 50 year old (60 percent), with at least a bachelor degree (78 percent), coming from European Countries and often members of environmental organizations like WWF, Legambiente and Green Peace (40 percent). Most of them mentioned their income to be between 20.000 and 40.000 (30%). Moreover, visitors affirmed to stay 9.9 days, on average, into the Regional Parks areas as well as to spend € 40.8 per day. All these information showed the opportunity to calculate visitors' gross expenditure. The average per-visitor expenditure was € 405.6 per trip.

6.2 Visitors motivation and satisfaction

The questionnaire contained questions about visitors motivation, green attractiveness and satisfaction level. About visit motivation, a large share of respondents considere very important "enjoying active nature" (31 percent), "having fun" (30 percent) and "excaping from ordinary" (29 percent); while a minority chose "to be with family" (6 percent) and "reduce stress" (4 percent).

Most of the respondents considere "walking" (30 percent), "trekking" (29 percent) and "hiking" (20 percent) as most attractive "green" activities into the RNPs, others chose "snorkeling" (11 percent) as well as "visit wine and food routes and to know local tradition" (10 percent). Moreover, just over half of the sample report to find more "green" tourism opportunities than those they expected before this experience (55 percent).

For what concerns visitors' satisfaction, the majority of respondents report a positive experience from visiting RNPs of Sicily (80 percent), rating their satisfaction as a nine on a ten point scale; while the 15 percent report a near-average experience rating five on a ten point scale and only the 5 percent report a negative experience.

A large percentage of the respondents (87 percent) admit visiting again in the future the Regional Natural Parks of Sicily.

Tabella 3: *Respondents' demographic profile*

Characteristics	Frequency	Percent (%)
Gender		
Male	1120	0,55
Female	990	0,45
Age		
31-50	1320	0,60
51-70	880	0,40
Country of origin		
Denmark	154	0,7
France	242	0,11
Germany	440	0,20
United Kingdom	264	0,12
Italy	550	0,25
Sweden	176	0,8
USA	374	0,17
Education		
No formal	220	0,10
High School	264	0,12
Bachelor degree	880	0,40
Master degree	616	0,28
Doctorate degree	220	0,10
Income		
Less than € 20.000	550	0,25
€ 20.000 - € 40.000	660	0,30
€ 40.000 – € 60.000	330	0,15
€ 60.000 – € 80.000	352	0,16
More than € 80.000	308	0,14
Environmental organization membership		
YES	880	0,40
NO	1320	0,60

The 85 percent affirm that RNPs are the primary purpose for the overall trip, while for the 15 percent, the RNP destination is the secondary purpose.

The questionnaire contained a list of environmental attributes regarding non-economic benefits of more sustainable and ecologically sound tourism such as biodiversity saving, low use of exhaustible, local environment control, environmental knowledge and responsible activities. Respondents had been asked to order attributes with the Lykert-point scales. More than half of the respondents declaire that "biodiversity saving", "low use of exhaustible" and "local environment control" are very important environmental attributes (70 percent).

