

Perception of residents on the impacts of beach tourism: The case of Nungwi village in Zanzibar, Tanzania

Vedastus Lyaya Timothy^{a,*}, Said Khamis Said^b

^a Department of Development Finance and Management Studies, Institute of Rural Development Planning, PO Box 138, Dodoma, Tanzania

^b Department of Rural Development and Regional Planning, Institute of Rural Development Planning, PO Box 138, Dodoma, Tanzania

ARTICLE INFO

Keywords:

Nungwi
Zanzibar
Residents' perception
Tourism impacts
Tourism development

ABSTRACT

This study aimed to assess the perception of residents on the impacts of beach tourism in Nungwi village, one of the most lively beach tourist spots in Zanzibar, Tanzania. Data collection was carried out between June and August 2021 from 174 residents using a structured questionnaire. Descriptive statistics, T-tests and One-way ANOVA were employed. The revealed positively perceived impacts include the increase in entrepreneurial opportunities, employment, and access to basic social services. The study also identified the increase in income inequalities as well as cost of living to be the key aspects perceived negatively by the residents. The findings suggest occupation is a key differentiating factor in the association of tourism development to residents' pride in local culture, with corporate employees and entrepreneurs more likely to view positive contribution of tourism to residents' pride in local culture than farmers and fishermen. Furthermore, the study confirmed the heterogeneity of residents' perceptions regarding tourism impacts which were caused by five key variables, namely: length of residence in the area, occupation type, sex, age, and level of income. The study findings help to increase the baseline knowledge available to tourism stakeholders and insights that may be considered when developing and implementing tourism-related policies and plans. The study contributes to the residents' perception literature in a rural developing country context.

1. Introduction

Tourism is an important contributor to economic development and the creation of employment in both developed and developing countries [1–4]. The sector contributes about 10% of the world's GDP [5]. Globally, the most visited countries are France, Spain and the United States [6]. In Africa, the most toured countries are Egypt, Morocco and South Africa [6].

Tanzania has continued to experience sustained growth in nature-based tourism as a result of reforms in tourism policies implemented during the 1980s [7]. Tanzania tourism statistics show that international tourist arrivals in the country increased from 782,699 in 2010 to 1,527,230 in 2019, before declining to 620,867 due to travel restrictions associated with the COVID-19 pandemic [8–11]. Tourism accounted for 29% of all exports of goods and services in Tanzania mainland during 2018 [12] and about 11% of GDP [13].

The economic contribution of tourism is more significant for Zanzibar than for Mainland Tanzania. The number of tourist arrivals in Zanzibar increased from 311,891 in 2014 to 520,809 in 2018 [12]. The sector contributes about 80% of Zanzibar's foreign exchange earnings, 22% of GDP, and 22,000 direct and 48,400 indirect jobs [14]. Tourism activities in Zanzibar are mainly associated with beach tourism, which is one form of tourism at coastal resorts and other beach areas [15–17]. Mutayoba [18] show that although

* Corresponding author.

E-mail addresses: vtimothy@irdp.ac.tz (V.L. Timothy), saidkhamis286@gmail.com (S.K. Said).

<https://doi.org/10.1016/j.heliyon.2023.e21816>

Received 22 September 2022; Received in revised form 25 October 2023; Accepted 29 October 2023

Available online 4 November 2023

2405-8440/© 2023 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

tourism development in Zanzibar has contributed significantly in creating employment and providing business opportunities for the local population, the trickle-down effect from tourism has been minimal.

The literature shows that residents evaluate tourism impacts from different angles such as economic, socio-cultural and environmental dimensions [19–27]. Further, the literature suggests that understanding residents' perception of the impacts of tourism is important for developing appropriate plans and policies related to tourism development. For instance, residents' perception of positive impacts of tourism may encourage residents to support tourism development in their area, whereas their perception of negative impacts may discourage tourism development [21,24,28].

Until now, several studies on residents' perception of the impact of tourism have been conducted [4,19,21,29–36], however, evidence from sub-Saharan African countries is limited [37]. Further, existing tourism impact studies show that the perceptions of local communities on the impacts of tourism may vary due to several factors such as length of residence [30,31], occupation type [32,33], sex [38], age [33,39], marital status [29,36], education [21,33] and income level [19,33]. Empirical studies, however, have yielded contradictory results. Some empirical studies show that long term residence [30,31], higher dependence of tourism [32,33], being young [33,39], being married [29,36], having higher education attainment [21,33] and higher income [19,33,39] are positively associated with residents' perception of positive tourism impacts. On the other hand, some studies suggest that these factors – long term residence [19,39], higher dependence of tourism [38,40], being young [19], being married [21,39], having a higher education [19,41] or higher income [41] – are negatively or neutrally associated with residents' perception of positive tourism impacts. The current study, therefore, contributes to the literature by broadening the understanding of the limited and contradictory research into the perception of tourism impacts in host communities and the factors that influence such perception in a sub-Saharan Africa context. The present study explores the perception of the residents of Nungwi village in Zanzibar on the economic, socio-cultural, and environmental impacts of tourism. These aspects have not been explored before in the contexts of Tanzania and Zanzibar in particular. The literature posits that the effects of tourism development are different in various communities [42]. The findings of this study may be useful in formulating appropriate tourism policies and plans [43]. Eshliki & Kaboudi [42] and Dai et al. [32] recommend that knowledge of how tourism affects the community is important in reinforcing the strengths and improving the weakness in tourism planning.

The remainder of the paper proceeds as follows. Section 2 reviews the literature on tourism impacts. The third section presents the study methodology. The analysis and results are presented in Section 4. This is followed by section 5 which discusses the findings and relates them to the literature. Finally, the conclusion and recommendations are given in section 6.

2. Review of the related literature

Tourism involves direct and indirect relationships between tourists and residents, with both positive and negative impacts referred to in the literature [21,44]. The literature considers three principal types of tourism impacts, namely socio-economic, socio-cultural and environmental [19,20,37,45].

The socio-economic impacts of tourism represent the economic and social benefits or costs accruing to or incurred by residents due to tourism development [21,37]. The positive socio-economic impacts that have been identified in the literature include the emergence of entrepreneurial opportunities, creation of employment opportunities, improved wage level, improved residents' income, improved standard of living and improved residents' access to basic social services [4,19–24,26,37,38]. The negative economic impacts of tourism include growth in income inequalities and rise in the cost of living [19,22–24,26].

The socio-cultural impacts of tourism refer to changes in society's norms and values which is due to tourism development [39,46]. The positive socio-cultural impacts of tourism identified in the literature include promotion of traditional crafts and ceremonies, residents' pride in local culture, preservation of local customs and culture, increased harmony in the society and incentive for the restoration of historic buildings due to tourism development [21–24,26,37]. The negative socio-cultural impacts of tourism that have been identified in the literature comprise tourists' intrusion in local communities, decline in traditional culture, degradation of morality, decline in society's values and the increase in crime and other social problems due to tourism development [21–24,26,37,38].

The last category of tourism impacts comprises environmental impacts. These refer to beneficial or detrimental changes to the environment due to tourism activities [21,37]. The positive environmental impacts of tourism identified in the literature include increased residents' environmental awareness and promotion of conservation of natural resources [19,21–23,26,27,37]. The negative environmental impacts of tourism include deforestation as well as increase in land and water pollution due to tourism development [21–24,26,37,38].

Further, many tourism impact studies show that the perceptions of local communities on the impacts of tourism are likely to vary due to several factors. The main factors covered in the literature include length of residence, occupation type as well as socio-demographic characteristics such as sex, age as well as levels of education and income [4,21,29,31–33,35,36,38,41,45,47]. The current study reviews the relevant literature in relation to the influence of these factors on perception of residents on the economic, socio-cultural and environmental impacts of tourism.

