TOURISMOS: AN INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF TOURISM
Volume 14, Number 1, pp. 01-39
UDC: 338.48+640(050)

Factors affecting residents' attitude toward sustainable tourism development

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The present study examines the factors that affect local residents' attitudes towards tourism development. In this regard, the case taken under consideration is the potential tourism development of the estate of the former salt pans (Alykes) of Anavyssos (Attica, Greece). In order to examine local residents' perceptions and attitudes, a survey was conducted in the neighboring communities. The survey's results indicate that residents support the development of the specific estate, mainly through small scale tourism facilities and parks. Additionally, the respondents believe that the development of large scale tourism facilities could lead to both positive and negative impacts, with the most common being creation of new jobs, achievement of local development, increase of private investments,

unplanned urban sprawl and increased arrivals of immigrants. The potential impacts were classified in six categories, namely positive economic, infrastructure and environmental impacts and negative environmental, social and built environment impacts. The factors that were found to significantly affect residents' attitude on potential tourism development were a) gender, b) educational level, c) distance from the seaside, d) positive economic impacts and e) negative environmental and built environment impacts. The significant effect of the potential impacts provides proof for the verification of the social exchange theory.

Keywords: *tourism development, tourism impacts, residents' attitudes, social exchange theory.*.

INTRODUCTION

Tourism is an effective way for the sustainable development of a place, since it provides a significant advantage, while creating considerable positive, as well as negative, economic, social, environmental and cultural effects (Chen & Chen, 2010; Ernoul, 2009; Liu, 2003; Oviedo-Garcia, Castellanos-Verdugo, & Martin-Ruiz, 2008). An important component for the success of sustainable tourism development is the support of the local population (Andriotis & Vaughan, 2003; Belisle & Hoy, 1980; Sardianou, Kostakis, Mitoula, Karamba, & Theodoropoulou, 2015), who adopt either a favorable or a negative attitude towards tourism on the basis of the expected effects (Eusébio, Vieira, & Lima, 2018; Gursoy, Chi, & Dyer, 2010; Kitnuntaviwat & Tang, 2008; Nunkoo, Smith, & Ramkissoon, 2013; Oviedo-Garcia et al., 2008; Vargas-Sánchez, Plaza-Mejía, & Porras-Bueno, 2009). When local residents evaluate more positively the potential effects of tourism, it is more likely to achieve a positive attitude and support sustainable tourism development (Andereck, Valentine, Knopf, & Vogt, 2005; Andriotis & Vaughan, 2003; Ap, 1992; Lepp, 2008). Thus it is important to involve locals in tourism development plans in order to prevent future disputes.

Locals may gain a satisfactory view of tourism development given that the quality of life of their community may be enhanced. This kind of attitude towards tourism development, made up of a certain amount of give-and-take, can be partially explained by the Social Exchange Theory (Homans, 1958). According to Social Exchange Theory, locals are more inclined to encourage tourism development if they see the benefit of tourism development as beyond the development costs, in either monetary terms or negative impacts (S. Wang & Chen, 2015). According to a significant number of studies locals are in full knowledge of the possible positive and negative impacts of tourism development (Rasoolimanesh, Jaafar, Kock, & Ramayah, 2015; Vareiro, Remoaldo, & Cadima Ribeiro, 2013). The perceived possible positive and negative impacts of tourism development and the sustainability of the said development however, are influenced by a number of factors. (Andereck et al., 2005; Ap, 1992; Choi & Murray, 2010; Látková & Vogt, 2012; Nunkoo et al., 2013).

Aim of the current research is to offer further empirical evidence concerning the factors that affect local residents' attitudes toward tourism impact and sustainable development, on the basis of the social exchange theory assumptions. Within this context, the potential sustainable tourism development of the estate of the former salt pans (Alykes) of Anavyssos in Attica, Greece, is taken into account as a case study.

1. Theoretical background

1.1 Tourism Development Impacts

Tourism development can have a positive impact on the local development of a region and can boost its local economy through the creation of new jobs and the increased income of local residents (Koster & Main, 2019; Mitoula, Theodoropoulou, Georgitsoyanni, &

Gratsani, 2013; Ryan & Aicken, 2010; Shin, 2010; Spenceley & Meyer, 2012; Suntikul, Bauer, & Song, 2010; Tsartas & Sarantakou, 2016). Significant benefits can also occur for the development, improvement and maintenance of public infrastructures, with the greatest emphasis being placed on transport and the road network (Chen & Chen, 2010; Rudež & Vodeb, 2010; Sarantakou & Terkenli, 2019; Tovar & Lockwood, 2008). Furthermore, tourism development can lead to environmental benefits through residents' increased awareness for environmental protection of the area and contribution to the protection and conservation of the natural environment, parks and wildlife (Amuquandoh, 2010; Cheng & Wu, 2015; Cottrell, Vaske, Shen, & Ritter, 2007; Oviedo-Garcia et al., 2008).