Figura 3: *Visitors Motivation*

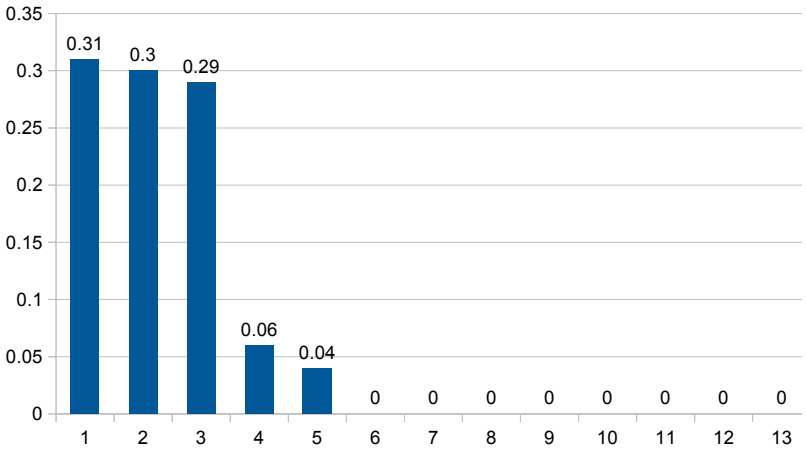


Figura 4: *Green activities preferred by visitors*

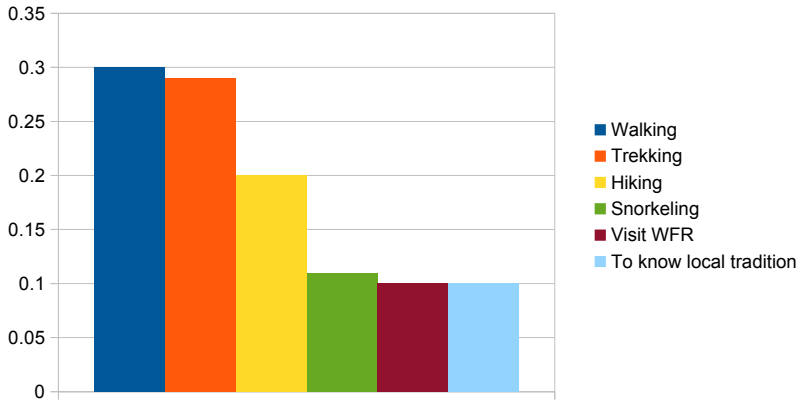


Figura 5: *Visitors Satisfaction*

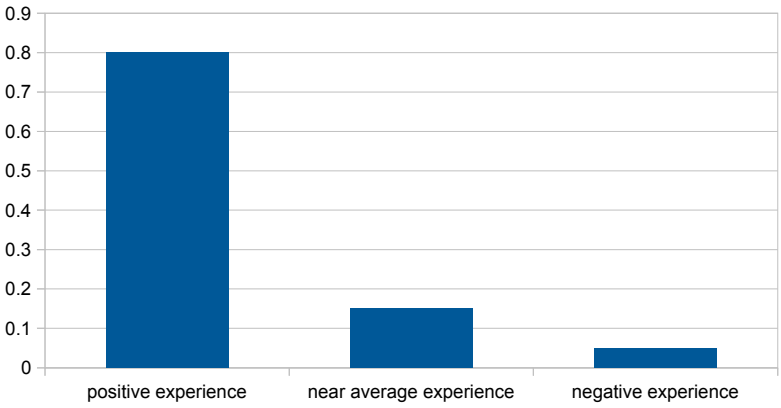


Figura 6: *Visitors' purpose for the overall trip*

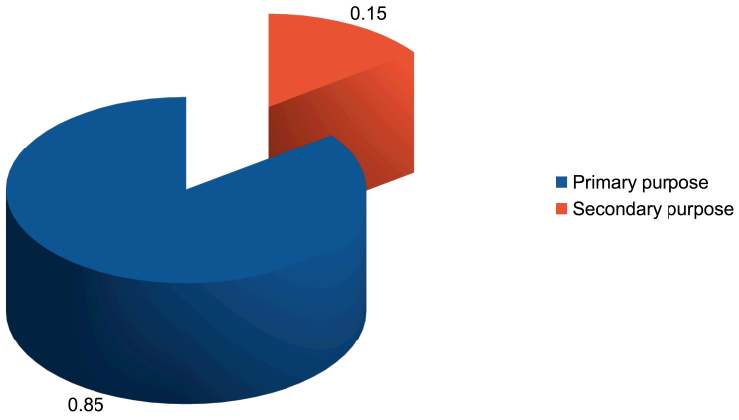
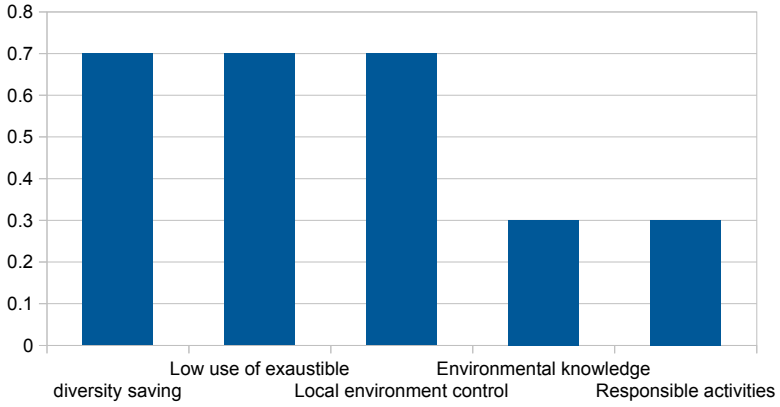