2.1. Length of residence

It is argued in the literature that length of residence could lead to different perceptions of tourism impacts. Liao et al. [30] suggest that residents who have lived in the area for a longer time tend to perceive more positive economic impacts than newcomers. Similar findings are presented by Steina & Rozite [31]. Contrary to this view, Andriotis [19] and Wanjohi [39] show that newcomers tend to perceive more positive economic impacts of tourism in comparison with the long-term residents. In regards to social-cultural impacts, Dai et al. [32] show that long-term residents perceive more negative cultural impacts than newcomers. Similar findings are reported by Wanjohi

[39] in Kenya. Concerning the environmental impacts of tourism, Pavlic & Puh [41] show that residents who have lived longer in the locality tend to have a more negative view of the environmental impacts. Contrary to these findings, Andriotis [19] and van der Steina & Rozite [31] show that newcomers tend to evaluate negative environmental impacts of tourism higher than long-term residents. At the same time, Abera & Assefa [45] show no significant impact of length of residency in the area on the perception of residents on the economic, socio-cultural and environmental impacts of tourism. From the reviewed literature, the effects of length of residence on residents' perceptions are not conclusive. The following hypothesis is, therefore, put forward to further test the relationship.

H1. There is a significant difference between residents of different residence durations in the perception of socio-economic, socio-cultural and environmental impacts of tourism.

2.2. Occupation

Taking from social exchange theory, occupation type is an important variable in evaluating the perception of residents. Most studies show that residents who are dependent on tourism tend to evaluate tourism impacts more positively than their less dependent counterparts. Dai et al. [32] show that residents whose main occupation is related to tourism tend to perceive more positive economic benefits of tourism than those engaged in occupations not linked with tourism. Similar findings are presented by Upadhaya et al. [33] who show that residents employed in the business sector in Nepal tend to perceive more positive economic impacts and less negative economic impacts of tourism than those in the agricultural sector. Likewise, Muganda et al. [4] and Njole [48] show that business operators and salaried employed residents tend to perceive positive economic impacts and are less likely to perceive negative economic impacts of tourism than smallholder farmers in Arusha, Tanzania. Similar findings are reported by Benansio et al. [47] indicating that fishermen in Zanzibar had a more negative evaluation of the impacts of tourism on their livelihood than respondents from other occupations. In terms of socio-cultural impacts, Upadhaya et al. [33] show that residents employed in the business sector in Nepal tend to perceive socio-cultural impacts of tourism more negatively than those in the agricultural sector. Similar findings are reported by Njole [48] in Tanzania. Further, Dai et al. [32] show that residents engaged in tourism-related occupations are less likely to perceive negative environmental impacts of tourism than less tourism-attached residents. Contrary to these findings, Abera & Assefa and Gonzalez et al. [38,45] find no significant effect of occupation type on the perception of residents on economic, socio-cultural or environmental impacts of tourism. The following hypothesis is proposed to further test the relationship.

H2. There is a significant difference between residents of different occupation types in perception of socio-economic, socio-cultural and environmental impacts of tourism.

2.3. Sex

The literature has documented mixed findings regarding differences in the perception of tourism impacts by sex. Some studies, for example, Gonzalez et al. [38] in a Spanish heritage town suggest significant differences between male and female respondents on the perception of economic impacts, specifically on the cost of living, with female respondents showing more negative perception than their male colleagues. At the same time, female respondents were shown to have a more positive perception on the quality of life impacts of tourism in Tanzania than males [4]. In regards to environmental impacts, Simão & Mósso [35]'s study in Cape Verde found that sex has an important role in influencing the perception of residents on the impacts of tourism and men were more likely to have a negative attitude toward tourism impacts on the environment than women. Similar findings are shown by Truong et al. [36]. However, contrary to these findings, many other studies [21,29,33,39,41,45] have found no significant impact of sex on the perception of residents on the economic, social-cultural and environmental impacts of tourism. Thus, the literature is not conclusive on the perception differences regarding tourism impacts based on sex. Further study is therefore warranted. Hence, the following hypothesis is put forward for testing.

H3. There is a significant difference between residents of different sex in the perception of socio-economic, socio-cultural and environmental impacts of tourism.

2.4. Age

Several studies have analysed the effects of age on the perceptions of tourism impacts with mixed results. For instance, Upadhaya et al. [33] show that young residents tend to perceive the economic effects of tourism, such as increased income, more positively than older residents. Similar findings are reported by Wanjohi [39] in Kenya. Contrary to this, Andriotis [19] show that older residents tend to view the economic benefits of tourism more positively than younger residents. Furthermore, older residents are shown to have a more negative view of the socio-cultural impacts of tourism [39]. As regards environmental effects, Pavlic [41] show that older residents tend to perceive negative environmental effects of tourism than younger residents. Contrary to this, Andriotis [19] shows that younger residents tend to have a more negative view of the environmental impacts of tourism than older residents. At the same time, several studies [21,29,45] have found no significant impact of age on residents' perception of economic, socio-cultural and environmental impacts of tourism. From these findings, the literature is not conclusive on the effect of age on the perception of residents on tourism impacts. The following hypothesis is therefore put forward.

H4. There is a significant difference between residents of different age groups in perception of socio-economic, socio-cultural and environmental impacts of tourism.

2.5. Marital status

A few studies have evaluated the effects of marital status of individuals' perceptions with different results. In a study of the perception of residents on tourism impacts in Vietnam, Truong et al. [36] show that married residents tend to perceive more positive economic, socio-cultural and environmental impacts of tourism than unmarried residents. Similar findings are reported by Amuquandoh [29] in Ghana. Contrary to these findings, some studies [21,39] show no significant effects of marital status on the perception of residents on tourism impacts. To further test the effect of marital status on tourism impacts the following hypothesis is proposed.

H5. There is a significant difference between residents of different marital statuses in perception of socio-economic, socio-cultural and environmental impacts of tourism.

2.6. Education

Regarding education, there is almost a consensus in the literature that residents with higher education tend to perceive more positive tourism impacts than less educated residents. In a study of tourism impacts in Nepal, Upadhaya et al. [33] show that residents with higher education tend to have a more favourable perception of both economic and social impacts of tourism than the less educated residents. Similar findings are reported by Charag et al. [21], Andriotis [19] and Wanjohi [39]. Contrary to these findings Gonzalez et al. [38] show mixed effects of education on the perception of residents of a Spanish heritage town of Besalu. Their study shows that residents with lower education tend to perceive more positively the social impacts of tourism (improvement in leisure facilities) and more negatively on cultural (intrusion of tourists in their local culture) and environmental impacts of tourism (noise pollution) than

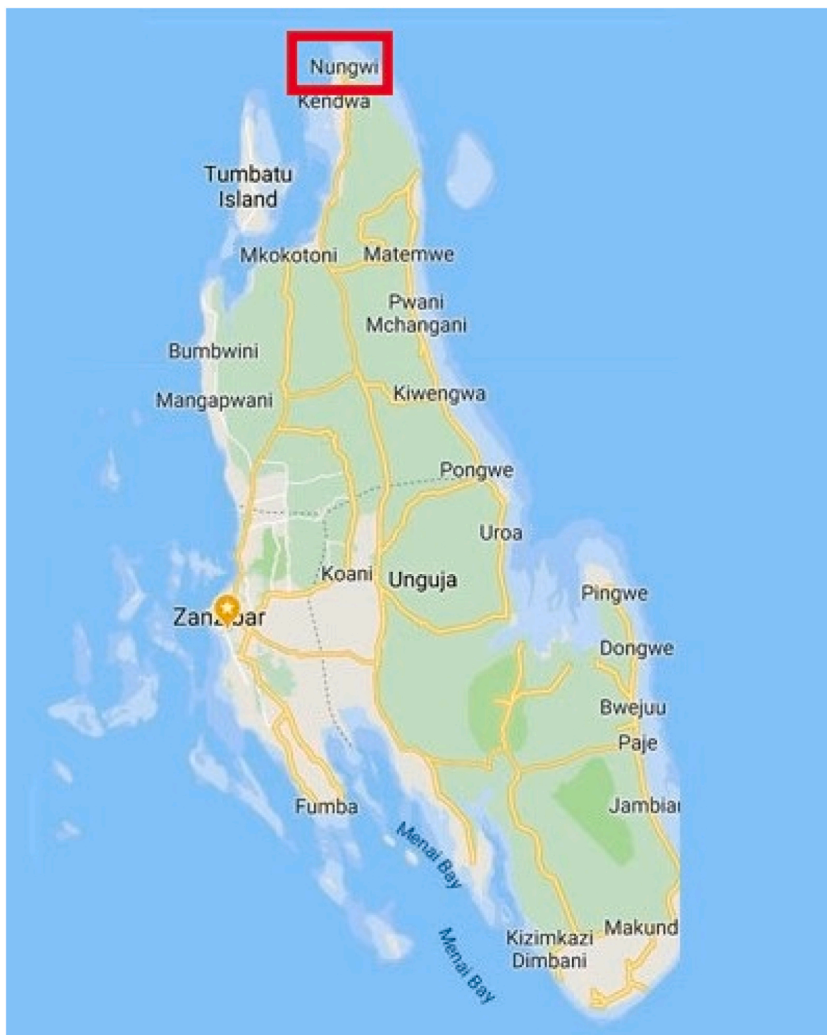


Fig. 1. Map of Zanzibar showing the location of Nungwi village (Source: Zanzibar Government Portal <https://www.zanzibar.go.tz/en/about-zanzibar.html> - accessed February 13, 2022).

residents with higher education levels. At the same time, residents with higher education tend to perceive economic impacts more negatively (cost of living) than residents with lower education levels. However, contrary to these findings, Pavlic et al. [41] and Andriotis [19] show that highly educated residents tend to perceive more negatively the environmental impacts of tourism than residents with lower education levels. To further test the effect of education on the perception of residents on tourism impacts the following hypothesis is put forward.