On the other hand, tourism development can bring lifestyle changes (Hernandez, Cohen, & Garcia, 1996; Mcdowall & Choi, 2010), negatively impacting the living standards of the local inhabitants (Chen & Chen, 2010; Nunkoo & Ramkissoon, 2010). It is reported that tourism can lead to an increase of crime levels, while in many cases residents consider that tourism leads to increased use of drugs and alcohol and increased levels of prostitution and vandalism (Botterill, Seixas, & Hoeffel, 2014; Chen & Chen, 2010; Mcdowall & Choi, 2010; Nunkoo & Ramkissoon, 2010; Yan, Xu, & Zhou, 2018).

Regarding the possible negative effects on the environment, these can come from both the construction of tourism facilities, as well as from the tourists themselves (Gössling & Peeters, 2015; Keogh, 1990; McKercher, 1993; Vardopoulos & Karytsas, n.d.). Tourism can lead to water, air, soil and noise pollution (Bella, 2018; Mcdowall & Choi, 2010; Nunkoo & Ramkissoon, 2010; Rudež & Vodeb, 2010), can result to an increased volume of waste (Huttasin, 2008; Nunkoo & Ramkissoon, 2010; Tovar & Lockwood, 2008; Vardopoulos, Konstantopoulos, & Zorpas, 2019; Zorpas, Voukkali, & Loizia, 2015), while seasonal population growth may result to inappropriate use of resources (Andriotis, 2001), traffic congestion, parking problems, overcrowding and congestion of public spaces

(Mcdowall & Choi, 2010; Nunkoo & Ramkissoon, 2010; Ryan & Aicken, 2010; Sarantakou & Terkenli, 2019). In addition to the natural environment, tourism development can also have a negative impact on the built environment through uncontrolled urban development and construction (Andereck et al., 2005; Gössling & Peeters, 2015; Oviedo-Garcia et al., 2008; Rudež & Vodeb, 2010).

1.2 Residents' attitudes towards tourism development

Understanding local communities' attitudes and support towards tourism development requires the consideration of a set of complex and interdependent factors (Gursoy et al., 2010; Nunkoo et al., 2013). Local support is an important factor in order to successfully achieve sustainable tourism development, a fact that stakeholders should take into account from the first steps of the development (Chen & Chen, 2010; Nunkoo & Ramkissoon, 2010; Tovar & Lockwood, 2008).

In general, local residents do not have homogeneous views regarding tourism development, thus leading to controversies when discussing about the potential tourism development of a specific area (Andriotis & Vaughan, 2003; Eusébio et al., 2018; Gunsoy & Hannam, 2012; Gursoy, Ouyang, Nunkoo, & Wei, 2019; Hernandez et al., 1996; Ribeiro, Valle, & Silva, 2013; Tournois & Djeric, 2018). Different concerns can arise from the local inhabitants, depending on the area, the intensity and the stage of the development (Huh & Vogt, 2008; Hunt & Stronza, 2014; Rudež & Vodeb, 2010; Shen, Luo, & Zhao, 2017; Suntikul et al., 2010).

The perceived impacts of tourism development (Haralambopoulos & Pizam, 1996; Huttasin, 2008; Rudež & Vodeb, 2010), either positive or negative, are the factors through which the local residents formulate an attitude that defines their support or non-support of tourism development (Chen & Chen, 2010; Cheng, Wu, Wang, & Wu, 2017; Gursoy et al., 2010; Bishnu Sharma, Dyer, Carter, & Gursoy, 2008). In many cases, the expected positive

impacts have a greater impact on tourism development than its negative impact (Chen & Chen, 2010), thus creating a more positive attitude towards tourism development (Getz, 2002; Kitnuntaviwat & Tang, 2008; Liu & Var, 1986; Ribeiro et al., 2013; Vargas-Sánchez et al., 2009). Of course, recognizing the negative impacts does not necessarily lead to opposition towards tourism development (Haralambopoulos & Pizam, 1996). Previous perceptions also have a role on residents' decision to support a planned tourism development, as not only they affect their expectations, but also directly affect support (Gursoy et al., 2010; Huh & Vogt, 2008).

Factors that can also affect residents' attitude and support towards tourism development are potential personal direct or indirect benefits from it, as well as the way each person relates to tourism, with residents being employed in the tourism sector being more likely to support its development, since their livelihood depends on it (Chen & Chen, 2010; Ernoul, 2009; Huh & Vogt, 2008; Martín, de los Salmones Sánchez, & Herrero, 2018; Nunkoo et al., 2013; Sardianou et al., 2015; Suntikul et al., 2010; Y. Wang & Pfister, 2008). However, it should be noted, that although local benefits for the community ensure the short-term acceptance of tourism, the community should expand beyond these benefits in order to maintain a positive attitude towards tourism in the future (Lepp, 2007; Lepp, 2008).

