

Drivers of Local Communities Perceptions of Tourism Impacts: An Empirical Investigation in Bogor Regency, Indonesia

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ABSTRACT

By integrating social exchange theory, the norm activation model, and the theory of planned behaviour, this study investigates the effects of awareness of environmental consequences (AEC), environmental attitudes (EA), and local communities' attachments (LCA) on perceptions of tourism impacts, including economic, environmental, social, and physical impacts. Four hundred seventy-eight responses were collected from local communities in Bogor Regency, Indonesia, and the data was analysed using Smart PLS version 4. This study analyses all factors influencing perceptions of tourism impacts to fill the gap from earlier conceptual and empirical studies. Further, it was found that environmental attitudes needed to influence all perceptions of tourism impacts, and local communities also needed to influence perceptions of social impacts. By analysing a thorough model, this study advances factors of perception of tourism impacts by providing supporting and non-supporting factors. Practical applications and potential research directions are discussed.

Keywords: Local community, norms activation model, rural tourism, social exchange theory, tourism impacts

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INTRODUCTION

United Nations World Tourism Organization (UNWTO) declared the scenario for a tourism rebound in 2022; rural tourism is one of the key travel trends that will drive the tourism recovery post-COVID-19 pandemic (UNWTO, 2022). Furthermore, rural tourism is the ideal tool to achieve sustainable development (Lopez-Sanz et al., 2021), where the goal is to find a

middle ground between regional economic development, community development (Walia, 2020), and the protection of a destination's natural features (Jaya et al., 2022). For over twenty years, scholars have considered whether tourism empowers communities (Scheyvens et al., 2021). Discussions of sustainable forms of tourism will always be an ongoing debate, as they are essential for environmental reasons and generate significant economic and social benefits for locals within the sustainability domain (Iskandar et al., 2020; Roblek et al., 2021; Schubert & Schamel, 2020).

To ensure the success of conservation developments, Shien et al. (2022) suggested that future research study the perceptions of local communities since the participation of grassroots and local communities paves the way for the development of sustainable practices and the preservation of natural resources (Giddings et al., 2002). Wang et al. (2021) mentioned that population growth and environmental deterioration have emerged as significant challenges to sustainable development in the modern era. In contrast, Winingsih et al. (2022) declared that humans are promoters and catalysts for environmental change.

Rural tourism poses a challenge in identifying the primary contributors to environmental problems as local communities and tourists share the same areas and participate in tourism activities (Tou et al., 2022). Previous research on environmental issues has primarily focused on existing debris (Hayati et al., 2020), garbage problems (Pham et al., 2019), and solid waste (Rada et al., 2013) and has not

extensively explored the waste generated solely by tourism activities. Waste generated from tourism should not be a significant issue if management allocates sufficient resources for its handling. If waste becomes a problem, it indicates that tourism revenue needs to be effectively invested in waste management and other critical environmental protections, particularly those related to rural tourism activities. Rather than finger-pointing, understanding the underlying factors that influence communities' perceptions of tourism impacts is more significant for addressing these issues as it will determine the subsequent level of communities' assistance for tourism growth (Ghaderi et al., 2021; Štrba et al., 2022). Not to mention growth, even some regional infrastructure is felt to be lacking (Ardiansyah & Iskandar, 2022; Giam & Megawati, 2019).

The social exchange theory, the norm activation model, and the theory of planned behaviour were used to derive the factors that influence perceptions of tourism impacts in an integrated construct: economic, environmental, social, and physical impacts. These theories were used to fill the gaps in earlier conceptual and empirical studies (Orgaz-Aguera et al., 2020; Piatrini, 2018; Safshekan et al., 2020; Zhao et al., 2020). Rural tourism with the sustainable principle of UNWTO, "leave no one and no village behind", fits perfectly to study the balance of environmental, economic, and socio-cultural aspects of tourism development.

Rural tourism development in Indonesia is unquestionably well developed. Ninety-seven new rural tourism destinations were established in just three years (Indonesia

Central Bureau of Statistics, 2018; Kemenparekraf, 2021); being the 13th largest country by land area, Indonesia owns 75.436 registered villages. That enormous number of villages opens up favourable circumstances for rural tourism. Indonesia has 1.734 registered rural tourism villages (Kemenparekraf, 2021). With their abundant natural wealth, the chances for rural tourism development are tremendous. Although the exact increase percentage remains unknown, 6.158 villages successfully declassified themselves from being underdeveloped (Swadaya) in 2014–2018 (Putra, 2018). It is still unknown whether the transition from an underdeveloped (Swadaya) to a developed (Swakarya) village is attributable to the tourism industry, as Sharif et al. (2020) discovered that economic growth contributes to environmental damage, which also caused alarm.

