



Comparative assessment of residents' behavior towards tourism in nature reserves

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Abstract

Although residents' behavior towards tourism development is widely undertaken, more theoretical arguments and suggestions are needed. In this regard, there is agreement among many researchers about the failure of social exchange theory (SET) to explain the contradictory results in many cases. Nevertheless, there is a distinct difference on how to deal with this contradiction. This study aimed to identify how and why residents behave positively and/or negatively towards tourism development in Dana and Berguash; two nature reserves in Jordan. The study developed a new model that includes, in addition to SET, new forms of predictor factors for a clearer interpretation of possible outcomes that may conflict with SET. However, the findings were consistent with SET in terms of benefits from tourism and inconsistent in terms of costs from tourism. In other words, residents were willing to support tourism even though they agreed that tourism brought many negative socio-economic impacts. The findings were theoretically discussed, and managerial implications were proposed.

Keywords: Comparative assessment, residents' behavior, tourism, Jordan.

Introduction

Despite many recent challenges related to the global economic crisis and the complex political situation in the Middle East, the number of international tourists increased by 7% in 2017 to reach 1.322 billion (UNWTO, 2018). It is widely believed that eco-tourism is the fastest growing tourism pattern (Wild, 1994). The indirect effects of tourism make its total economic benefit greater than its direct expenditure. This can be explained by



the role of the multiplier effect of tourism, especially in ecological sites. Sustainable tourism is primarily concerned with eco-tourism, which aims to provide a balance between, the economy, the environment and society. To achieve long-term and comprehensive development through ecotourism, all these components should be harmonized.

As part of some of the changes that are taking place with sustainability, there is a significant challenge to managing the changing goodwill of residents because of its strong relationship with community support for tourism. Residents' attitude towards tourism development is generally discussed in the context of tourism impacts. However, most residents interact positively or negatively with tourism based on the benefits and costs of tourism. It is argued that governments have the primary responsibility for the environmental protection. This explains the focus of most studies on residents' attitude towards tourism on the socio-economic and cultural impacts of tourism. Because residents, even in destinations that are heavily visited, are not experienced enough with tourism impacts (Gunn, 1988), they regard direct positive impacts from tourism such as increasing income, employment, improvement of public services, and standard of living, and direct negative impacts such as changes in local values, increasing prices and displacement of local population. The balance between both negative and positive impacts by examining the exchange process has been widely undertaken. In addition, predictor factors such as dependence on tourism, sense of place and contact with tourists are widely used for more meaningful findings. In this sense, Al-Badarneh and Al-Makhadmeh (2015) discussed the inadequacy of the perceived costs and benefits to explain why host communities perceive positively or negatively tourism impacts and argued that new developed models with supportive variables are needed.

The purpose of the current study is to explore how residents perceive tourism general and specific socio-economic impacts that shape their quality of life. The specific items of the impacts are more meaningful in rural communities that suffer from poverty and lack of resources. The study also aims to find out the relationships between residents' perceptions and a set of predictor factors (sense of place, community participation and host-guest relationship). In fact, most previous studies have used one or two of them. Further, the current study diversifies in predictors' measurement by including diverse items. It differentiates itself from previous studies by comparing respondents' behavior to tourism development in two rural communities in Jordan. There is a lack of studies on Jordanian tourist sites that examine residents' attitudes using a theoretical orientation (e.g. SET) supported by predictor factors.

Literature review

Socio-economic impacts and residents' attitude

Despite the large number of studies that investigate host communities' attitude towards tourism impacts, few have considered the relationship between host communities' attitude and support for tourism (Kathleen & Christine, 2000). Many studies have examined the role of tourism socio-economic positive and negative impacts as determinants of residents' perception and attitude towards tourism. They deal with general issues such as residents' quality of life, income, employment, multiplier effects in other economic activities and improvement of education (Jafari, 1974; Perdue et al., 1990; McGehee & Andereck, 2004; Mbaiwa, 2004; Akama & Kieti, 2007; Al-Saad et al, 2018; Al-Badarneh et al, 2019), and specific issues such as the status of women, traditional socio-economic sectors, social fabric and children early withdrawal from schools (Dixon, 2000; Gomes, 2002; Harrill, 2004; Magablih & Naamnih, 2010). The