Residents' knowledge regarding the local tourism development plans (Andereck et al., 2005; Keogh, 1990; Sirakaya, Teye, & Sönmez, 2002) and the level of dedication towards their community (Chen & Chen, 2010) are two additional factors that can affect attitude and support towards tourism development, with the more informed and dedicated residents being more positive towards this kind of development. In addition, elements such as the existence of an environmentally conscious community, sustainable financial support and ethical rules (Martín et al., 2018; Vincent & Thompson, 2002; Xiaoping, Zhu, & Deng, 2014) can also assist towards local support of tourism development.

In most cases, residents end up with a positive attitude towards tourism and support for tourism development, by comparing the perceived positive and negative impacts of tourism (Amuquandoh, 2010; Gursoy et al., 2010; Oviedo-Garcia et al., 2008; Suntikul et al., 2010; Tovar & Lockwood, 2008; Tsartas, 2003; Vargas-Sánchez et al., 2009; Y. Wang & Pfister, 2008; Zamani-Farahani & Musa, 2008). On the other hand, the residents may consider that negative effects will have a larger effect compared to the positive ones (Getz, 2002; Rudež & Vodeb, 2010), which may derive from the environmental orientation of the locals (Gursoy et al., 2010; Kaltenborn, Andersen, Nellemann, Bjerke, & Thrane, 2008), leading them to be have a negative attitude towards potential tourism development. In other cases, residents' attitudes created based on perceived impacts, may lead them to be neutral towards any form of tourism development (Gursoy et al., 2010; Madrigal, 1995; Nunkoo et al., 2013).Nonetheless, numerous studies have examined how residents' socioeconomic characteristics affect attitudes towards local tourism development, as well as the positive and negative impacts that it can create. Table 1 presents the socioeconomic characteristics that have been examined in previous work, in these means.

Table 1 Socioeconomic characteristics affecting attitudes towards tourism and its impacts

Socioeconomic characteristic	**Indicative references**
Gender	Alarcón & Cole, 2019; Haralambopoulos & Pizam, 1996; Huh & Vogt, 2008; Huttasin, 2008; Kato, 2019; Koburtay & Syed, 2019; Nepal, 2008; Ribeiro et al., 2013; Sharma & Dyer, 2009; Shin, 2010; Tovar & Lockwood, 2008

Age	Haralambopoulos & Pizam, 1996; Huh & Vogt, 2008; Huttasin, 2008; Nepal, 2008; Ribeiro et al., 2013; Sharma & Dyer, 2009; Shin, 2010; Tovar & Lockwood, 2008
Educational level	Haralambopoulos & Pizam, 1996; Nepal, 2008; Ribeiro et al., 2013; Sharma & Dyer, 2009
Years living in the area	Haralambopoulos & Pizam, 1996; Huh & Vogt, 2008; Madrigal, 1995; Nepal, 2008; Ryan & Aicken, 2010; Shen et al., 2017
Number of household members and children	Haralambopoulos & Pizam, 1996; Karytsas, 2009; King, Pizam, & Milman, 1993
Income	Andriotis & Vaughan, 2003; Belisle & Hoy, 1980; Haralambopoulos & Pizam, 1996; Huh & Vogt, 2008; Nepal, 2008
Financial dependence from tourism sector / occupation	Andriotis & Vaughan, 2003; Cottrell et al., 2007; Haralambopoulos & Pizam, 1996; Kaltenborn et al., 2008; Liu & Var, 1986; Madrigal, 1995; Nunkoo & Ramkissoon, 2010; Ribeiro et al., 2013; Shen et al., 2017; Shin, 2010
Dwelling's distance from the center of tourism development	Belisle & Hoy, 1980; Cottrell et al., 2007; Huttasin, 2008; Keogh, 1990; Sharma & Dyer, 2009

1.3 Social exchange theory

Community involvement in the development and attraction of tourism is driven by the desire of some of its members (residents, political leaders, entrepreneurs) to improve the area's economic and social conditions. Specifically, local residents play an important role to local tourism development, as they can affect its success or failure through their participation, actions and behavior. A prerequisite for local tourism attraction and development is to achieve balance between benefits and costs for all involved stakeholders. Local residents evaluate tourism in terms of social exchange, i.e. they evaluate it in terms of expected benefits or costs obtained in exchange for what they offer (Maruyama, Keith, & Woosnam, 2019). This means that local stakeholders seek for tourism development for their region that will meet their economic, social and psychological needs, while it will improve the welfare of the region (Ap, 1992; Eusébio et al., 2018).