Despite extensive tourism growth in Bogor Regency, West Java, more studies are needed on the environmental conservation behaviours of local communities. Despite tourism being a significant economic catalyst, the precise economic benefits of this activity still need to be determined, and there is a distinct disparity between the population of local communities and the number of tourists. Assessing the involvement of long-term inhabitants in environmental protection is essential since the community's actions directly impact and are influenced by continuous environmental changes. This study aims to fill an existing research gap by investigating the environmental conservation practices of local populations

in order to enhance the knowledge base for sustainable tourism strategies. Hence, it is crucial to promptly research environmental conservation behaviours in Bogor Regency, West Java, Indonesia. This region, which is the most populous province and has the highest number of rural tourism destinations in Indonesia (Bogor Dinas Komunikasi dan Informasi [BDKI], 2022), has over 5 million residents, plus a significant number of incoming tourists.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The importance of perceived tourism benefits in evaluating tourist growth and the general quality of life in local communities must be considered. The local community has a positive attitude toward tourism and its development, responding that it would improve their quality of life in the future. The more informed and involved the local community is, the more positive its perceptions of tourism will be (Lopes et al., 2019).

The majority of local communities are tourist-oriented, and they believe the existing level of tourism is compatible with the area's features, as evidenced by a positive correlation between their perceptions and the level of support for tourism in their area. In addition, these findings were bolstered by the fact that local communities' attachment is positively correlated with local communities' perceptions of tourism development (Demirović Bajrami et al., 2020; Wardana et al., 2020). Conversely, an unfavourable perception of the impacts

of tourism can lead residents to express criticism, withhold support, and exhibit a lack of interest in participating in tourism development within the area (Kusherdiana, 2021).

The Theory of Planned Behaviour (TPB) is one of the most popular theories for studying human behaviour (Ahmad et al., 2021; Anwar et al., 2021; Arundati et al., 2020; Liobikiene & Poskus, 2019; Zhang et al., 2017). The Norm Activation Model (NAM) includes different kinds of antecedents to make its predictions about pro-social behaviour (Nasr et al., 2022; Orgaz-Aguera et al., 2020; Pradhananga et al., 2021; Safshekan et al., 2020), is also employed to support the effects of awareness of environmental consequences. Meanwhile, the revised framework of Social Exchange Theory (SET) (Cropanzano & Mitchell, 2005; Rasoolimanesh et al., 2015) will support the effect of local communities' perceptions (Huo et al., 2023; Gannon et al., 2020; Rasoolimanesh et al., 2019; Zhang et al., 2020), this is the first instance of integrating all three theories into this research location.

Factors Influencing Perceptions of Tourism Impacts

On the research site, the poor population gets lower each year: 8.83% in 2016, 8.57% in 2017, and 7.14% in 2018, and the labour force participation rate is still fluctuating each year: 63.64% in 2016, 62.71% in 2017, and 64.07% in 2018 (Badan Pusat Statistik Kabupaten Bogor [BPSKB], 2018), but neither of them is necessarily due to the

presence of the tourism industry since there is no exact data nor measurement about its impact, only expected business earnings in gross regional domestic product. It is generally accepted that people's perceptions of their surroundings affect the frequency with which they engage in environmentally friendly behaviours in their day-to-day lives (Marcinkowski & Reid, 2019).

Perceptions of tourism development surely take time to measure. Hence, an analysis of the positive economic impacts can be conducted to ascertain the influence of the impacts on the attitudes of local communities and the positive and negative effects of social exchange theories (Cropanzano et al., 2017; Gannon et al., 2020; Huo et al., 2023; Rasoolimanesh et al., 2015). This new construct will reflect perceptions of tourism impacts based on the combined reception of local communities.