acceptability of residents is a key success of tourism development (Andriotis & Vaughan, 2003). In tourism literature, many theoretical approaches have been used to identify how and why host communities interact with tourism impacts. Social exchange theory (SET) is predominant to describe residents' perception and attitude towards tourism (Stephen et al, 2019). The theory is widely used in sociology and other human studies and is argued to be the oldest in the human behavior (Homans, 1958). In tourism and community studies, SET is used to understand the exchange process that occurs between individuals and groups of many kinds of resources (Ap, 1992). The main concern of the SET is the level and way residents perceive and support tourism development. Perceiving positively or negatively the tourism impacts occurs based on a balance between the positive and negative externalities. It depends also on the fair exchange of local resources between residents and visitors (Boley et al, 2018).

In an early study, Perdu et al (1990) found that personal benefits are the dominant factor influencing residents' perception toward tourism and that their impacts were not related to residents' demographic characteristics. They also found that positive or negative support for more tourism development relates to the perceived positive or negative impacts of tourism. Ap (1992) found that residents involved in tourism business, such as hotel staff, showed positive attitudes of tourism impacts, while those who are not involved showed negative attitude. Gursoy et al (2002) examined all kinds of tourism impacts and found differences in attitudes towards the issues they were asked about. In a way or another, a need for a supportive approach raises to complete the role of SET to explain unexpected results of residents' attitude.

In a recent study, Castela's (2018) used a balanced approach to measure residents' attitude towards tourism. The study showed that the massification of public space and occupation were determinant. Stephen et al (2019) found that residents with high contact with tourists and those who live near tourist attractions failed to receive benefits from tourism and were therefore less positive towards tourism development. Another recent study by Cardona et al. (2019) examined community's attitude towards tourism in a sun and beach destination. The study findings show that the perceived positive and negative impacts did not have significant effects on residents' support to have more tourists at their destination.

Nunko (2016) has critically analyzed the various constructs used in the social exchange process between local people and tourism sector and the main structures of the theory including trust and power among stakeholders. He argued that studies in this field have failed to integrate these constructs in a single study to examine their effects on residents' behavior towards tourism development. The study suggests that trust and power are important constructs to explain residents' behavior using an integrative framework. For the current study, one of the factors that examines the effect of power on respondents' perception of the socio-economic impacts is community participation. In this regard, Al-Badarnah and Al-Makhadmeh (2015) presented a review of the effectiveness of SET to explain why residents interact differently with tourism. They concluded that the theory is not always adequate for this aim and that other predictors and theories such as power and reasoned action can help to better understand residents' behavior.

However, Wang and Pfister (2008) argued that constructs and concepts of the exchange process can be studied in terms of an economic or sociological approach to a clearer interpretation of the results. This confirms that SET is adequate in this area of research. The current study takes into consideration both arguments (the inappropriateness of SET in some cases and the appropriateness of SET in measuring residents' attitude towards the socio-economic impacts) by developing a new model that integrates new forms of predictor factors. Furthermore, the present study contains



enough common and specific elements to measure perception of socio-economic impacts to further explain unexpected results found in some previous studies.

Predictor Factors

As mentioned above, social exchange theory (SET) has failed to explain the contradictory results that occur from the exchange process. According to Perdue et al (1990), the literature suggests that socio-economic variables play a relatively insignificant role in clarifying the differences in residents' attitude towards tourism. From this argument, another justification arises, in addition to the inadequacy of SET in many cases, to adopt an integrated model to deal with this gap. Predictor factors are likely to be beneficial in the integral approach.