H6. There is a significant difference between residents of different education levels in perception of socio-economic, socio-cultural and environmental impacts of tourism.

2.7. Income

The literature shows that the level of income influences the perception of residents on tourism impacts differently. Upadhaya et al. [33] shows that higher-income households in Nepal tend to perceive economic benefits of tourism more positively than lower-income residents. Similar findings are presented by Andriotis [19] and Wanjohi [39]. Regarding the environmental impacts of tourism, Amuquandoh [29] show that higher-income households in Ghana tend to perceive tourism impacts more positively than lower-income households. At the same time Pavlic et al. [41] show that residents with higher income tend to perceive the environmental impacts of tourism more negatively than residents with low income levels. Contrary to these findings, some studies [21,45] show no significant impact of income level on the perception of residents on tourism impacts. The following hypothesis is, therefore, put forward to further test the relationship.

H7. There is a significant difference between residents of different income levels in perception of socio-economic, socio-cultural and environmental impacts of tourism.

3. Methodology

3.1. Study site

Nungwi village is located at the northern end of the Tanzanian island of Unguja, about 60 km from Zanzibar town (Fig. 1). Based on the Population and Housing Census conducted in 2012, Nungwi village had a population of 10,392 inhabitants [49]. The village is divided into seven sub-villages of Mjikati, Muwanda, Kiungani, Mgagadu, Kendwa Mchangani, Kikwajuni and Banda Kuu.

3.2. Study design and sampling procedure

The study sample was selected using a multistage sampling procedure involving four steps. In the first stage, Nungwi village [17,18] was purposively selected. The growing popularity of Nungwi area among beach tourists and the rural setting [17,18], made Nungwi village a suitable sample site for the study. In the second stage, two sub-villages of Kiungani with a population of 1094 (2012 Census) and Banda Kuu with a population of 688 (2012 census) were randomly selected by lottery method. The method involved listing the sub-villages, assigning each subvillage a random number generated in Microsoft Excel, sorting the random numbers and, finally, selecting the first two subvillages. In the third stage, the researcher approached the village leader (Sheha), face to face, and provided to the Sheha the details of the study and the research permit; after which, the Sheha assisted in providing the list of households, including the full name and address of household heads, from which the sample households were randomly selected by lottery. The sample selection method involved assigning each household a random number generated in Microsoft Excel, sorting the random numbers and selecting the first 200 households from the list of households. No other personal information of the households was provided by the Sheha. In the fourth (final) stage, the researcher approached the household head face to face and requested the household head or a household member aged 18 years and above selected by the household head to complete the questionnaire. A representative from the village government assisted in locating the sampled households, introducing the researcher and assuring the selected households that they are free to choose not to participate. In total, 174 households completed the questionnaire and 26 declined to participate.

3.3. Data collection

Data was collected through a survey carried out between June and August 2021 using a structured questionnaire. The questionnaire was developed based on previous work in the tourism impact literature [19,48] and comprised two sections. The first section sought to obtain demographic information from the respondents. Section two of the questionnaire comprised 24 statements regarding positive and negative impacts of tourism. The 24 tourism impact statements were evaluated using a five-point Likert scale with "strongly agree" at the high end and "strongly disagree" at the low end, which is a common scale for measuring perceptions of residents [50–52]. The questionnaire was developed in English and translated into Kiswahili for operationalisation. The ethical approval number IRDP/MPPME/19/124 dated 17th May 2021 was provided by the Research Committee of the Institute of Rural Development Planning. Before embarking on data collection, a research permit was obtained from the Second Vice President's Office of the Revolutionary Government of Zanzibar. Verbal consent was obtained from each respondent before the questionnaire was administered. Written consent was deemed not necessary as completing the questionnaires implied consent to participate.

3.4. Measurement

The items to measure the impacts of tourism were derived from the literature [19–26,38]. A total of 24 items (Table 1) were included.

A five-point Likert-type scale was used to measure the impacts of tourism. Further, to ensure validity of the measurement, the items used in the study were not categorised into either positive or negative groups as suggested by Wu et al. [26].

3.5. Data analysis

Analysis of the collected data was carried out using IBM SPSS Statistics software (version 20) in several stages. First, descriptive analysis was carried out. Residents’ perceptions of tourism impacts were examined using a 5-point Likert scale based on the following values: 1 = strongly disagree, 2 = disagree, 3 = indifferent, 4 = agree and 5 = strongly agree. Accordingly, the mean and standard deviation for each tourism impact statement were obtained using equations (1) and (2).

$$\bar{x} = \frac{\sum x_i}{N} \tag{Equation 1}$$

$$SD = \sqrt{\frac{\sum (x_i - \bar{x})^2}{N - 1}} \tag{Equation 2}$$

where,

x_i = number of respondents who selected the i th response.

N = total number of respondents.

Likert scale values were determined as follows: a mean of 4 or more denotes ‘agree’ while 2 and below imply ‘disagree’ as in previous studies [53,54].

Further, since the study comprises many variables, factor analysis was considered to help group the 24 variables. Correlations among the variables were examined to determine whether factor analysis could be used. However, the correlations were found to be weak, ranging from -0.205 to $+0.191$, indicating few commonalities, and so factor analysis was not necessary [55]. Thus, t-tests and One-Way ANOVA were applied to the 24 items. T-tests were carried out in case of one dependent variable and one independent variable divided into two subgroups. In case of three or more subgroups, One-Way Analysis of Variance (ANOVA) was performed. In performing the t-tests and the ANOVAs, normal distribution was assumed. Tukey’s Post Hoc Test was used to further analyse significant differences. The results were judged statistically significant when p-values were less than 0.05.

Before carrying out the analysis, an examination of missing values and outliers was carried out in the collected data. The examination revealed no missing values or outliers. Further, examination of univariate normality was done by verifying the skewness and kurtosis of the study items. The calculated values of skewness of parameters range from 1.506 to 0.880, which falls within the acceptable range of -3 to $+3$ [56]. Similarly, the values of kurtosis of all items range from -1.486 to 1.897, which again fall within the acceptable range of -10 to $+10$ [56].

Table 1
Questionnaire items and sources.