Rasoolimanesh et al. (2016) explored positive and negative perceptions of local communities because their sustenance and welfare are inextricably linked to the environment and resources. Local communities will frequently go to great lengths to safeguard themselves (Wang et al., 2021; Zhang et al., 2017) and will support sustainability if they can meet the basic needs of life (Gai et al., 2018; Zhang et al., 2020), even though Piatrini (2018) is still unsure whether positive economic impacts and benefits are indeed affecting local communities' attitudes or not, depending on whether they are in line with the positive and negative effects of social exchange theories (Gannon et al., 2020; Huo et al., 2023).

Related theories from the Theory of Planned Behaviour (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), Social Exchange Theory (Byrd et al., 2009), and the Norms Activation Model (Schwartz, 1977), which turn into awareness of the environmental consequences (AEC) (Arundati et al., 2020; Frick et al., 2004; Liobikiene & Poskus, 2019; Zhang et al., 2017), environmental attitudes (EA) (Rasoolimanesh et al., 2015; Zheng et al., 2017), and local communities' attachments (LCA) (Orgaz-Aguera et al., 2020; Rasoolimanesh et al., 2015), are measured as influencing factors to perceptions of tourism impacts (PTI) (Andereck et al., 2005; Demirović Bajrami et al., 2020; Kastenholtz et al., 2013; Piatrini, 2018; Rasoolimanesh et al., 2015; Sanchez et al., 2009).

The fair distribution of tourism's impacts has a significant impact on how locals view tourism (Aytekin et al., 2023); if locals are getting a good return on their investment in the tourism industry, they will view it more favourably in its role in ensuring the sustainability (Goodwin, 2017). Numerous studies have been conducted to document the effects of tourism on local communities (Halim et al., 2022), but the social impacts of tourism are typically less pronounced and less publicised than the economic and environmental impacts (Prasad & Kumar, 2022), not to mention the physical impacts. Then, Demirović Bajrami et al. (2020) analysed locals' financial, social, environmental, and physical perceptions of sustainable tourism development.

A study by Zhang et al. (2017) highlighted local communities' understanding of

environmental consequences since the rural tourism destination is forever home to the locals. It has been reported that locals generally view the impacts of tourism development negatively (Guo et al., 2014). Awareness of environmental consequences is one antecedent of pro-social behaviour in the Norms Activation Model (Schwartz, 1977).

H1: Awareness of environmental consequences positively affects perceptions of economic impacts.

H2: Awareness of environmental consequences positively affects perceptions of environmental impacts.

H3: Awareness of environmental consequences positively affects perceptions of social impacts.

H4: Awareness of environmental consequences positively affects perceptions of physical impacts.

The social exchange theory, as applied to tourism, posits that an individual's perceptions and attitudes towards tourism are shaped by their evaluations of the impact of tourism on both their well-being and that of their community (Ward & Berno, 2011). This is especially true of the revised SET, which follows six rules (Cropanzano & Mitchell, 2005; Rasoolimanesh et al., 2015) for communities' interpersonal exchange.

H5: Environmental attitudes have a positive effect on perceptions of economic impacts.

H6: Environmental attitudes have a positive effect on perceptions of environmental impacts.

H7: Environmental attitudes have a positive effect on perceptions of social impacts.

H8: Environmental attitudes have a positive effect on perceptions of physical impacts.

Orgaz-Aguera et al. (2020) and Safshekan et al. (2020) agreed that local communities' attachment is critical in determining locals' perceptions of tourism impacts. Therefore, Pradhananga et al.'s (2021) study highlighted the need for further study focusing on the social and economic impacts to analyse the positive associations with their environmental involvement and protection.

H9: Local communities' attachments positively affect perceptions of economic impacts.

H10: Local communities' attachments positively affect perceptions of environmental impacts.

H11: Local communities' attachments positively affect perceptions of social impacts.

H12: Local communities' attachments positively affect perceptions of physical impacts.

MATERIALS AND METHODS

Study Area and Measurement

This study employs a quantitative methodological approach. The local communities in Bogor Regency, located in West Java, Indonesia, are the participants in this study. Simple random sampling is used because it includes randomly selecting study subjects in order to provide a fair and unbiased representation, and in order to ascertain the credibility of the participants,

two screening questions have been utilised to primarily focus on local populations that have a direct or indirect connection to the tourism industry. Each respondent is limited to filling out the form once using a single email address.