Sense of place

Sense of place is a factor that determines many human behaviors. Shamai (1991) referred to the general concept and components of sense of place; he stated: "feelings, attitudes, and behavior towards a place which varies from person to person, and from one scale to another (e.g. from home to country). Sense of place consists of knowledge, belonging, attachment, and commitment to a place or part of it". Sense of place is measured by several different items. According to Nielsen-Pincus et al. (2010), sense of place could be measure by asking the respondents about their favorite place to be, feeling happy in a place, meeting one's need, and the strength of identification. In tourism studies, sense of place is described as community attachment and measured by many items such as the place of birth, preferences of places, length of residence, and level of satisfaction (Mc Cool & Martin, 1994; Brehm et al, 2004). Most studies on this topic have found a positive effect of community attachment on residents' attitude. In a relatively early study, native people were more negative about the socio-cultural impacts of tourism than the non-native people (Sheldon and Var, 1984). However, this does not mean that highly attached residents will have a positive attitude towards tourism in all circumstances. For example, Badarneh (2015) concluded that native residents showed negative perceptions of socio-cultural impacts, but they were willing to work in tourism. Allen et al. (1993) found insignificant effect of residents' length of stay on their attitude towards tourism.

Although sense of place is common as a predictor factor, other predictors may be needed to explain how people behave in tourism based on the contradictory findings revealed by previous studies.

Community participation

Residents' participation in tourism activities could include tourism business, participation in planning and monitoring, tourism events, and tourism organizations (Pretty, 1995; France, 1998; Suansri, 2004). Vargas-Sa´nchez et al. (2009) to the importance of planning to be guided by residents' participation. Ignoring residents in the process of decision-making leads to antagonist attitude and perceived negative impacts rather than favorable attitude among residents (Sewell & Coppock, 1977; Olya and Gavilyan, 2017). Logically, participation in tourism is an important variable that supports SET. Dependence on tourism as a predictor factor is a form of residents' participation when asking them, for example, about their involvement in tourism business (Smith & Krannich, 1998). In the current study, residents' participation is a predictor factor that is supposed to have a significant effect on residents' perception toward tourism. However, when reviewing the literature pledging residents' participation in tourism, it can be argued that community participation is more inclusive and addresses more specific issues than those measured by dependence on tourism.



In a recent study, Boonsiritomachai and Phonthanukitithaworn (2019) examined residents' participation in shaping their support for tourism development in Chonburi, Thailand. They found that residents' participation influences their perceptions towards tourism impacts and their support for tourism development.

Host-guest relationship

Host-guest relationship can be assessed based on a commercial transaction between residents and tourists, and, on the other hand, as a social phenomenon (Slattery, 2002; Lashley et al., 2007). According to Martin et al (2019), residents are willing to accept foreign tourists when there is a good balance between them in terms of socio-economic, cultural, and environmental impacts. Tourism literature that deals with residents' attitude did not consider the host-guest relationship as a predictor factor that impacts residents' behavior towards tourism. However, residents' contact with tourists was found to have a significant effect on residents' perception (Mansfeld, 1992; Andereck et al, 2005). Measuring contact with tourists in these studies was by asking questions about the trusting relationship between hosts and guests and the level of contact between them. Host-guest relationship is arguably more effective since it is measured by asking specific questions about visitors' contribution to the local economy, closeness to visitors, and tourists' behavior. Using the host-guest relationship is further justified in the current study since it deals with residents living in a conservative community. In this regard, Martin et al (2019) segments residents based on their perception towards tourism. They used a hybrid fuzzy segmentation approach and presented two scenarios: "(1) extreme tourist lovers, extreme tourist haters and ambivalents and (2) lovers, haters and ambivalents". They found significant effects of respondents' segmentation on their perception towards tourism impacts.

Research methodology

Study area

The study was conducted in two nature reserves in Jordan; Dana and Berguesh. Jordan is located in the heart of the Middle East. It is bordered by Palestine to the west, Syria to the north, Iraq to the east and Saudi Arabia to the east and south. It covers 89,342 square kilometers and located at 31 00 N, 36 00 E. It has a great potential for the development of different patterns of tourism such as cultural and medical tourism. It is globally well-known to have attractive tourist sites with a variety of landscapes. Jordan is a center of luxury spa, business and religious tourism. It counts 10,495,505 people who are mostly Arab and primarily Muslim (Department of Statistics, 2019). Tourism is ranked fifth for the contribution to GDP in Jordan after government services, finance, manufacturing and transport (JTB, 2019).