Social exchange theory offers a useful theoretical framework that can explain how a resident's attitude and support towards tourism development will be affected based on the perceived outcomes for the area (Chang, 2018; Maruyama et al., 2019; Özel & Kozak, 2017). According to the social exchange theory, people evaluate an exchange based on the cost or benefit that will result from it; the person who will benefit from the exchange is more likely to evaluate it positively, while the person who will be harmed is more likely to evaluate it negatively (Andereck et al., 2005; Ap, 1992; Maruyama et al., 2019; Özel & Kozak, 2017).

Social exchange theory is applied in several cases, in order to examine expectations and attitudes towards tourism development. In most cases, the social exchange theory is confirmed, with people expecting or enjoying larger benefits, being more likely to have a positive attitude towards tourism development (Chen & Chen, 2010; Huh & Vogt, 2008; Oviedo-Garcia et al., 2008; Shen et al., 2017; Y.

Wang & Pfister, 2008). Of course, in some cases the theory has being called into question or it has not been confirmed (Andereck et al., 2005; Hernandez et al., 1996; Perdue, Long, & Allen, 1987; Sharpley, 2014), perhaps due to the fact that residents do not base their opinion solely on their personal interest but on the overall interest of the community (Hernandez et al., 1996), or because all residents expect benefits from tourism, even if they are not directly affected from tourism development (Huttasin, 2008), or because residents are not fully aware or have not fully realised of the possible positive and negative tourism impacts.

In any case, results can be often ambiguous, since the specific theory is a useful framework assisting comprehension, but in any case is an incomplete structure (Andereck et al., 2005).

2 Materials and methods

2.1 Location of study area

In order to serve the aims of the current research, a quantitative research design was employed, using a survey in the communities surrounding the estate of the former salt pans of Anavyssos in Greece; a district not as popular as a number of other places in Greece in the eyes of local and international tourists. Besides, as argued by a number of scholars a single case study is suitable for thorough monitoring contemporary sociological events and behaviours, and deriving theory from modern phenomena within a true environment (Errichiello & Micera, 2018; Yin, 2013). The estate of the former salt pans of Anavyssos is located at the southeast side of Attica Prefecture, at the bay of Anavyssos (Figure 1), around 50km southeast from the city of Athens. The salt pans had been operating even since the Turkish occupation period. From 1924 and onwards the refugees from Asia Minor settled in the area, and along agriculture, used the salt pans as their main local economic activity (Kakouri, 2015; Katsakiori, 2010). In 1969 the salt pans of Anavyssos ceased

production (Kourliaftis, Kapsimalis, Vandarakis, & Pavlopoulos, 2016; Petanidou & Dalaka, 2009) and the estate was designated as a tourism public property; one year later, management of the estate was assigned to the Hellenic National Tourism Organization (www.gnto.gov.gr), while in 1971 an area of around 0.34 km2 was also expropriated in favor of the Hellenic National Tourism Organization. In 1998, the Hellenic Official Gazette D' 125 regulated the land uses of the estate, distinguishing two particular zones: a) a special zone of tourism facilities of the Hellenic National Tourism Organization, that could include hotels, conference centers, sport facilities, casinos, golf courts and b) a protection and mild recreation zone, allowing only outdoor leisure equipment and sanitary facilities. In 2003, the estate property management rights were transferred to the Hellenic Public Properties Company (www.etasa.gr); the transferred estate size was approximately 1.6 km2 (Klouras, 2013).

Figure 1. Former salt pans of Anavyssos estate (Katsakiori, 2010)

During the last decades several -unsuccessful, given the outcome- attempts have been made towards the exploitation of the estate. The first attempts were made after 1970 by the Hellenic National Tourism Organization, followed by the plans for renting the land for the construction and operation of tourism development projects in 1989. In 1992, a proposal discussed to relocate the Athens Racecourse track from Palaio Faliro. In 1995, an attempt was made to designate the area as of integrated tourism development[1], followed by the plans for the construction of a golf course, a conference center, up to the plans for the establishment of a theme park and hotel unit in the early 2000s. In 2014, the estate was evaluated as a project under concession by the Hellenic Republic Asset Development Fund (www.hradf.com) which at that time controlled the Hellenic Public Properties Company, however after the creation of the Hellenic Corporation of Assets and Participations (www.hcap.gr) it returned under the full control of the Hellenic Public Properties Company (Mpellos, 2018).