Partial least squares (Smart PLS version 4) were utilised to evaluate the study's measuring model and structural model analysis. This reflective construct, which consists of awareness of environmental consequences (8 items) (Arundati et al., 2020; Liobikiene & Poskus, 2019; Zhang et al., 2017); environmental attitude (8 items) (Rasoolimanesh et al., 2015; Zheng et al., 2017); local communities' attachments (7 items) (Orgaz-Aguera et al., 2020; Rasoolimanesh et al., 2015); all four constructs of perceptions of tourism impacts (Economic Impacts [Eco], Environmental Impacts [Env], Social Impacts [Soc], Physical Impacts [Phy]) (Demirović Bajrami et al., 2020; Wardana et al., 2020) were derived from prior research.

The survey was initially in English, then back-translated to Indonesian. The content and format of the questionnaire were then revised after being reviewed by two academic experts and a local authority in the rural tourism destination before being run for a pilot test with 50 respondents. Respondents rated their answers on a Likert scale, with one (1) being never or very rarely true, two (2) being rarely true, three (3) being sometimes true, four (4) being often true, and five (5) being very often or always true.

Data Collection

A self-administrative questionnaire was distributed face-to-face and online from March to August 2022. From Bogor Regency's total population of 5,489,536, the minimum required sample size is 384 using the Z-score method (BPSKB, 2021), simultaneously achieving statistical significance for a path coefficient of 0.11 to 0.20 (Hair et al., 2021). From the minimum of 384 samples, 384 printed and 186 online questionnaires were collected. Still, after the preliminary examination of those data, only 478 complete entries were used for further analysis.

The respondents' sociodemographics consist of 62% males and 38% females.

57% of respondents were older than 45, and 43% were younger. 57% of respondents had completed high school; 29% had diplomas or bachelor's degrees; then elementary and junior high school graduates (7%); and finally, those with no formal education (6%). No respondents have doctorates, and only 1% have master's degrees. 57% of respondents earn Rp. 4.300.000–Rp. 6.000.000 monthly; 29% earn Rp. 6.000.000–10.000.000. A small number of respondents with incomes between Rp. 0–Rp. 1.900.000, or 6%, followed by a significant income gap of Rp. 1.900.000–Rp. 4.300.000, or 7%. Last, 1% of respondents earn more than Rp. 10.000.000 per month. 65% are natives, and 66% of respondents are involved in tourism activities (Table 1).

Table 1
Respondents' socio-demographic profile

Variables	Category	Frequency	Percentage
Gender	Male	297	62
	Female	181	38
Age	Old Age	273	57
	Young Age	205	43
Completed Education	Not completing any formal education	34	6
	Elementary - Junior High School	34	7
	Senior High School	270	57
	Bachelor	139	29
	Magister	7	1
Monthly Income	Doctorate	0	0
	Rp. 0,- to Rp. 1.900.000	28	6
	>Rp. 1.900.000,- to Rp. 4.300.000,-	34	7
	>Rp. 4.300.000,- to Rp. 6.000.000,-	270	57
	>Rp. 6.000.000,- to Rp. 10.000.000,-	139	29
Native	>Rp. 10.000.000,-	7	1
	Yes	309	65
Tourism Involvement	No	169	35
	Yes	316	66
	No	164	34

Hair et al. (2017) stated that “garbage in, garbage out” applies to data, so this study examined the data to determine how much estimation and modification was done. Data errors invalidate all analyses. The response rate was 85.33%; no outliers were found; data is usually distributed, and listwise deletion is used for missing data. Less than 3.3 is the standard method variance (CMV) value, calculated using the full collinearity VIF for each construct, demonstrating no CMV issues with the data (Kock, 2017).

RESULTS AND DISCUSSION

Measurement Model Assessment

Partial Least Squares-Structural Equation Modelling (PLS-SEM) was used to test and assess multivariate causal linkages, as this method works best for complicated research models with many different constructs and interactions (Hair et al., 2021). All constructs have met all the requirements for measurement and structural model assessment (Usakli & Rasoolimanesh, 2023).