Dana nature reserve is an ecological site of astounding beauty and biodiversity. It is located in the south of Jordan, 206 km to the south of Amman, the capital city of Jordan. It extends over 300 km square and was established in 1989. It embraces three biogeographical zones of the country (Mediterranean, Saharo-Arabian and Sudanian). Tourist attractions in Dana Reserve are mainly scenic views, valleys and winding terrain facing the Great Rift Valley. It hosts more than 830 plant species, three of which were first registered at Dana Biosphere Reserve, where Dana was named in its Latin scientific names. The reserve provides various activities of adventure and relaxation, where visitors can leave their vehicles and walk towards the place. In addition to guided long tours by Bedouin residents (walking, mountain biking) and non-guided short trips, many walks and canyons show the beauty and attractiveness of the reserve. The reserve also presents typical local products such as jewelry, olive oil products, and local food (JTB, 2019).



In the northern part of Jordan, in Ajloun governorate, Berguesh Forest Reserve is located and covers 13 square kilometers. It was established in 1887. The reserve is characterized by a rare aesthetic character untouched by human hands and is one of the most beautiful rural natural areas in Jordan. It contains forty-seven species of wild trees, most notably oak, boredom and maple covering the largest areas in Jordan, as well as the Palestinian butterflies, hawthorn, sumac, shouh, rice, salmon, cedar, cypress, dum and wild pears. One of the most geological attraction in the country is Berguesh cave, a four-million-year-old back cave. It is described as a world-class natural landmark (RSCN, 2016). Despite its attractiveness, Berguesh Reserve is not well promoted for international tourists.

Questionnaire design and data collection

The current study aimed at examining Dana and Berguesh residents' attitude towards tourism development. For the study variables, a survey questionnaire was designed and items from previous studies to measure the independent variables (perception of socio-economic impacts, sense of place, community participation and the nature of host-guest relationship) and the dependent variable (attitude to tourism development) were adopted. Socio-economic positive and negative impacts were measured by 24 items covering general issues such as quality of life, increasing income, enhancement of local products, improvement of public services, crowding, and transmission of diseases (Jafari, 1974; Perdue et al., 1990; Mbaiwa, 2004; Akama & Kieti, 2007), and specific issues such as the status of women, traditional socio-economic sectors, social fabric, and children early withdrawal from schools (Dixon, 2000; Gomes, 2002; Harrill, 2004; Magablih & Naamnih, 2010). Sense of place was measured by three items: 1- "I really miss Dana/Berguesh when I am away for too long", 2- "Dana/Berguesh meets my needs better than any other place", 3- "I identify strongly with Dana/Berguesh", and 4- "I am very happy because I live in Dana/Buergesh" (Mc Cool and Martin, 1994; Nielsen-Pincus et al, 2010). Host-guest relationship was measured by two items: 1- "I appreciate visitors for the contribution they make to the local economy", and 2- "I feel close to some visitors I have met in Dana/Berguesh" (Boley et al, 2012). Community participation was measured by four items: 1- "Participation in planning and monitoring", 2- "Participation in tourism business", 3- "Participation in tourism events", and 4- "Participation in tourism organizations" (Suansri, 2004; Huang et al, 2010). Finally, attitude towards tourism was measured by two items: 1- "I am proud to have visitors come to Dana/Berguesh", and 2- "I support new tourism facilities that will attract new visitors to Dana/Berguesh" (Boley et al, 2012). A 5-points Likert scale was used for all the study items.

Data were collected during the spring of 2018. The study population consisted of all residents of Dana and Berguesh villages. The questionnaire was reviewed by three academics in the field of social sustainability and tourism management and then translated into Arabic. 450 questionnaires were distributed randomly, 398 were returned and 349 were usable (102 from Dana, and 247 from Buergesh).

Data analysis

In order to explore the effect of sense of place, community participation and host-guest relationship on the positive and negative perception, and the effect of the positive and negative perception on residents' attitude towards tourism, a 5-points Likert scale was used. Reliability and validity tests were conducted, descriptive analysis was used for



the demographic factors and the other variables of the study. Furthermore, a multiple regression analysis and ANOVA were employed to test the following hypotheses:

H1- There is positive significant effect of sense of place on the positive and negative perception.