According to the latest developments, the Hellenic Public Properties Company plans to call a tender for the lease -or other form of concession- of the estate, as part of the company's overall plan for the utilization of its tourism property portfolio. This development concerns 0.688 km^2 of the total area; the remaining area is either involved in ownership claims or pending legal disputes, or has been returned to its original owners, as the land expropriations that took place during the 1970's in favour of the Hellenic National Tourism Organization have been now legally challenged, due to the large period of time that the estate has remained unexploited (Mpellos, 2018).

[1] According to Greek Law 2545 (1997), areas of integrated tourism development are public or private areas, in which a set of tourist facilities for recreation, sport and leisure are to be established (Athanasopoulou & Marantos, 2009).

According to Klouras (2013) and Kakouri (2015), the main problems of the estate of the former salt pans of Anavyssos are a) illegal disposal of waste and landfill, b) illegal building construction, c) illegal and disturbing activities, d) violation of the relevant Presidential Decree on land use of the estate, e) government's intention to "get rid" of the estate, e) lack of a development proposal by local authorities and f) lack of local residents' awareness on the issue.

2.3 Data collection and analysis

A face-to-face survey was conducted in the three communities neighboring the former salt pans estate, namely Anavyssos, Palaia Fokaia and Saronida. The questionnaire was distributed using a random sampling methodology, aiming at local residents older than 18 years old. The questionnaire included the following question categories: socioeconomic characteristics, residence characteristics, infrastructure, social issues, economy, environment and tourism. Based on the sampling methodology, 300 samples were identified, corresponding to 2.4% of the total area population, according to the 2011 National Census (Hellenic Official Gazette B' 698, 2014). In total, 219 responses were collected, leading to a 73% response rate and being equivalent to 1.75% of the area's total population.

A database including the replies of the 219 respondents was created, and the statistical package SPSS 20.0 was used to conduct descriptive statistics analysis. In addition, in order to further and in-depth examine resident attitude towards sustainable tourism development and its impacts, serving the scope of the current research, besides simple descriptive statistical analysis, deeper analysis including Principal Component Analysis (PCA) and binary logistic regression was employed. It should be noted that although a significant number of different variables were examined, in the

following analysis only the statistically significant results are presented (p-value ≤ 0.005).

3 Results

3.1 Descriptive statistics

The socioeconomic characteristics of the sample are presented in Table 2. A total of 219 people participated in the questionnaire survey, with 56% of the respondents being women. The most common age groups are those of 20 – 29 (21%) and 30 – 39 (24%) years old, with the majority of the respondents being married (59.5%) and having children in their household (85.5%). Regarding educational level, the majority of the respondents are senior high school (28%) and university (25%) graduates. As for occupation, 67.5% of the respondents were working when the survey was conducted (civil servants, private employees, self-employed), while the remaining 32.5% was not (housewives, retired, students, unemployed); the majority of the respondents (77%) worked within the area under investigation. Concerning monthly family income, 25% reported a monthly family income between 2000 and 3000€ and 17.5% between 1500 and 2000€. Most of the respondents live in the area more than 20 years (61%), with more than half living in Anavyssos (55.5%). As for residence characteristics, the vast majority of the participants lives in detached (79.5%), self-owned (90%) houses, located within 1km from the seaside (70%).

Table 2 Socioeconomic and residence characteristics of the sample

Characteristic	**Classification**	**%**
Gender	Male	44
	Female	56
Age	20-29	21
	30-39	24

	40-49	18
	50-59	18.5
	>60	18.5
Marital status	Single	31.5
	Married	59.5
	Other	9
Children in the household	Yes	85.5
	No	14.5
Education	Elementary school	5.5
	High school	10.5
	Senior high school	28
	Vocational Training Institute	12.5
	Technical Education Institute	13
	University	25
	Postgraduate	5.5
Occupation	Civil servant	20
	Private employee	18.5
	Self-employed	29
	Housewife	8
	Retired	18
	Student	4
	Unemployed	2.5
Workplace location	Within the area	77
	Outside the area	23
Monthly family income	0 - 1000€	15
	1000 - 1500€	15.5
	1500 - 2000€	17.5
	2000 - 3000€	25
	3000 - 4000€	13
	>4000€	14
Residence location	Anavyssos	55.5
	Palaia Fokaia	29
	Saronida	15.5
Years living in the area	<10	20.5
	10 - 20	18.5
	20 - 30	23.5

	30 - 40	22
	>40	15.5
Dwelling type	Detached house	79.5
	Building apartment	20.5
Dwelling ownership	Self-owned	90
	Rented	10
Dwelling's distance from the seaside	<100m	18
	100 - 1000m	52
	1000 - 2000m	23
	>2000m	7

The vast majority of the respondents (>90%) believes that the area can be characterized as a touristic area, with the main attributes attracting tourists being the clean seawater (72%) and the beautiful seaside landscape (66%). The residents consider the tourism sector as the leading sector of the local economy (68%), 67% of the locals believe that the economy of the region can be stimulated through the development of tourism, while the majority (80%) believes the area has additional potential for tourism development. Most residents are positive towards the tourism development of the former salt pans of Anavyssos estate (73%). Regarding the type of the potential uses, 49% are positive towards the creation of a park, 29% towards the creation of small scale tourism facilities and 24% towards the development of large scale tourism facilities.