Figura 7: *Environmental attributes*



6.3 The willingness to pay

The questions regarding WTP obtained many answers (2100 respondents). More than half (55 percent) are willing to pay the bid amount described in the survey. The logit regression model fitted the data, classifying 60 percent cases (with a $\chi^2 = 57.02$, $p < 0.001$). Among all the variables, five were predictors of WTP: bid amount, age, group size, environmental membership and visitor satisfaction. The signs of coefficient of gender, age, education, income, environmental membership were as expected: they did not explain significant variations in WTP. Respondents who are male, older, more educated, members of an environmental organization are more likely willing to pay, since other variables in the study have greater predictive ability. The negative signs of bid amount and education show that the higher the bid amount or education, the lower the probability of WTP. Otherwise, travel experience with higher satisfaction increases the probability of willingness to pay. Visitors who travel in larger groups are more willing to pay than people who do not.

The correlation between bid amounts and probability to accept the bids is negative with $r = -0.98$, and $p < 0.001$. Also confirmed through the chi-square test between expected and

Tabella 4: *WTP's logit regression results*

Explanatory Variables	**Coefficient**	**St. Error)**	**z**	$P > z$
Bid amount	-0.0253	0.0052	-4.59	0.001
Gender	0.0121	0.0115	1.04	0.482
Age	0.2139	0.3005	0.7	0.31
Education	-0.4001	0.1257	-3.46	0.354
Environmental organization membership	0.3001	0.3332	0.93	0.021
Customer satisfaction	0.415	0.2055	2.31	0.018
Larger Group size	0.0885	0.0401	2.25	0.026
Constant/intercept	-1.8601	1.454	-1.21	0.228

observed probability distributions of bid with $\chi^2 = 0.98$, $p < 0.998$. The econometric model shows also a median WTP equal to 16.5 euros and a mean WTP equal to 11.5 euros.

Tabella 5: *Frequency distribution of bid amounts*

Bid amounts (€)	**Frequency**	**Observed "YES"**	**Expected "YES"**
2,5	29	0.4	0.583
5	35	0.772	0.712
10	32	0.637	0.691
15	30	0.756	0.639
20	27	0.348	0.401
25	22	0.353	0.301
30	21	0.258	0.254
35	24	0.29	0.301

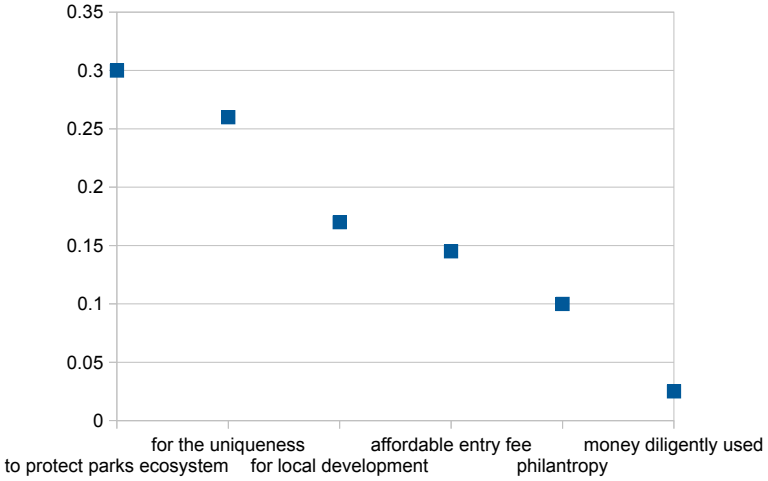
Respondents explain their motivation about willing to pay: many of them claim "to protect parks and their ecosystems" (30 percent); some are willing to pay for the "uniqueness of Regional Parks' areas" (26 percent); some others for "local economic development" (17 percent); others respondents declare "because the entry fee is affordable and reasonable" (14.5 percent); others declare their "philanthropy" (10 percent) and only a small percentage "money are diligently used" (2.5 percent).