Item	Source
1. Tourism has increased entrepreneurial opportunities for local residents	[4,20,22,26]
2. Tourism has increased employment opportunities for local residents	[20–25,27,38]
3. Tourism has increased local employees’ wages level	[26]
4. Tourism has increased residents’ income	[4,21,22,26]
5. Tourism has improved residents’ standard of living	[19,21]
6. Tourism has increased income disparities	[23,26]
7. Tourism has increased the cost of living for residents	[19,22–24,26,27]
8. Tourism has improved residents’ access to basic social services such as education, health, water, electricity and security	[21,27]
9. Tourism promotes traditional crafts and ceremonies	[26]
10. Tourism has increased the pride of residents in local culture	[22,24–27]
11. Tourism enhances the preservation of local customs and culture	[23,26]
12. Tourism has increased the level of harmony in local society	[23,26]
13. Residents view foreign tourists as intruding in their community	[25]
14. Tourism has increased the decline in traditional culture	[22,23,26]
15. Tourism has increased the degradation of morality	[26,27]
16. Tourism has negative effects on traditional societal value	[26]
17. Tourism has increased social problems such as crime, drug use and prostitution	[21,24,26,27,38]
18. Tourism has increased residents’ awareness of natural environment preservation	[26]
19. Tourism provides incentive for the conservation of natural resources	[19,21,23,27]
20. Tourism provides incentive for the restoration of historic buildings	[19,22,27]
21. Tourism has increased plant destruction and deforestation	[24,26]
22. Tourism has increased the destruction of wetlands, soil, and beaches	[22,26]
23. Tourism has increased water pollution	[21–23,27]
24. Tourism has increased the quantity of litter	[26,27,38]

4. Results

4.1. Profile of respondents

Table 2 shows the profile of the study respondents. Among the sample analysed (n = 174), 63% were male (n = 109) and 37% were female (n = 65). Most of the respondents were aged 18–34 years (51 %, n = 89) and were married or living with a partner (81 %, n = 140). The highest education of a typical respondent was primary education or lower (59 %, n = 103). Majority of the respondents were farmers or fishermen (49 %, n = 85), followed by self-employed in the non-farm sectors (31 %, n = 53) and corporate employees (21 %, n = 36). The majority of the respondents earned an average monthly income of 400,000–600,000 shillings (35 %, n = 61), followed by 200,000–400,000 shillings (28 %, n = 48). Most of the respondents had lived in the study area for more than 31 years (59 %, n = 103).

4.2. Descriptive statistics

Descriptive statistics about residents' perception of tourism impacts are presented in Table 3. The results are based on perception statements that correspond to different impacts of tourism [21,31,57]. The results reveal that residents strongly agree that tourism has increased entrepreneurial opportunities for local residents by a mean of 4.1. The statement that tourism has increased employment opportunities for local residents was also strongly agreed with a mean of 4.1. The results, again, indicate that tourism has improved residents' access to basic social services such as education, health, water, electricity and security with a mean of 4.1. However, contrary to the perceptions of positive impacts, residents also strongly agreed that tourism has increased income disparities and cost of living for residents as designated by the means of 4.1 for both statements.

These results suggest that entrepreneurial opportunities, employment and improvements in social services are the key benefits of tourism perceived by Nungwi residents. At the same time, the benefits from tourism are not equally distributed among members of the population, resulting in the perception that the sector contributes to income inequality and cost of living among residents. These results further indicate residents' neutral perception concerning the socio-cultural and environmental impacts of tourism. Signifying that residents are least concerned about tourism impacts in these areas. Thus, tourism activities are perceived by the residents to be less harmful to the local environment and residents' cultural identities.

4.3. Explanatory variables

One-way ANOVA and t-test analysis were used to determine the existence of significant differences in the perception of impacts of tourism. In the results of the One-way ANOVA and t-tests (Table 4), statistically significant differences ($p < 0.05$) were evident in the following five factors: sex, age, length of residence, main occupation and income. The statistically significant factors were further subjected to Tukey HSD Post Hoc Test (Table 5) and considered for interpretation.

Table 2
Profile of respondents.

	N	Sample %
<i>Sex</i>		
Male	109	62.6
Female	65	37.4
<i>Age (years)</i>		
18–34	89	51.1
35–54	76	43.7
55+	9	5.2
<i>Marital status</i>		
Married or living with a partner	140	80.5
Single	15	8.6
Widow or widower	19	10.9
<i>Education</i>		
Primary or lower	103	59.2
Secondary to certificate	61	35.1
Ordinary diploma or higher	10	5.7
<i>Main occupation</i>		
Corporate employee	36	20.7
Farmer or fisherman	85	48.9
Self-employed (in the non-farm sector)	53	30.5
<i>Average monthly household income in TZS</i>		
below 200,000	27	15.5
200,000–400,000	48	27.6
400,000–600,000	61	35.1
600,000+	38	21.8
<i>Length of residence in the area (years)</i>		
11–20	18	10.3
21–30	53	30.5
31+	103	59.2

Length of residence in the area was a discriminator for the perception of three tourism impacts. Newcomers were more likely to view tourism as having “increased local employees’ wages level” ($p = 0.043$) as well as having “increased residents’ income” ($p = 0.040$) than residents who have lived in the area for a longer period. However, newcomers were less likely to view tourism as providing “incentive for the restoration of historic buildings” than long-term residents ($p = 0.041$). Therefore, H1 is partially supported.

Occupation type was a discriminator for one statement. Corporate employees and residents self-employed in the non-farm sector were more likely to view tourism as having “increased the pride of local residents in local culture” than farmers and fishermen ($p = 0.000$). Hence, H2 is also partially supported.

Sex was a discriminator for two of the perception statements. Female respondents were more likely to view tourism as having “increased the pride of local residents in local culture” ($p = 0.044$) as well as having “enhanced the preservation of local customs and culture” ($p = 0.014$) than male respondents. Thus, H3 is similarly partially supported.

The age of the respondent was a discriminator on the perception of residents regarding the impact of tourism on “increased income disparities” ($p = 0.015$). Specifically, younger respondents were less likely to view tourism as having increased income disparities than older respondents. Accordingly, H4 is partially supported.

Household income levels was a discriminator for one statement. Specifically, respondents with higher income tended to agree more with the view that “tourism has increased local employees’ wages level” than their lower income colleagues ($p = 0.019$). Hence, H7 is partially supported.

Results, however, show no significant differences in perception of the impacts of tourism based on respondents’ marital status. Thus, H5 is not supported. Likewise, results show no significant differences in perception of the tourism impacts based on levels of education. Thus, H6 is not supported.

5. Discussion

Overall, the results of the present study demonstrate that the sample respondents have a mixed perception of tourism impacts. Specifically, residents agreed more strongly that tourism has increased entrepreneurial opportunities for local residents, increased employment opportunities for local residents and improved local residents’ access to basic social services. However, residents also strongly agreed that tourism has increased income disparities and cost of living for local residents.

Nevertheless, the perceptions of the Nungwi residents on the impacts of tourism are not homogeneous and varied based on different factors. The current research has established that the most significant variables affecting the perception of tourism impacts within the sample were length of residence in the locality, type of occupation, sex, age and income. Specifically, the study found that newcomers have a more positive view of the economic benefits of tourism than the long-term residents. At the same time, long-term residents are found to have a more positive view of tourism’s socio-cultural impacts, such as the restoration of historic buildings, than newcomers. These findings are similar to Andriotis, Wanjohi [19,39]. However, these findings are partly in disagreement with van der Steina & Rozite [31] who found that newcomers evaluated tourism’s impact on the creation of new jobs and renovation of cultural and historical sites lower among Riga (Latvia) residents. The findings are also contrary to Liao et al. [30] who suggest that long-term residents tend to perceive more positive economic benefits than newcomers.

Another salient finding of the study is that farmers and fishermen in the sample were more likely to have negative opinions about tourism impacts than corporate employees and business owners, an indication that residents in farming and fishing occupations are not

Table 3
Descriptive statistics of perception statements.

SN.	Perception statement	Mean	Std. Dev.
1.	Tourism has increased entrepreneurial opportunities for local residents	4.06	1.14
2.	Tourism has increased employment opportunities for local residents	4.14	1.04
3.	Tourism has increased local employees’ wages level	2.63	1.53
4.	Tourism has increased residents’ income	3.42	1.42
5.	Tourism has improved residents’ standard of living	3.41	1.48
	Tourism has increased income disparities	4.06	0.94
6.	Tourism has increased cost of living for residents	4.09	1.14
	Tourism has improved residents’ access to basic social services such as education, health, water, electricity and security	4.13	1.15
7.	Tourism promotes traditional crafts and ceremonies	3.97	1.09
8.	Tourism has increased the pride of resident in local culture	2.85	1.37
9.	Tourism enhances the preservation of local customs and culture	2.27	1.28
10.	Tourism has increased level of harmony in local society	3.26	1.27
	Local residents view foreign tourists as intruding in their community	3.25	1.36
11.	Tourism has increased the decline in traditional culture	3.99	1.20
12.	Tourism has increased degradation of morality	3.85	1.27
13.	Tourism has negative effects on traditional societal value	3.70	1.30
14.	Tourism has increased social problems such as crime, drug use and prostitution	3.59	1.28
	Tourism has increased local resident’s awareness of natural environment preservation	2.95	1.46
15.	Tourism provides incentive for the conservation of natural resources	3.44	1.38
16.	Tourism provides incentive for the restoration of historic buildings	3.86	1.24
	Tourism has increased plant destruction and deforestation	3.80	1.30
17.	Tourism has increased destruction of wetland, soil, and beaches	3.45	1.44
18.	Tourism has increased water pollution	3.67	1.30
19.	Tourism has increased quantity of litter	3.67	1.33

Table 4
Results of the T and ANOVA tests.