The residents were also questioned regarding their perceptions towards the potential positive and negative impacts that could occur from the large scale tourism development of the former salt pans of Anavyssos estate (Figure 2). Concerning positive impacts, respondents believe that the specific development could lead to the creation of new jobs (86%), to the achievement of local development (81%), to the improvement of the local economy (77%) and to the increase of private investments (76%). On the contrary, unplanned urban sprawl (89%), increase of immigrants in the area (88%) and

increase of illegal building construction (75%) are seen as the most important potential drawbacks of such a development

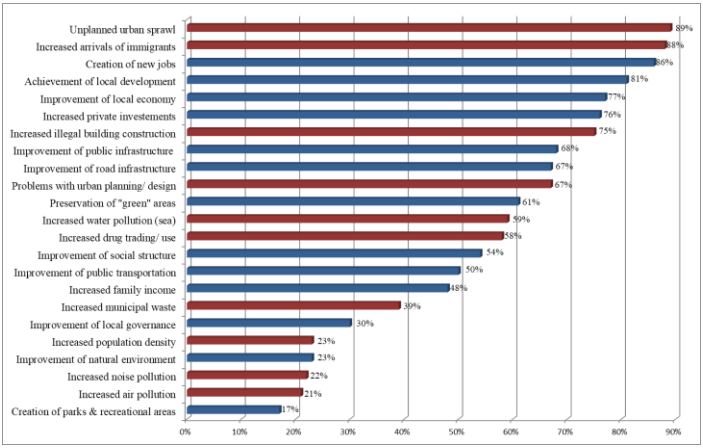

Figure 2. Potential positive and negative impacts from the large scale tourism development of the former salt pans of Anavyssos estate (positive impacts in blue and negative impacts in red color)

3.2 Principal component analysis for potential tourism development impacts

Principal Component Analysis (PCA) is used in order to categorize the perceived positive and negative impacts that will be created by the large scale tourism development of the former salt pans estate. The methodology followed in order to perform the PCA is described in detail by Karytsas and Choropanitis (2017), including the decisions that must be taken regarding the suitability of the sample, the fitness of the variables included in the model, the number of components that will be accepted in the model, the method of rotation used and the interpretation of the results.

First of all, the sufficiency of the sample size must be evaluated; according to the rule of thumb the ratio of observations to variables should be 5:1 or higher (Costello & Osborne, 2005), with the number of variables taken into account being the initial number of variables of the study, and not the number of variables included in the final model (Tabachnick & Fidell, 2007). In this study the sample size is n = 219 and the variables included are 23, thus leading to a 9.5:1 ratio, which is of course within the limits set by the rule of thumb. In SPSS the sample size can be controlled through the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy, with the sample being satisfactory when the KMO value > 0.50 (Field, 2009; Kaiser, 1974; Yong & Pearce, 2013). In the present analysis the value of KMO is 0.630 > 0.50 (Table 3).

The next step is to test the correlation and multicollinearity that may exist between the variables. The correlation is examined through the Bartlett's test of sphericity, with values lower than 0.05 (Field, 2009) being accepted, while the existence of multicollinearity is checked through the determinant of the correlation matrix, with values > 0.00001 indicating absence of multicollinearity in the model (Field, 2009; Yong & Pearce, 2013). Indeed, after removing from the model some variables that created multicollinearity issues, the Bartlett's test indicated that there are patterned relationships between the variables ($p < 0.001$) (Table 3), while the determinant of the correlation matrix = 0.033 > 0.00001 (Table 3) that there are no multicollinearity issues.

In order to select the number of components comprising the final model, the following criteria are taken into account (Karytsas & Choropanitis, 2017): a) the Kaiser Criterion, b) the Scree Plot, c) the percentage of the variance explained by the selected components, d) the values of the communalities, e) the number of variables included in each component and f) the fact that the components should be interpretable. Moreover, it should be noted that the absolute value below which the load factors in each component are not being accepted (cut-off point) plays a significant role for the results'

interpretation; in order to have findings with practical value, for a sample with 200 observations the cut-off should be equal to 0.50 (Hair, Black, Babin, Anderson, & Tatham, 1998). Furthermore, it should be mentioned that the rotation method selected as the most appropriate one was varimax, based on the concept of achieving "simple structure" (Thurstone, 1947), or in other words, in order to simplify and clarify the structure of the data, thus improving the interpretation of the results (Bryant & Yarnold, 1995; Yaremko, Harari, Harrison, & Lynn, 1986).