For the structural assessment measurement, the reliability and validity of the construct are measured (awareness of environmental consequences [AEC], environmental attitudes [EA], and local

communities’ attachments [LCA]). Then, include all four dimensions (economic impacts [Eco], social impacts [Soc], environmental impacts [Env], and physical impacts [Phy]) of perceptions of tourism impacts in reflective dimensions where each item was checked for the outer loadings, internal consistency (CR), convergent validity, and reliability can be established if the values of loadings are all above 0.7 and 0.5 proportionately (Ali et al., 2018). However, if the CR and AVE values are higher than the cutoff above, loadings of 0.5 to 0.7 are still tolerated (Hair et al., 2017).

Then, measure convergent validity (AVE) and follow the HTMT criterion (Usakli & Rasoolimanesh, 2023). Table 2 presents a summary of the outcomes of all reflective constructs, indicating the reliability and convergent validity of the construct. It is recommended to examine the HTMT values, whereby values below 0.85 or 0.9 indicate a significant deviation from the threshold value to assess the discriminant validity (Franke & Sarstedt, 2019; Hair et al., 2021; Henseler et al., 2015) as presented in Table 3. Moreover, the square root of the mean-variance extracted (AVE) associated with each construct surpasses its correlation with all other constructs, thus signifying the presence of discriminant validity.

Table 2
Assessment of measurement models

Construct	Items	Type	Loading/Weights	CR	AVE
Awareness of Environmental Consequences		Reflective		0.953	0.721
	AEC1		0.943		
	AEC2		0.749		
	AEC3		0.936		

Table 2 (continue)

Construct	Items	Type	Loading/Weights	CR	AVE
Environmental Attitudes	AEC4	Reflective	0.744	0.955	0.727
	AEC5		0.886		
	AEC6		0.791		
	AEC7		0.767		
	AEC8		0.941		
	EA1		0.843		
	EA2		0.782		
	EA3		0.905		
	EA4		0.835		
Local Communities' Attachments	EA5	Reflective	0.830	0.884	0.525
	EA6		0.865		
	EA7		0.892		
	EA8		0.861		
	LCA1		0.540		
	LCA2		0.742		
	LCA3		0.793		
	LCA4		0.767		
	LCA5		0.788		
Economic Impacts	LCA6	Reflective	0.724	0.880	0.598
	LCA7		0.688		
	Ec11		0.850		
	Ec12		0.658		
	Ec13		0.655		
	Ec14		0.893		
Social Impacts	Ec15	Reflective	0.780	0.900	0.751
	SI1		0.899		
	SI2		0.750		
Environmental Impacts	SI3	Reflective	0.939	0.891	0.804
	En11		0.972		
	En12		0.814		
Physical Impacts	En11	Reflective	0.972	0.891	0.803
	En12		0.814		
	PI1		0.878		
	PI2		0.914		

Table 3
Result of discriminant validity

Heterotrait-Monotrait Ratio (HTMT)							
	AEC	Eco	EA	Env	LCA	Phy	Soc
AEC							
Eco	0.504						
EA	0.842	0.388					
Env	0.037	0.068	0.027				
LCA	0.562	0.841	0.444	0.090			
Phy	0.038	0.107	0.066	0.067	0.105		
Soc	0.032	0.138	0.044	0.103	0.091	0.062	
Fornell-Lacker Criterion							
AEC	0.849						
Eco	0.456	0.773					
EA	0.785	0.353	0.852				
Env	-0.029	0.007	-0.010	0.897			
LCA	0.503	0.712	0.399	0.051	0.725		
Phy	0.012	0.078	0.061	-0.042	0.080	0.896	
Soc	0.012	0.116	-0.027	-0.073	0.038	0.004	0.867

Note: AEC: awareness of environmental consequences; EA: environmental attitude; LCA: local communities' attachments; Eco: perceptions of economic impacts; Env: perceptions of environmental impacts; Soc: perceptions of social impacts; Phy: perceptions of physical impacts

Structural Model Assessment

For structural model assessment checking, this study employs bootstrapping with 5,000 subsamples and a significance level of $p < 0.05$ in a two-tailed test. Following the step-by-step structural model assessment in Usakli and Rasoolimanesh (2023), where the full collinearity VIF of all constructs is less than 3.3 (Kock, 2017), and the result of R^2 shows that all exogenous constructs were able to explain the variance of endogenous latent variables (Figure 1). A specific dependent construct is indicated by Q^2 values that exceed zero for a given reflective endogenous latent variable (Hair et al., 2017), where perceptions of economic impacts have considerable predictive relevance and

perceptions of environmental impacts have medium predictive relevance. In contrast, all the other endogenous variables have a minor predictive relevance.