SN.	Dependent variables	Length of residence		Occupation		Sex		Age		Marital status		Education		Income	
		1. F	Sig.	F	Sig.	T	Sig.	F	Sig.	F	Sig.	F	Sig.	F	Sig.
2.	Tourism has increased entrepreneurial opportunities for local residents	2.764	0.066	0.676	0.510	0.238	0.812	0.307	0.736	1.109	0.332	1.176	0.311	1.337	0.264
3.	Tourism has increased employment opportunities for local residents	0.354	0.702	1.146	0.320	1.462	0.147	1.271	0.283	0.880	0.417	1.347	0.263	0.761	0.517
4.	Tourism has increased local employees' wages level	3.201	0.043	0.870	0.421	-0.029	0.977	2.391	0.095	0.231	0.794	1.386	0.253	3.415	0.019
5.	Tourism has increased residents' income	3.290	0.040	0.382	0.683	-0.423	0.673	1.68	0.189	0.786	0.457	0.410	0.664	2.207	0.089
6.	Tourism has improved residents' standard of living	0.404	0.668	2.170	0.117	0.735	0.464	0.594	0.553	1.102	0.334	2.063	0.130	0.596	0.618
7.	Tourism has increased income disparities	1.563	0.212	2.820	0.062	0.344	0.732	4.284	0.015	0.040	0.961	1.237	0.293	1.165	0.325
8.	Tourism has increased cost of living for residents	1.427	0.243	0.431	0.650	0.130	0.897	2.823	0.062	0.127	0.881	0.953	0.388	1.906	0.130
9.	Tourism has improved local residences' access to basic social services	2.606	0.077	1.064	0.347	-0.472	0.638	0.796	0.453	0.459	0.632	0.191	0.827	0.391	0.760
10.	Tourism promotes traditional crafts and ceremonies	0.377	0.686	0.077	0.926	0.161	0.872	0.452	0.637	0.148	0.862	0.753	0.473	1.072	0.362
11.	Tourism has increased the pride of local residents in local culture	0.885	0.415	22.672	0.000	-2.035	0.044	0.717	0.490	1.166	0.314	1.876	0.156	0.946	0.420
12.	Tourism enhances the preservation of local customs and culture	0.145	0.865	0.299	0.742	-2.480	0.014	0.212	0.809	0.750	0.474	0.750	0.474	0.714	0.545
13.	Tourism has increased level of harmony in local society	0.829	0.438	0.536	0.586	1.241	0.217	0.897	0.410	0.221	0.802	1.455	0.236	0.953	0.416
14.	Local residents view foreign tourist as intruding in their community	0.45	0.638	1.635	0.198	0.401	0.689	0.832	0.437	0.474	0.624	0.391	0.677	1.605	0.190
15.	Tourism has increased the decline in traditional culture	0.252	0.778	0.510	0.601	-0.602	0.548	1.398	0.250	1.249	0.289	2.213	0.112	0.186	0.906
16.	Tourism has increased degradation of morality	0.089	0.915	0.763	0.468	-0.206	0.837	1.023	0.362	0.072	0.931	0.402	0.670	0.128	0.943
17.	Negative effect on traditional societal value	0.963	0.384	1.113	0.331	-1.781	0.077	0.369	0.692	0.883	0.415	0.059	0.943	1.396	0.246
18.	Tourism has increased social problems such as crime, drug use and prostitution	0.157	0.855	1.138	0.323	-0.319	0.75	0.004	0.996	0.364	0.695	0.603	0.548	0.463	0.709
19.	Tourism has increased local resident's awareness of natural environment preservation	0.601	0.549	2.084	0.128	-0.673	0.502	0.195	0.823	0.074	0.929	2.015	0.136	2.277	0.082
20.	Tourism provides incentive for the conservation of natural resources	0.155	0.857	1.083	0.341	1.605	0.111	0.21	0.811	0.677	0.509	0.405	0.668	0.538	0.657
21.	Tourism provides incentive for the restoration of historic buildings	3.267	0.041	0.070	0.932	-0.770	0.443	0.525	0.592	0.199	0.820	0.206	0.814	0.328	0.805
22.	Tourism has increased plant destruction and deforestation	0.761	0.469	0.303	0.739	-0.628	0.531	0.424	0.655	1.345	0.263	0.085	0.919	0.758	0.519
23.	Tourism has increased destruction of wetland, soil, and beaches	0.725	0.486	2.147	0.120	-0.413	0.680	0.488	0.614	1.714	0.183	1.474	0.232	1.406	0.243
24.	Tourism has increased water pollution	0.470	0.626	0.227	0.797	0.693	0.489	1.88	0.156	1.383	0.254	0.266	0.767	0.077	0.972
25.	Tourism has increased quantity of litter	0.609	0.545	0.586	0.558	0.686	0.494	0.706	0.495	0.371	0.691	1.184	0.309	0.131	0.942

Note: The values shown in bold indicate a statistical significance at the 0.05 level of confidence.

given adequate opportunities to gain from tourism. These findings correlate with Muganda et al., Upadhaya et al., Benansio et al. [33, 47,58]’s view that tourism development has failed to help improve farmers’ and fishers’ living condition.

Further, female respondents’ perception of tourism’s impact on local residents’ pride in local culture as well as preservation of local customs and culture differed significantly from their male counterparts with female respondents more likely to report positive impacts than males. These findings are similar to Muganda, Simao & Mosso [35,58] but are contrary to those reported in several literature [21, 29,33,40,41] which show no significant impact of sex on residents perception of tourism impacts.

Furthermore, contrary to previous studies on tourism impacts [33,39], younger respondents perceive more negative economic impacts of tourism, such as increase in income disparities, than older respondents. Regarding household income levels, the study findings are similar to previous studies [19,33,39] in that higher-income households tend to perceive positive economic impacts of tourism than low-income households. Specifically, the study finds that higher income households perceived tourism has increased local employees’ wages level contrary to the perception of lower-income households. On the other hand, the study finds no significant effects of marital status and education level on residents’ perception of tourism impacts similar to previous studies [21,39].

6. Conclusion and recommendations

6.1. Conclusions

This study aimed to understand the aspects of the tourism impacts that are perceived positively or negatively in host communities

Table 5
Independent sample T-Test and one way ANOVA Tukey HSD Post Hoc test.

Grouping criteria	Dependent variable	I	J	Mean Diff. (I-J)	Std. Error	Sig.
Length of residence in the area (years)	Tourism has increased local employees’ wages level	11–20	21–30	1.029*	.411	.035
			31+	.852	.385	.072
		21–30	11–20	–1.029*	.411	.035
			31+	–.177	.255	.766
		31+	11–20	–.852	.385	.072
			21–30	.177	.255	.766
	Tourism has increased residents’ income	11–20	21–30	–.032	.381	.996
			31+	.528	.357	.303
		21–30	11–20	.032	.381	.996
			31+	.561*	.236	.049
		31+	11–20	–.528	.357	.303
			21–30	–.561*	.236	.049
Tourism provides incentive for the restoration of historic buildings	11–20	21–30	–.796*	.333	.047	
		31+	–.765*	.312	.040	
	21–30	11–20	.796*	.333	.047	
		31+	.030	.206	.988	
	31+	11–20	.765*	.312	.040	
		21–30	–.030	.206	.988	
Main occupation	Tourism has increased the pride of local residents in local culture	Company employee	Farmer or fisherman	1.205*	.243	.000
			Self-employed (in the non-farm sector)	–.074	.264	.958
			Farmer or fisherman	–1.205*	.243	.000
		Farmer or fisherman	Self-employed (in the non-farm sector)	–1.279*	.214	.000
			Company employee	.074	.264	.958
			Farmer or fisherman	1.279*	.214	.000
Sex	Tourism has increased the pride of local residents in local culture	Male	Female	–.435		.042
	Tourism enhances the preservation of local customs and culture	Male	Female	–.502		.012
Age of respondents (years)	Tourism has increased income disparities	18–34	35–54	–.248	.145	.204
			55+	–.868*	.324	.022
		35–54	18–34	.248	.145	.204
			55+	–.620	.327	.143
		55+	18–34	.868*	.324	.022
			35–54	.620	.327	.143
Average monthly household income (TZS)	Tourism has increased local employees’ wages level	below 200,000	200,000–400,000	.037	.360	1.000
			400,000–600,000	–.187	.346	.949
			600,000+	–.919	.376	.073
			below 200,000	–.037	.360	1.000
		200,000–400,000	400,000–600,000	–.224	.288	.865
			600,000+	–.956*	.325	.019
			below 200,000	.187	.346	.949
			200,000–400,000	.224	.288	.865
		400,000–600,000	600,000+	–.732	.309	.087
			below 200,000	.919	.376	.073
			200,000–400,000	.956*	.325	.019
			400,000–600,000	.732	.309	.087