H2- There is a positive significant effect of community participation in tourism on the positive and negative perception.

H3- There is a positive significant effect of host-guest relationship on the positive and negative perceived impacts.

H4- There is a positive significant effect of the positive and negative perception on attitude.

H5- Residents from Dana and Berguesh have different perceptions towards the cost and benefits of tourism.

H6- Residents from Dana and Berguesh have different attitudes towards tourism.

Findings

Validity and Reliability

Table (1) shows the results of Cronbach's alpha for all variables of the study. Cronbach's alpha values were above 0.60 which means that the instrument is reliable.

Table (1). Validity and reliability test

Variables	Number of items	Cronbach alpha
Sense of place	4	0.634
Host-guest relationship	2	0.618
Community participation	4	0.618
Positive perception	12	0.644
Negative perception	12	0.707
Attitude to tourism	2	0.614

Respondents' personal profile

Table (2) shows the respondents' personal profile. The following personal characteristics had the highest percentage: male scored (61.9%), 22-35 years old scored (36.4%), students scored (23.8%), secondary school scored (61.3%), 100-300 JD for the monthly income scored (45.5%), and married respondents scored (55.9%).

Table (2). Description of respondents' personal profile

demographics	Category	Frequency	Percentage%
Gender	Males	216	61.9
	Females	133	38.1
	Total	349	100
Age	Under 21 years old	113	32.4
	22- 35 years	127	36.4
	36-50 years	87	24.9
	51- 65 years	12	3.4
	More than 65 years old	10	2.9
	Total	349	100
Occupation	public sector	49	14
	Military	37	10.6
	private sector	33	9.5



	retired	49	14
	student	83	23.8
	freelance work	22	6.3
	without work	76	21.8
	Total	349	100
Education level	Secondary school or less	214	61.3
	bachelor	121	34.7
	Master or doctorate	14	4
	Total	Total	349
Monthly income. (In Jordanian Dinar)	100-300 JD	55	45.5
	301-600 JD	48	39.6
	601-900 JD	15	12.4
	more than 900	3	2.5
	Total	Total	349
Marital Status	Married	195	55.9
	single	139	39.8
	other	15	4.3
	Total	349	100

Descriptive analysis

For the descriptive analysis of the study variables, the means and standard deviations were calculated. The means' values are described as: 1-1.80 "very low", 1.81-2.60 "low", 2.61-3.40 "moderate", 3.41-4.20 "high", and 4.21-5 "very high". Then the items were ordered based on their means. Table (3) demonstrates the mean, standard deviation, level, and order scores of the perceived positive and negative impacts.

Table (3). Mean and standard deviation of positive and negative perception of tourism

Perception of positive impacts	Mean	SD
Tourism improves community residents' quality of life.	3.88	1.177
Tourism creates income for residents.	3.69	1.262
Tourism increases employment in the community.	3.86	1.147
Tourism creates new markets for local business owners	3.83	1.091
Tourism promotes local micro enterprises.	3.91	1.103
Tourism enhances the typical local products.	3.66	1.150
Tourism improves the public infrastructure (i.e. electricity, water, sewage).	3.61	1.338
Tourism improves health and medical services for residents.	3.56	1.241
Tourism improves the status of women.	3.35	1.270
Tourism improves the education level in your community.	3.64	1.179
Tourism creates the availability of entertainment for locals.	3.92	1.133
Tourism increases shopping facilities.	3.82	1.209
Perception of negative impacts	Mean	SD
Tourism encourages leaving traditional sectors like agriculture	2.99	1.341
Tourism destroys the social fabric.	2.76	1.219
Tourism raises property values	3.44	1.246
Because of tourism, locals may acquaint new unwanted social and behavioral norms	3.17	1.243
Tourism encourages children early withdrawal from schools.	2.70	1.295
Tourism creates crowding at public areas and amenities	3.35	1.291
Tourism changes family values and roles.	3.09	1.314
Tourism affects the local patterns of consumption.	3.30	1.130
Tourism causes friction between groups of the local population	3.07	1.290