Result of Hypothesis Testing

Twelve direct hypotheses were tested, and the results showed that only seven were approved.

Awareness of the Environmental Consequences

Based on the statistical findings, awareness of environmental consequences has a positive and significant relationship to perceptions of economic impacts (H1) as the p -value (0.006), β (0.147), and t -value

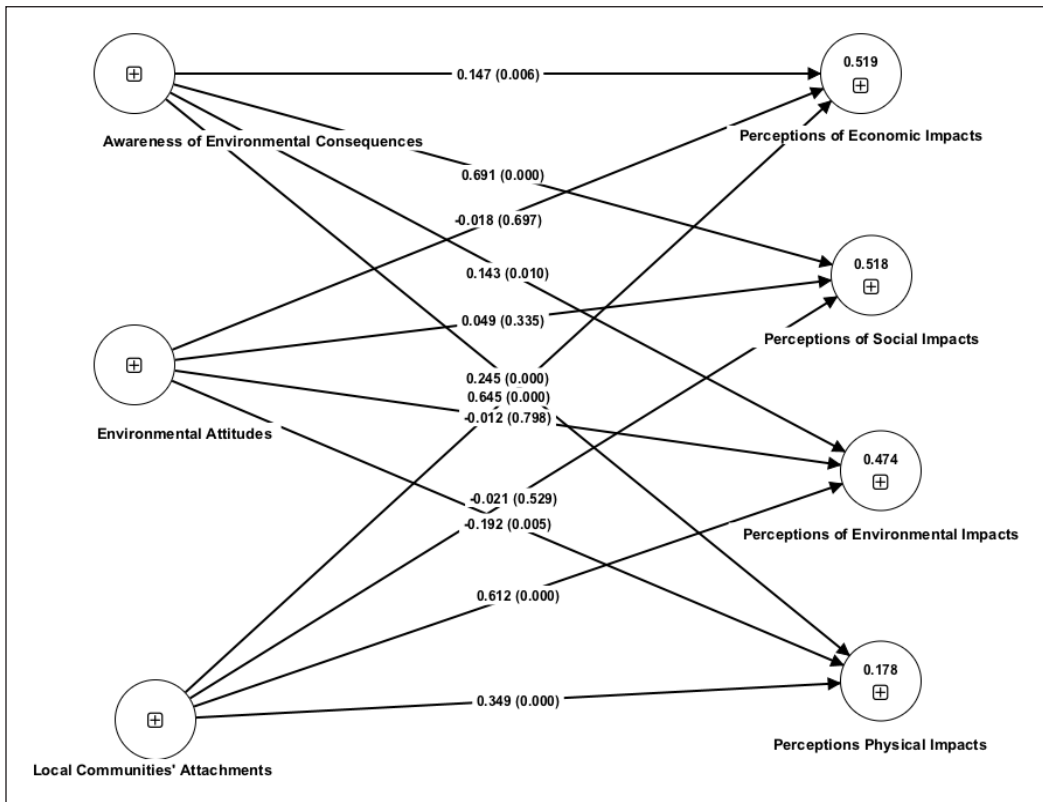


Figure 1. Assessment of structural model

(2.743), and to perceptions of environmental impacts (H2, p-value: 0.010, β : 0.143, t-value: 2.592), as well as to perceptions of social impacts (H3) with a p-value (0.000), β (0.691), and t-value (11.376), and finally to perceptions of physical impacts (H4, p-value: 0.000, β : 0.246, t-value: 3.565).

These findings support Handayani et al.'s (2021) findings that being environmentally aware may lead to adopting sensible environmental protection measures. It is also very natural that local communities will go to great lengths to protect themselves after hearing about the potential negative consequences of the environment (Zhang et al., 2017).

Environmental Attitudes

Statistically, it was found that environmental attitudes have no positive and significant relationship to perceptions of economic impacts (H5) as the p-value (0.997), β (-0.118), and t-value (0.389), and to perceptions of environmental impacts (H6) as the p-value (0.798), β (-0.012), and t-value (2.256), as well as to perceptions of social impacts (H6) as the p-value (0.335), β (-0.049), and t-value (0.964), which contradicts Gai et al. (2018) and Zhang et al. (2020), who discovered that communities would have eco-friendly behaviour if they can meet the basic needs of life. When viewed from the income perspective, 57%

of the respondents' net income per month is above the province's minimum wage, which is Rp. 4,300,000.