as well as the underlying causes of perception differences. The study has revealed the following three impacts of tourism which are perceived positively by Nungwi residents: increase in entrepreneurial opportunities, increase in employment opportunities and improved residents' access to social services. The study also identified two key aspects which are perceived negatively by the residents in the studied communities including residents' concerns over the increase in income inequalities as well as increase in cost of living due to tourism development. The findings further suggest occupation is a key differentiating factor in the association of tourism development to residents' pride in local culture, with corporate employees and entrepreneurs more likely to view positive contribution of tourism to residents' pride in local culture than farmers and fishermen. Furthermore, the study confirmed the heterogeneity of residents' perception regarding tourism impacts in the studied communities which are caused by five key variables namely length of residence in the area, type of occupation, sex, age and level of income.

The findings of the current study may help to broaden the understanding of the limited and contradictory research into the perception of tourism impacts in host communities and the factors that influence such perception in the context of Sub-Saharan Africa beach tourism. Such an understanding would increase the baseline knowledge available to tourism stakeholders and provide useful insights that may be considered when planning, developing, and implementing tourism-related policies and plans. The study, therefore, contributes theoretically and practically to tourism planning in Tanzania and the developing world. The study, further, contributes to the residents' perception literature in a rural developing country context.

6.2. Recommendations

Based on the findings of the present study, concerted efforts are needed to support residents through interventions that help reduce the negatively perceived impact of tourism development, specifically income inequalities and the rise in cost of living. These could include market linkage programmes to help local farmers and fishers integrate into the tourism value chain such as strengthening their capacity to supply their produce to tourist hotels which will help increase their income and their ability to afford the cost of living. Further, programmes to build residents entrepreneurial capacities should be strengthened to help residents tap into increased entrepreneurial opportunities generated by tourism development.

6.3. Limitations and future research

The authors are aware of several limitations to the generalisation of the findings. First, the study expects a certain self-selection-bias due to the over-representation of male respondents in the sample (see Table 2). The study is also cross-sectional, focused on a limited geographical area of Zanzibar and uses a relatively small sample size. The extent to which these demographic, geographical and methodological factors influence the findings is not known. Despite these limitations, the two primary purposes of the research, i.e. 1) understanding the tourism impacts that are perceived positively or negatively in the host communities and 2) the socio-demographic causes of perception differences in the study area, were achieved.

Funding statement

This research did not receive any specific grant from funding agencies in the public, commercial or not-for-profit sectors.

Data availability statement

Data will be made available on request.

CRediT authorship contribution statement

Vedastus Lyaya Timothy: Writing – review & editing, Writing – original draft, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Said Khamis Said:** Writing – review & editing, Writing – original draft, Validation, Resources, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2023.e21816>.

Annex 1. Pearson Correlations (2-tailed)

SN Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1 Tourism has increased entrepreneurial opportunities for local residents	1	0.052	0.139	-0.026	-0.036	-0.031	-0.054	0.072	0.037	0.067	-0.034	0.070	0.004	-0.139	-0.033	-0.009	.191*	-0.094	-0.048	-0.015	0.009	-0.035	0.127	0.066
2 Tourism has increased employment opportunities for local residents	0.052	1	-0.053	-.159*	-0.027	-0.011	0.029	-0.050	-0.042	-0.148	-0.027	-0.027	-0.032	-0.064	-0.041	-0.072	0.123	-0.034	-0.020	0.039	-0.053	0.089	-0.035	-.181*
3 Tourism has increased local employees' wages level	0.139	-0.053	1	0.105	0.000	-0.027	-0.076	-0.129	-0.016	0.112	-0.052	-0.020	0.142	0.037	0.007	0.084	-0.076	0.067	0.072	0.110	-0.018	-0.098	-0.084	0.058
4 Tourism has increased residents' income	-0.026	-.159*	0.105	1	0.131	0.037	0.075	0.027	0.033	.160*	-0.029	-0.052	-0.026	0.069	0.103	0.009	0.013	-0.042	-0.011	0.059	-0.114	0.013	0.008	0.135
5 Tourism has increased income disparities	-0.036	-0.027	0.000	0.131	1	-0.016	0.035	-0.064	0.038	-0.082	-0.123	0.129	-0.088	0.050	0.095	0.067	-0.012	0.095	0.051	-0.054	0.122	0.047	-0.034	-0.053
6 Tourism has increased cost of living for local residents	-0.031	-0.011	-0.027	0.037	-0.016	1	0.007	0.049	0.007	0.095	-0.033	-0.098	-0.005	-0.014	-0.094	0.037	-0.007	0.102	0.006	0.075	.187*	0.111	0.004	0.070
7 Tourism promotes traditional crafts and ceremonies	-0.054	0.029	-0.076	0.075	0.035	0.007	1	-0.026	0.063	-0.045	0.124	0.122	-0.108	0.049	0.017	-0.133	0.001	0.118	0.122	-0.051	-0.003	0.004	0.077	-0.046
8 Tourism has increased the pride of local resident in local culture	0.072	-0.050	-0.129	0.027	-0.064	0.049	-0.026	1	0.076	0.015	-0.004	0.047	0.085	0.054	0.124	-0.002	-0.046	0.015	-0.136	-0.050	-0.052	0.076	-0.054	-0.008
9 Tourism enhances the preservation of local customs and culture	0.037	-0.042	-0.016	0.033	0.038	0.007	0.063	0.076	1	-0.069	0.046	0.050	0.025	0.015	-0.042	-0.041	-0.046	0.029	0.103	0.029	0.079	-0.017	-0.091	0.067
10 Tourism has increased level of harmony in local society	0.067	-0.148	0.112	.160*	-0.082	0.095	-0.045	0.015	-0.069	1	-0.049	-0.002	0.112	-0.056	-0.129	-0.007	-0.102	0.095	0.126	0.048	-0.045	0.115	0.040	0.137
11 Tourism has increased the decline in traditional culture	-0.034	-0.027	-0.052	-0.029	-0.123	-0.033	0.124	-0.004	0.046	-0.049	1	-0.081	-0.038	0.104	-0.067	-0.058	0.101	0.059	-0.056	0.069	0.024	-0.064	-0.075	-0.035
12 Tourism has increased degradation of morality	0.070	-0.027	-0.020	-0.052	0.129	-0.098	0.122	0.047	0.050	-0.002	-0.081	1	-0.055	-0.116	-0.089	-0.015	0.027	0.045	0.059	-.205**	0.091	0.055	-0.074	-0.032
13 Negative effect on traditional societal value	0.004	-0.032	0.142	-0.026	-0.088	-0.005	-0.108	0.085	0.025	0.112	-0.038	-0.055	1	-.189*	-0.021	0.061	-.185*	-0.060	-0.027	-0.062	0.007	0.116	0.007	-0.026
14 Tourism has increased social problems such as	-0.139	-0.064	0.037	0.069	0.050	-0.014	0.049	0.054	0.015	-0.056	0.104	-0.116	-.189*	1	-0.033	0.026	0.059	0.020	-.202**	0.145	-0.028	-.167*	-0.022	-0.006

(continued on next page)

(continued)