Tourism creates drugs and addictions.	2.83	1.267
Tourism causes the transmission of disease.	3.09	1.262
Tourism causes displacement of local population.	3.26	1.316

Table (3) shows that the perception of the positive impacts was high for all items. The most positive perception was for the items: " Tourism creates the availability of entertainment for locals" and " Tourism promotes local micro enterprises". The respondents were somewhat moderate about the items " Tourism improves the status of women" and a bit more moderate about the item " Tourism improves health and medical services for residents". On the other hand, the perception of the negative impacts ranged between moderate and high. This means that the respondents recognize the cost of tourism development although the saw many socio-cultural advantages. The most negative perception was scored for the items " Tourism raises property values" and " Tourism creates crowding at public areas and amenities" while the other items scored moderate negative perceptions.

Table (4). Mean and standard deviation of predictor factors

Region		Mean	Std. Deviation
Dana	Sense of place	4.1789	.90610
	Host-guest relationship	4.1471	.94027
	Community participation	4.0564	.86667
Berguesh	Sense of place	4.0800	.84068
	Host-guest relationship	4.1802	.83431
	Community participation	3.8411	.74203

Table (4) shows high sense of place, positive opinions toward the relationship between visitors and hosts, and positive community participation.

Hypotheses testing

The main aim of this study was to find out the effect of sense of place, community participation and the host-guest relationship on residents' perception of the negative and positive impacts of tourism and the effect of the latter on their attitude. To test the study hypotheses, a multiple regression technique was used.

Table (5). Skewness and VIF for the independent variables

Variables	Tolerance	VIF	Skewness
Sense of place	0.910	1.053	-1.007
Host-guest relationship	0.950	1.099	-0.126
Community participation	0.950	1.049	-0.234

Table (5) shows normal values of Skewness (-1.0 to +1.0). Thus, the data of the three variables (sense of place, host-guest relationship and community participation) are normal. which means that the data of the independent variables is normal. The VIF values are also normal (less than 10). Table (6) shows the first three hypotheses' test.



Table (6). Result for the study model (a)

Variable	r	R ²	f	Sig (f)	β	t	Sig (t)
Sense of place	0.185	0.034	4.075	0.007a	0.098	1.803	0.072
Host-guest relationship					0.096	1.730	0.084
Community participation					0.120	2.206	0.028

a. Predictors (Constant): Sense of place, host-guest relationship, community participation.

b. Dependent variable: Negative and positive perception

Based on β value of the three independent variables shown in Table (6), we reject H1 and H2 and accept H3. This means that sense of place and host-guest relationship had no significant effects on the perceived socio-economic impacts and that community participation was significantly influential on the respondents' perception.

Table (7). Result for the study model (b)

Variable	r	R ²	f	Sig (f)	β	t	Sig (t)
Positive perception	0.336	0.113	21.992	0.000a	0.167	3.291	0.001
Negative perception					0.301	5.931	0.000
Attitude							

a. Predictors: (Constant), positive perception of tourism, Negative perception of tourism

b. Dependent variable: Attitude towards tourism

Table (7) shows the multiple correlation coefficient $R = 0.336$ which indicates that there is a significant relationship between the perceived impacts and residents' attitude. Based on the value of R^2 (0.113) and F-ratio (21.992), there is a statistically significant effect of perception on residents' attitude. Thus, H4 is accepted.

For H5 and H6, T-test was used to explore any significant differences in the perception of Dana and Berguesh residents towards the positive and negative impacts and attitude towards tourism development.

Table (7). T-test of the perceived tourism impacts

Variables				T	df	Sig.
	Region	Mean	Std. Dev			
Tourism improves community residents' quality of life.	Berguesh (247)	4.25	.874	.934	169.421	.351
	Dana (102)	4.15	.989			
Tourism creates income for local residents.	Berguesh	4.21	.901	1.054	163.828	.293
	Dana	4.09	1.063			
Tourism increases employment in the community.	Berguesh	4.15	.970	1.001	164.557	.318
	Dana	4.03	1.138			
Tourism creates new markets for local business owners	Berguesh	4.15	1.043	1.530	159.379	.128
	Dana	3.93	1.276			
Tourism promotes local micro enterprises.	Berguesh	3.92	1.344	.712	177.085	.477
	Dana	3.80	1.442			
Tourism enhances the typical local products.	Berguesh	3.14	1.705	1.597	182.512	.111
	Dana	2.81	1.767			
Tourism improves the public infrastructure (i.e. electricity, water, sewage).	Berguesh	2.32	1.575	-.730	181.833	.466
	Dana	2.46	1.639			
Tourism improves health and medical services for residents.	Berguesh	2.43	1.598	-.168	189.351	.866
	Dana	2.46	1.590			