Through this analysis, and based on the methodology described above, potential impacts from the large scale tourism development of the former salt pans of Anavyssos estate can be classified into six components, namely: "positive economic impacts", "negative environmental impacts", "positive infrastructure impacts", "negative social impacts", "negative built environment impacts" and "positive environmental impacts" (Table 3). Each variable has an absolute value greater than 0.50, while it is important that each variable has a value within these limits in only one component, thus contributing to the achievement of "simple structure" (Thurstone, 1947). The last column of Table 3 presents the communalities values (h2); each of these values shows the percentage of variation explained by the six components for each specific variable (Brown, 2009). For example, 68.2% of the variance of the variable "improvement of local economy" is represented by the six components of the analysis. In social sciences, typical values for communalities range between 0.40 and 0.70, as it is not easy to achieve values greater than 0.80 when analyzing real data (Costello & Osborne, 2005). In addition, the last row of Table 3 displays the percentage of variance that each component represents (Brown, 2009), while the value at the intersection of the last row and the last column indicates the total percentage of variation that is interpreted by the specific model. This means that the exported components of this model describe 62.69%

of the variability of the data, with an acceptable limit of variation explained by a model being between 60-70% (Beaumont, 2012).

Table 3 Classification of tourism development impacts

	Component						
	1	**2**	**3**	**4**	**5**	**6**	**h^2**
Positive economic impacts							
Improvement of local economy	0.820						0.682
Creation of new jobs	0.788						0.742
Achievement of local development	0.734						0.698
Increased family income	0.650						0.511
Negative environmental impacts							
Increased air pollution		0.806					0.695
Increased noise pollution		0.802					0.698
Increased municipal waste		0.707					0.600

Increased water pollution (sea)	0.559			0.392
Positive infrastructure impacts				
Improvement of public transportation		0.771		0.653
Improvement of road infrastructure		0.764		0.602
Negative social impacts				
Increased arrivals of immigrants			0.750	0.609
Increased drug trading/ use			0.742	0.617
Negative built environment impacts				
Problems with urban planning/ design			0.757	0.651
Increased illegal building construction			0.720	0.604
Positive environmental impacts				

Preservation of "green" areas						0.739	0.641
Creation of parks and recreational areas						0.733	0.680
% of variance explained by each component	**15.586**	**14.139**	**8.545**	**8.334**	**8.185**	**8.174**	**62.693**

Bartlett's test of sphericity (significance level)	0.000
Kaiser-Meyer-Olkin measure of sampling adequacy	0.630
Determinant of correlation matrix	0.033

3.3 Regression model on residents' attitude towards tourism development of the former salt pans of Anavyssos estate

A binary logistic regression model was developed, with the dependent variable representing residents' attitude towards tourism development of the former salt pans of Anavyssos estate. The explanatory variables taken into account included all the socioeconomic and residence characteristics, as presented in Table 2, as well as the perceived positive and negative impacts expressed as components of the PCA (Table 3); however it should be noted that the final model includes only statistically significant variables ($a \leq 0.05$). In addition, all independent variables included in the developed model were tested for multicollinearity issues. As SPSS 20 does not

include collinearity diagnostics for regression procedures for categorical dependent variables, the equivalent linear regression procedure was applied (IBM, 2014). In all cases the values of tolerance were higher than 0.85 and the values of Variance Inflation Factor (VIF) were lower than 1.15, demonstrating that no multicollinearity issues exist within the regression model (Hair et al., 1998; Menard, 1995; O'Brien, 2007).

Furthermore, in the interest of determining the regression model with the best fit the following metrics were used: a) the -2Log likelihood (-2LL); the smaller the value of the measure, the better the adaptation of the model to the sampling data (Gnardellis, 2006), b) the Cox and Snell pseudo R2 goodness of fit test; R2 values between 0.2 and 0.4 in a logistic regression represent an excellent adaptation (Domencich & McFadden, 1996; McFadden, 1979), c) the Hosmer-Lemeshow (HL) goodness of fit test; in order to obtain a suitable model $p > 0.05$ should apply (Lemeshow & Hosmer, 1982) and d) the Classification Table produced by SPPS; it shows the percentage of the cases which have been accurately classified (IBM, 2011). The corresponding values of the developed model are presented in the lower part of Table 4.

The best fitting binary logistic model has been developed (as presented in Table 4), having applied the abovementioned methodology and metrics. First of all, it is indicated that men are more likely to be positive towards tourism development of the former salt pans of Anavyssos, compared to women. Residents with a lower education level and residents living closer to the seaside are more probable to be positive towards this development, compared, respectively, to residents with a higher education level and residents living further from the seaside. In addition, residents being more confident for the potential positive economic impacts are more likely to be in favour of the tourism development of the specific area, while the locals that have a higher perception of potential negative

environmental and built environment impacts are less probable to support such a development.