SN Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
15 crime, drug use and prostitution Tourism has increased local residents' awareness of natural environment preservation		-0.033	-0.041	0.007	0.103	0.095	-0.094	0.017	0.124	-0.042	-0.129	-0.067	-0.089	-0.021	-0.033	1	0.141	-0.055	-0.073	-0.083	0.083	-0.063	0.101	-0.041	0.018
16 Tourism provide incentive for the conservation of natural resources		-0.009	-0.072	0.084	0.009	0.067	0.037	-0.133	-0.002	-0.041	-0.007	-0.058	-0.015	0.061	0.026	0.141	1	-0.002	-0.051	-0.044	0.087	0.107	-0.013	-0.011	0.017
17 Tourism provide incentive for the restoration of historic buildings		.191*	0.123	-0.076	0.013	-0.012	-0.007	0.001	-0.046	-0.046	-0.102	0.101	0.027	-.185*	0.059	-0.055	-0.002	1	0.090	-0.027	-0.032	-0.122	-0.051	-0.016	0.101
18 Tourism has increased plant destruction and deforestation		-0.094	-0.034	0.067	-0.042	0.095	0.102	0.118	0.015	0.029	0.095	0.059	0.045	-0.060	0.020	-0.073	-0.051	0.090	1	-0.063	-0.097	0.015	0.082	-0.028	-0.069
19 Tourism has increased destruction of wetland, soil, and beaches		-0.048	-0.020	0.072	-0.011	0.051	0.006	0.122	-0.136	0.103	0.126	-0.056	0.059	-0.027	-.202**	-0.083	-0.044	-0.027	-0.063	1	0.017	0.111	-0.023	0.009	0.145
20 Tourism has increased water pollution		-0.015	0.039	0.110	0.059	-0.054	0.075	-0.051	-0.050	0.029	0.048	0.069	-.205**	-0.062	0.145	0.083	0.087	-0.032	-0.097	0.017	1	-0.046	-0.067	-.161*	0.014
21 Tourism has increased quantity of litter		0.009	-0.053	-0.018	-0.114	0.122	.187*	-0.003	-0.052	0.079	-0.045	0.024	0.091	0.007	-0.028	-0.063	0.107	-0.122	0.015	0.111	-0.046	1	0.011	-0.085	.166*
22 Tourism has improved standard of living		-0.035	0.089	-0.098	0.013	0.047	0.111	0.004	0.076	-0.017	0.115	-0.064	0.055	0.116	-.167*	0.101	-0.013	-0.051	0.082	-0.023	-0.067	0.011	1	-.152*	-0.008
23 Tourism has improved local residences' access to basic social services		0.127	-0.035	-0.084	0.008	-0.034	0.004	0.077	-0.054	-0.091	0.040	-0.075	-0.074	0.007	-0.022	-0.041	-0.011	-0.016	-0.028	0.009	-.161*	-0.085	-.152*	1	-0.048
24 Local residents view of foreign tourist as intruding in their community		0.066	-.181*	0.058	0.135	-0.053	0.070	-0.046	-0.008	0.067	0.137	-0.035	-0.032	-0.026	-0.006	0.018	0.017	0.101	-0.069	0.145	0.014	.166*	-0.008	-0.048	1

*. Correlation is significant at the 0.05 level (2-tailed).
 **. Correlation is significant at the 0.01 level (2-tailed).