Tourism improves the status of women.	Berguesh	3.32	1.301	-1.394	161.518	.165
	Dana	3.57	1.564			
Tourism improves the education level in your community.	Berguesh	3.66	1.114	-3.616	189.266	.000
	Dana	4.14	1.108			
Tourism creates the availability of entertainment for locals.	Berguesh	3.66	1.125	-5.927	237.934	.000
	Dana	4.33	.883			
Tourism increases shopping facilities.	Berguesh	3.72	1.089	-6.449	229.828	.000
	Dana	4.44	.885			
Tourism encourages leaving traditional sectors like agriculture	Berguesh	4.36	1.068	8.941	258.157	.000
	Dana	3.31	.771			
Tourism destroys the social fabric.	Berguesh	4.40	.965	10.306	228.754	.000
	Dana	3.28	.788			
Tourism raises property values	Berguesh	4.40	.914	-.616	193.763	.538
	Dana	4.47	.887			
Because of tourism, locals may acquaint new unwanted social and behavioral norms	Berguesh	4.30	1.015	-.481	189.071	.631
	Dana	4.35	1.011			
Tourism encourages children early withdrawal from schools.	Berguesh	4.26	.940	.037	172.508	.971
	Dana	4.25	1.041			
Tourism creates crowding at public areas and amenities	Berguesh	4.20	.927	.468	155.097	.641
	Dana	4.14	1.178			
Tourism changes residents' values and roles.	Berguesh	4.24	1.003	8.175	237.742	.000
	Dana	3.33	.788			
Tourism affects the local patterns of consumption.	Berguesh	4.18	.984	2.216	157.605	.027
	Dana	3.90	1.223			
Tourism causes friction between groups of the local population	Berguesh	4.26	.958	1.815	167.175	.070
	Dana	4.05	1.102			
Tourism creates drugs and addictions.	Berguesh	4.14	1.058	7.189	252.575	.000
	Dana	3.30	.781			
Tourism causes the transmission of disease.	Berguesh	4.26	1.011	8.545	241.682	.000
	Dana	3.30	.781			
Tourism causes displacement of local population	Berguesh	4.26	.850	9.811	204.071	.000
	Dana	3.30	.781			

Table (7) shows that among the twenty-four items of perception of costs and benefits, differences were found for ten items. For the perceived benefits, differences were found for three items: "Tourism improves the education level in your community", "Tourism creates the availability of entertainment for locals" and "Tourism increases shopping facilities". Dana residents were more positive than Berguesh residents about the three items. For the perceived cost, differences were found for seven items: "Tourism encourages leaving traditional sectors like agriculture", "Tourism destroys the social fabric", "Tourism changes residents' values and roles", "Tourism affects the local patterns of consumption", "Tourism creates drugs and addictions", "Tourism causes the transmission of disease" and "Tourism causes displacement of local population". Berguesh residents were more negative than Dana residents about the seven negative impacts. Overall, it can be said that Dana residents were more positive about tourism for the ten items that had differences in responses.

Table (8). T-test of residents' attitude toward tourism

Variables	Region	Mean	Std. dev	t	Df	Sig.
How likely or unlikely you would support tourism development in your community?	Dana	3.81	1.374	1.012	347	0.841
	Berguesch	3.77	1.297	1.012	198.88	
You are willing to see more tourists in your community.	Dana	4.22	.907	1.012	347	0.226
	Berguesch	4.22	1.012	1.012	171.35	

For H6, Table (8) shows that Dana and Berguesch residents had no differences in their attitude toward tourism development.