At the moment, no entry fee is paid to visit Sicilian RNPs'. It is considered the amounts lower than the median WTP as a possible entry fee to fix (5, 10 and 15 euros). An amount of 5 euros is the entry fee respondents would be willing to pay (70 percent).

Tabella 6: *The possible entry fee*

Entry fee	**% WTP**
5	70
10	54
15	52

Figura 8: *WTP and motivation*



Fonte: ????.

Tourists' gross expenditure is calculated, all the results are provided in Table 7. On average, RNPs visitors stay in the areas 9.9 ± 6.3 and spend 40.9 ± 19 per day.

Tabella 7: *The local economic impact based on respondents' expenditures and days of visit*

		Mean	**St. Dev.**	**Min**	**Max**
Visitors-staying in RNPs (Etna's, Nebrodi's and Madonie's)		9.95	6.31	2	15
Amount spent per day (€)		40.86	18.91	20	150
EV: Expenditure type of a visitor (accommodation, food, etc.)	9.95*40.86 = 406,56€				
		€ €	**N.visitors/ respondents**	**Economic activities**	
Total expenditure of RNPs tourists (EV*RNPsVisitors)		406,56	2200	893.200	

The average per-tourist expenditure is 406€ per trip and total expenditure of visitors is 893.200€.

7 Conclusion and implications

The results coming from this study are important and innovative for what concerns the RNPs of Sicily. No other studies have previous been taken into consideration something similar. It has been confirmed that regional natural parks' visitors are willing to pay to "purchase" green tourism activity. Respondents who are male, older, more educated, members of environmental organization are more likely to be willing to pay than others. The majority of them explained are willing to pay to protect parks and their ecosystems, for the uniqueness of regional natural

parks' areas and for local economic development. Furtherome, two characteristics demonstrate the most positive influences on visitors' willingness to pay higher entry fees: the larger group size and visitor satisfaction. It could mean that RNPs Authorities may take into consideration strategies able to encourage group travel and customer care services.

This study suggests that an entry-fee might be introduced by RNPs Authorities and an amount of 5 euros is the entry fee respondents would be willing to pay. Due to uncertainty of the real effects of this entry fee, RNPs Authorities might implement or increase this fee over time. An increase in the entry fee should be providing additional resources for regional natural parks sustainable tourism. Otherwise, an entry fee in proportion to the increased number of visitors represents a sizable opportunity to collect money immediately. Furthermore, the earnings coming from an entry fee will be useful to protect ecosystem and environment, to guarantee more green tourism products and services, without costs to the local communities and to maintain the uniqueness and beauty of the area. In other words, the revenue's availabile could help the environment conservation and project development. What is more, respondents show a sensibility towards the environment; environmental good is considered as primary good and its safe does not depend on cultural level.

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Valutazione contingente del turismo verde nei Parchi Regionali Naturali della Sicilia: un'analisi sulla disponibilità a pagare.

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Sommario

Il turismo "verde" nei Parchi Regionali (PNR) costituisce un importante elemento per lo sviluppo locale e la conservazione dell'habitat naturale. Dato che la produzione e il consumo di prodotti turistici potrebbero arrecare danno alla natura, occorre migliorare la relazione tra i visitatori e l'ambiente. Le Autorità di gestione dei Parchi svolgono un ruolo chiave nel definire le politiche di conservazione ambientale utili a mantenere sotto controllo il rischio di danneggiamento. Tuttavia, un vincolo fondamentale per tali attività è la mancanza di risorse finanziarie. Introdurre un biglietto d'ingresso nelle aree del parco potrebbe consentire di raggiungere l'autonomia finanziaria e migliorare le politiche ambientali. Questo lavoro analizza la disponibilità a pagare (DAP) dei visitatori dei principali parchi regionali siciliani attraverso uno studio di valutazione contingente (VC). I risultati mostrano che buona parte dei visitatori è disposta a pagare per visitare i parchi regionali. Sebbene, ad oggi, non vi sia alcun biglietto d'ingresso nei parchi regionali, i risultati dello studio mostrano che tale possibilità sarebbe ben accolta.

JEL Classification: *Q5; F64; C33.*

Keywords: *Valutazione Contingente, Disponibilità a Pagare, Parchi Naturali Regionali, Turismo Verde.*