References

- [1] A. Blake, J.S. Arbache, M.T. Sinclair, V.K. Teles, Tourism and poverty relief, *Ann. Tourism Res.* 35 (1) (2008) 107–126.
- [2] K.X. Li, M. Jin, W. Shi, Tourism as an important impetus to promoting economic growth: a critical review, *Tourism Manag. Perspect.* 26 (2018) 135–142.
- [3] E.T. Njoya, N. Seetaram, Tourism contribution to poverty alleviation in Kenya: a dynamic computable general equilibrium analysis, *J. Trav. Res.* 57 (4) (2018) 513–524, <https://doi.org/10.1177/0047287517700317>.
- [4] M. Muganda, M. Sahli, K.A. Smith, Tourism's contribution to poverty alleviation: a community perspective from Tanzania, *Dev. South Afr.* 27 (5) (2010) 629–646, <https://doi.org/10.1080/0376835X.2010.522826>.
- [5] WTTTC, Economic Impact Reports, Retrieved, 2022. from, <https://wttc.org/Research/Economic-Impact>. (Accessed 20 July 2022).
- [6] Unwto, World Tourism Barometer - Statistical Annex, vol. 19, 2021.
- [7] D.J. Wade, B.C. Mwasaga, P.F.J. Eagles, A history and market analysis of tourism in Tanzania, *Tourism Manag.* 22 (2001) 93–101.
- [8] URT, The Economic Survey 2010, 2011.
- [9] URT, Hali Ya Uchumi Wa Taifa 2021, 2022.
- [10] URT, Hali Ya Uchumi Wa Taifa Katika Mwaka 2018, 2019.
- [11] NBS, & BOT, International Visitors' Exit Survey Report, 2019, 2019.
- [12] Bot, Annual Report 2018/19, (0067–3757), 2019, pp. 213–234.
- [13] V.C. Kyara, M.M. Rahman, R. Khanam, Tourism expansion and economic growth in Tanzania: a causality analysis, *Heliyon* 7 (5) (2021), <https://doi.org/10.1016/j.heliyon.2021.e06966>.
- [14] Z.C.T. Rgz, Z.A.T.I. Unicef, Bureau Wyser, Assessment of the Impact of Tourism on Communities and, UNICEF Tanzania, 2018.
- [15] M.K. Rahman, M.S. Rana, A. Hassan, Development and investment in core niche tourism products and services in Bangladesh, in: A. Hassan (Ed.), *Tourism in Bangladesh: Investment and Development Perspectives*, Springer Singapore, 2022, pp. 127–139, https://doi.org/10.1007/978-981-16-1858-1_9.
- [16] NBS, & BOT, The Tanzania Tourism Sector Survey - the 2018 International Visitors' Exit Survey Report, 2018.
- [17] G. Avond, C. Bacari, I. Limea, H. Seraphin, V. Gowreesunkar, R. Mhanna, Overtourism: a result of the Janus-faced character of the tourism industry, *Worldwide Hospitality and Tourism Themes* 11 (5) (2019) 552–565, <https://doi.org/10.1108/WHAT-06-2019-0039>.
- [18] V. Mutayoba, R. Mbwete, Is booming tourism in zanzibar pro-poor? A micro-economic impact analysis, *KIVUKONI Journal* 1 (2) (2013) 104–120.
- [19] K. Andriotis, The perceived impact of tourism development by cretan residents, *Tourism Hospit. Plann. Dev.* 1 (2) (2004) 123–144, <https://doi.org/10.1080/1479053042000251061>.
- [20] C. Cardoso, M. Silva, Residents' perceptions and attitudes towards future tourism development: a challenge for tourism planners, *Worldwide Hospitality and Tourism Themes* 10 (6) (2018) 688–697, <https://doi.org/10.1108/WHAT-07-2018-0048>.
- [21] A.H. Charag, A.I. Fazili, I. Bashir, Residents' perception towards tourism impacts in Kashmir, *International Journal of Tourism Cities* 7 (3) (2021) 741–766, <https://doi.org/10.1108/IJTC-11-2019-0202>.
- [22] N.M. Hammad, S.Z. Ahmad, A. Papastathopoulos, Evaluating perceptions of residents' towards impacts of tourism development in Emirates of Abu Dhabi, *United Arab Emirates, Tour. Rev.* 72 (4) (2017) 448–461, <https://doi.org/10.1108/TR-03-2017-0046>.
- [23] V.H. Nguyen, Segmenting local residents by perceptions of tourism impacts in Sapa, Vietnam: a cluster analysis, *International Journal of Tourism Cities* 8 (1) (2022) 153–167, <https://doi.org/10.1108/IJTC-03-2021-0046>.
- [24] S.M. Rasoolimanesh, M. Jaafar, Residents' perception toward tourism development: a pre-development perspective, *J. Place Manag. Dev.* 9 (1) (2016) 91–104, <https://doi.org/10.1108/JPM-10-2015-0045>.
- [25] M. Rivera, R. Croes, S.H. Lee, Tourism development and happiness: a residents' perspective, *J. Destin. Market. Manag.* 5 (1) (2016) 5–15, <https://doi.org/10.1016/j.jdmm.2015.04.002>.
- [26] H. Wu, S. Kim, A.K.F. Wong, Residents' perceptions of desired and perceived tourism impact in Hainan Island, *Asia Pac. J. Tourism Res.* 25 (6) (2020) 573–591, <https://doi.org/10.1080/10941665.2020.1752749>.
- [27] G. Moscardo, E. Konovalov, L. Murphy, N. McGehee, Mobilities, community well-being and sustainable tourism, *J. Sustain. Tourism* 21 (4) (2013) 532–556, <https://doi.org/10.1080/09669582.2013.785556>.
- [28] D. Styliadis, A. Biran, J. Sit, E.M. Szivas, Residents' support for tourism development: the role of residents' place image and perceived tourism impacts, *Tourism Manag.* 45 (2014) 260–274, <https://doi.org/10.1016/j.tourman.2014.05.006>.
- [29] F.E. Amuquandoh, Residents' perceptions of the environmental impacts of tourism in the Lake Bosomtwe Basin, Ghana, *J. Sustain. Tourism* 18 (2) (2010) 223–238, <https://doi.org/10.1080/09669580903298531>.
- [30] C.C. Liao, Y.X. Lin, H.H. Hsieh, Satisfaction of indigenous tourism from residents' perspective: a case study in Nantou County, Taiwan, *Sustainability* 11 (2) (2019) 1–12, <https://doi.org/10.3390/su11010276>.
- [31] A. van der Steina, M. Rozite, Tourism Development in Riga: Resident Attitudes toward Tourism, in: D. Müller, M. Więckowski (Eds.), *Tourism in Transitions. Geographies of Tourism and Global Change*, Springer, Cham, 2018, pp. 137–155, https://doi.org/10.1007/978-3-319-64325-0_8.
- [32] L. Dai, S. Wang, J. Xu, L. Wan, B. Wu, Qualitative analysis of residents' perceptions of tourism impacts on historic districts: a case study of Nanluoguxiang in Beijing, China, *J. Asian Architect. Build Eng.* 16 (1) (2017) 107–114, <https://doi.org/10.3130/jaabe.16.107>.
- [33] S. Upadhaya, S. Tiwari, B. Poudyal, S.G. Chhetri, N. Dhungana, Local people's perception of the impacts and importance of ecotourism in Central Nepal, *PLoS One* 17 (5 May) (2022) 1–15, <https://doi.org/10.1371/journal.pone.0268637>.
- [34] V. Muler Gonzalez, L. Coromina, N. Galí, Overtourism: residents' perceptions of tourism impact as an indicator of resident social carrying capacity - case study of a Spanish heritage town, *Tour. Rev.* 73 (3) (2018) 277–296, <https://doi.org/10.1108/TR-08-2017-0138>.
- [35] J. Simão, A. Mósso, Residents' perceptions towards tourism development: the case of Sal Island, *Int. J. Dev. Issues* 12 (2) (2013) 140–157, <https://doi.org/10.1108/IJDI-12-2012-0076>.
- [36] Q.H. Truong, A.T. Nguyen, Q.A. Trinh, T.N.L. Trinh, L. Hens, Hierarchical variance analysis: a quantitative approach for relevant factor exploration and confirmation of perceived tourism impacts, *Int. J. Environ. Res. Publ. Health* 17 (8) (2020), <https://doi.org/10.3390/ijerph17082786>.
- [37] R.E. Ngowi, D. Jani, Residents' perception of tourism and their satisfaction: evidence from Mount Kilimanjaro, Tanzania, *Dev. South Afr.* 35 (6) (2018) 731–742, <https://doi.org/10.1080/0376835X.2018.1442712>.
- [38] V.M. Gonzalez, L. Coromina, N. Galí, Overtourism: residents' perceptions of tourism impact as an indicator of resident social carrying capacity - case study of a Spanish heritage town, *Tour. Rev.* 73 (3) (2018) 277–296, <https://doi.org/10.1108/TR-08-2017-0138>.
- [39] K. Wanjohi, Perceived socio-cultural impacts of tourism: the case of Malindi, Kenya Kibicho, in: *Cultural Tourism in Africa: Strategies for the New Millennium, 2002*, pp. 77–93. Arnheim: ATLAS.
- [40] A. Genet, A. Engdawork, Bishoftu town residents perception about economic, environmental and socio-cultural impacts of urban tourism, *J. Hospit. Manag. Tourism* 11 (2) (2020) 21–39, <https://doi.org/10.5897/jhmt2020.0277>.
- [41] I. Pavlic, A. Portolan, B. Puh, Does tourism cut the branch it is sitting on? – local residents' perspective, *Montenegrin J. Econ.* 15 (2) (2019) 153–164, <https://doi.org/10.14254/1800-5845/2019.15-2.12>.
- [42] S.A. Eshliki, M. Kaboudi, Community perception of tourism impacts and their participation in tourism planning: a case study of Ramsar, Iran, *Procedia - Social and Behavioral Sciences* 36 (June 2011) (2012) 333–341, <https://doi.org/10.1016/j.sbspro.2012.03.037>.
- [43] J.B. Garau-Vadell, R. Diaz-Armas, D. Gutierrez-Tano, Residents' perceptions of tourism impacts on island destinations: a comparative analysis, *Int. J. Tourism Res.* 16 (2014) 578–585, <https://doi.org/10.1002/jtr>.
- [44] Z. Breda, C. Costa, Tourism development, conflicts and sustainability: the case of Goa, in: *Handbook of Tourism Economics: Analysis, New Applications and Case Studies*, 2013, pp. 683–704, https://doi.org/10.1142/9789814327084_0029.
- [45] G. Abera, E. Assefa, Bishoftu town residents perception about economic, environmental and socio-cultural impacts of urban tourism, *J. Hospit. Manag. Tourism* 11 (2) (2020) 21–39, <https://doi.org/10.5897/jhmt2020.0277>.

- [46] J. Saarinen, H. Manwa, Tourism as a socio-cultural encounter : host-guest relations in tourism development in Botswana, Botsw. Notes Rec. 39 (2008) 43–53.
- [47] J.S. Benansio, M. Wolff, A. Breckwoldt, N. Jiddawi, Have the fishing communities of Zanzibar Island benefited from increasing tourism development? J. Dev. Agric. Econ. 8 (5) (2016) 95–107, <https://doi.org/10.5897/jdae2016.0727>.
- [48] M. Njole, Tourism for Sustainable Local Livelihood and Nature Conservation: A Case of Lake Manyara National Park, Wageningen University and Research Centre, 2011.
- [49] URT, Population and Housing Census - Village Statistics, 2012.
- [50] P. Naidoo, R. Sharpley, Local perceptions of the relative contributions of enclave tourism and agritourism to community well-being: the case of Mauritius, J. Destin. Market. Manag. 5 (2016), <https://doi.org/10.1016/j.jdmm.2015.11.002>.
- [51] M. Yolal, D. Gursoy, M. Uysal, H. Kim, Lina), S. Karacaoğlu, Impacts of festivals and events on residents' well-being, Ann. Tourism Res. 61 (2016) 1–18, <https://doi.org/10.1016/j.annals.2016.07.008>.
- [52] J. Gong, P. Detchkhajornjaroensri, D.W. Knight, Responsible tourism in Bangkok, Thailand: resident perceptions of Chinese tourist behaviour, Int. J. Tourism Res. 21 (2019) 221–233.
- [53] S.K. Amponsah, A. Addo, K. Dzisi, B. Asante, D. Afona, Assessment of rice farmers' knowledge and perception of harvest and postharvest losses in Ghana, Cogent Food Agric. 4 (1) (2018) 1–14, <https://doi.org/10.1080/23311932.2018.1471782>.
- [54] K.T. Smith, A. Pinkerton, Apartment selection by college students: do Americans and Asians use different criteria, information sources, and media? Int. J. Hous. Mark. Anal. 14 (1) (2021) 55–71, <https://doi.org/10.1108/IJHMA-12-2019-0124>.
- [55] J. Hair, W.C. Black, B.J. Babin, R.E. Anderson, Multivariate Data Analysis, Cengage, 2019.
- [56] T.A. Brown, Confirmatory Factor Analysis for Applied Research, The Guilford Press, 2006.
- [57] D.B. Vukovic, M. Maiti, A. Vujko, R. Shams, Residents' perceptions of wine tourism on the rural destinations development, Br. Food J. 122 (8) (2020) 2739–2753, <https://doi.org/10.1108/BFJ-04-2019-0291>.
- [58] M. Muganda, M. Sahli, K.A. Smith, Tourism's contribution to poverty alleviation: a community perspective from Tanzania, Dev. South Afr. 27 (5) (2010) 629–646.