Discussion and conclusion

From the descriptive analysis, Dana residents were more positive towards tourism development. Berguesch residents were also positive but more negatively recognized the cost of tourism. When comparing Dana with Berguesch in terms of tourism development, we realize that Dana is much more touristic. Dana is well-known for attracting international tourists. Good tourist facilities and local small-scale projects are available in Dana. Many socio-economic projects were established in Dana Reserve and the surrounding villages to improve residents' quality of life. These include silver jewelry workshops, food production, medicinal herbs and other handicrafts. Dana Reserve has received financial and scientific support from national and international organizations such as UNU, UNISCO, & ICARDA and the RSCN for the sustainable management of marginal dry lands project. One of the objectives of this project is the establishment of assessment methodologies for the site local conditions and improvement of productivity (Johnson et al, 2003). According to the RSCN (Royal Society for the Conservation of Nature) (2016), the accumulated benefits of local communities were 2,274,896 Jordanian Dinar in 2016 distributed over eight protected areas in Jordan, 1,352,589 Jordanian Dinar were allocated for Dana community.

On the other hand, Berguesch is well-known as a domestic tourism attraction. Compared to Dana Reserve, tourist facilities and socio-economic projects are relatively modest in Berguesch Reserve. According to the Development Program of Irbid Governorate (2017), development features in Berguesch were limited to agricultural projects and public services improvement. With reference to the RSCN annual report (2016), Berguesch is excluded from the financial support that was distributed to local communities in protected nature reserves in Jordan. Because Dana residents receive more benefits from tourism than Berguesch residents, and because they frequently receive both domestic and international visitors, it could be argued that Dana residents are more experienced in tourism. This could explain the difference in perception between the two sites. Despite this difference, both Dana and Berguesch residents showed similarities in the responses to the three predictor factors. This may be due to the willingness of the residents of Bergisch to support tourism (positive attitude) as indicated in the results. This similarity may be due to a good level of awareness of the potential benefits tourism can bring to local communities. Awareness of tourism



contribution or knowledge about tourism was proved to influence residents' attitude toward tourism (Smith & Krannich, 1998; Deccio & Baloghu, 2002).

For the effect of predictor factors on the perceived positive and negative impacts, it was found that sense of place had no significant effect. This finding is inconsistent with most studies that undertake the effect of community attachment on residents' behavior towards tourism (Sheldon & Var, 1984; Mc Cool & Martin, 1994; Brehm et al, 2004). Similarly, community participation had no significant impact on perception. This finding is inconsistent with many previous studies (Sewell & Coppock, 1977; Olya & Gavilyan, 2017). Host-guest relationship was found to affect the perceived impacts. When relating host-guest relationship, it could be said that this finding is consistent with several studies such as (Mansfeld, 1992; Andereck et al, 2005). A possible explanation of this effect is the expected commercial transaction between residents and tourists (Slattery, 2002; Lashley et al., 2007). For the effect of the perceived impacts on attitude, Berguesh and Dand residents had similar responses. Also, they were positive about support for tourism development. Theoretically, this finding is consistent with the SET when relating the perceived positive impacts to residents' attitude, whereas the finding is inconsistent with the theory when relating the perceived negative impacts to residents' attitude.

The study findings are seen to be a tool to assess the social sustainability of eco-tourism sites in Jordan. It provides useful rules for community-based tourism plans to be adopted in many marginalized rural destinations in Jordan, of which Berguesh is one. From a marketing perspective, considering the local aspects in rural areas and nature reserves as an important tourist attraction is of great importance for today's tourists. This argument is proved by the literature that deals with tourism and post-modernism. Theoretically, the current study proved again that the SET failed to completely explain why and how residents behave positively and/or negatively to tourism impacts. Previous studies recommended additional variables that support social exchange theory for more interpretation of possible contradictory findings. In the current study, partial inconsistency with social exchange theory was found. Although the theory was supported with three predictor factors, two of them couldn't explain this inconsistency. Thus, the current study recommends a deeper pre-exploration of specific characteristics of the community of study areas for more meaningful findings. Testing the effect of poverty and awareness of the socio-economic contribution of tourism on perception and attitude can be good examples.

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