Table 4 Logistic regression model on residents' attitude towards tourism development of the former salt pans area of Anavyssos

	B	S.E.	Wald	Sig.	Exp(B)	95% C.I. for Exp(B)	
						Lower	Upper
Gender	1.030	0.514	4.027	0.045	2.802	1.024	7.667
Education level	-0.432	0.166	6.760	0.009	0.649	0.469	0.899
Dwelling's distance from the seaside	-0.598	0.314	3.618	0.057	0.550	0.297	1.018
Positive economic impacts	1.592	0.266	35.928	0.000	4.913	2.919	8.269
Negative environmental impacts	-0.566	0.241	5.489	0.019	0.568	0.354	0.912
Negative built environment impacts	-0.589	0.252	5.458	0.019	0.555	0.338	0.909
Constant	4.281	1.111	14.843	0.000	72.301		

-2 LL = 115.046

R^2 = 55.6%

HL $\chi^2(8)$ = 12.056

Accuracy = 84.7%

4 Discussion and conclusions

Aim of the present study was to examine the factors that affect local residents' attitudes towards the tourism development of the estate of the former salt pans of Anavyssos. In this context, a survey was conducted involving the residents of the surrounding communities (Anavyssos, Palaia Fokaia and Saronida), in order to collect their opinions on tourism development in the area, the potential development of the former salt pans estate, and the impacts –either positive or negative- that it can create. The majority of the respondents are positive towards the tourism development of the former salt pans estate; most residents would prefer the creation of a park or small scale tourism facilities, while only the ¼ of the respondents are in favor of large scale tourism facilities.

The residents evaluate as most probable positive effects the economic and infrastructure impacts that could be created by a large scale tourism development of the location. However, although they value highly the general positive economic effects (new jobs, improvement of local economy, increased private investments), the majority doesn't believe that will personally have economic gains (increased family income) from such a development. On the other side of the positive impacts, respondents evaluate as less probable the potential improvements on natural environment, parks and recreational areas. To continue, the most highly ranked possible negative effects fall into the categories of built environment and social impacts; on the contrary, the negative effects that are evaluated as less likely to occur are related to environmental pollution, namely noise and air pollution. The potential impacts from the large scale tourism development of the former salt pan estate have been classified into six impact categories. From one side we have positive economic, infrastructure and environmental impacts, while from the other side we have negative environmental, social and built environment

impacts; these results verify the findings of previous relevant studies, as presented in Section 2.1.

Socioeconomic characteristics, as well as perceived positive and negative impacts, have been found to be the factors that affect residents' attitude towards the potential tourism development of the former salt pans estate. First of all, gender has been found to affect attitude, with men being more likely to support the specific tourism development; mixed results occur from previous works concerning the effect of gender; thus, this finding is in accordance with part of the previous studies (Mason & Cheyne, 2000) and in contrast to other ones (Canosa, Brown, & Bassan, 2001; Tovar & Lockwood, 2008). Education has been also found to affect residents' attitude, with people of a lower education level being more probable to be in favor of the tourism development of the estate. This result was not foreseen, as -based on previous work (indicatively, Haralambopoulos & Pizam, 1996)- it was expected that the level of education would have a positive effect on residents' attitudes towards tourism development. Dwellings' distance from the seaside (where the main tourist activities take place) has been also found to affect attitudes towards the development of the former salt pans estate; the further someone lives from the seaside, the less likely it is to support the tourism development. This finding is in accordance with relevant finings of previous studies (Belisle & Hoy, 1980; Haley, Snaith, & Miller, 2005; Sheldon, Var, & Var, 1984) and in opposition to others (Jurowski & Gursoy, 2004). Furthermore, the effects of the potential positive and negative impacts come to verify the social exchange theory (Ap, 1992): residents that expect greater positive economic impacts are more probable, while residents expecting greater negative environmental and built environment impacts are less probable, to be in favor of the specific tourism development.

To conclude, the results of the present study indicate that the majority of local residents are willing to support the tourism development of the former salt pans of Anavyssos estate, being mainly in favor of small scale and "soft" developments. Residents are

aware of the potential positive and negative impacts that a large scale development could have to their community. In order to gain local support, the company responsible for the management and development of the specific estate should take into account local communities' views and concerns.

Further research on the specific subject could focus a) on the factors that affect each different type of tourism development (small scale facilities, large scale facilities, creation of a park), as well as b) the socioeconomic and residence characteristics that affect each potential impact created by tourism development.

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