Although further research is needed, the results of this study found that 66% of respondents involved in tourism activities are believed to have no income below the provincial minimum wage because only 13% earn less than the average minimum salary. It is unknown if they work full time or are still enrolled in school since 13% of respondents are also young. Although environmental attitudes towards perceptions of physical impacts (H8) showed significant path coefficients (p-value: 0.005), since the interaction effect is negative (β : -0.192), the hypothesis should be disproved.

The distinctive features of the local communities in West Java could influence the outcome of this scenario (Setivorini et al., 2019). Tourism has been a significant economic driver in this area for decades, making it one of the most developed rural tourism destinations (Pradono et al., 2016). Local communities' beliefs, which prioritise economic gains more than environmental preservation, may play a role in this relationship. Local communities might have adjusted or turned indifferent to environmental changes brought about by tourism because it focused only on economic gain. However, this is merely a negative generalisation about the people of Sunda or the communities located in West Java (Damayana et al., 2021), which, of course, needs to be demonstrated to be accurate.

Local Communities' Attachments

The result statistically demonstrated that local communities' attachments only have a positive and significant impact on perceptions of economic impacts (H9), as indicated by p-values (0.000), β (0.645), and t-values (16.588), and on perceptions of environmental impacts (H10, p-value: 0.000, β : 0.0612, t-value: 15.205), as well as on perceptions of physical impacts (H12, p-value: 0.000, β : 0.349, t-value: 8.475). These may be supported by the increase in the economic status of the study region (Putra, 2018), and the findings of H10 mean to reject the findings of Ofoegbu and Chirwa (2019) that local communities are not necessarily responsive to environmental risk management.

However, local communities' attachments did not significantly affect the other endogenous variable, perceptions of social impacts (H11, p-value: 0.529, β : -0.021, t-value: 0.629). In the group gain rule of Social Exchange Theory, LCA positively impacts positive perceptions while hurting negative ones (Gursoy et al., 2017; Rasoolimanesh et al., 2016, 2015).

CONCLUSION AND IMPLICATIONS

Constant evaluations of perceptions of tourism's economic impact are conducted to ascertain the tourism sector's role in economic development (Comerio & Strozzi, 2019). However, for sustainability to be achieved, tourism management and activities must also contribute positively to the environment and society (Lim,

2022); furthermore, Demirović Bajrami et al. (2020) include physical impacts. As locals stay forever, understanding the factors that influence locals' perceptions of tourism impacts may ensure the success of sustainable rural developments.

This research has formulated the most influential influencing factors, filling a gap in previous studies that identified factors that affect the perceptions of tourism impacts in local communities. This results in local communities' perceptions of economic impacts being influenced by all influencing factors. Evaluations of the impacts of tourism on individuals and communities will shape their perspectives on the industry and the extent to which locals will advocate for its growth (Andereck et al., 2005; Ward & Berno, 2011).

Surprisingly, none of the tourism impacts were influenced by environmental attitudes. Environmental attitudes have a significant relationship with perceptions of physical impacts, but since the interaction effect is negative, it is negatively impacted, which is an unexpected relationship. It is quite discouraging, but it also highlights the need to check another influencing factor since environmental planning and application at local levels are recognised as the primary barriers to implementing sustainable tourism (Yang et al., 2023). Local communities' attachments affect other perceptions of tourism impacts, except social impacts, meaning none of those factors affects local culture enhancement, opportunities to participate in local activities, or improvements in the sense of belonging.

This needs special attention since studying the social impacts of tourism on local communities is one way to evaluate tourism growth (Hakim et al., 2023). Harun et al. (2018) recognise that to assess local communities' perceptions of tourism development, local managers or policymakers must understand the attitudes of the local communities. Local communities' perspectives on the benefits of tourism growth are influenced by their level of involvement in the industry's planning and expansion, providing insight for local authorities and other decision-makers into what areas must be strengthened to encourage environmentally responsible practices among communities in the future. The lack of implementation of sustainability practices in tourism can result in significant consequences, such as the closure of Maya Bay in Thailand due to excessive tourism, as Koh and Fakfare (2019) highlighted. Consequently, local managers must minimise environmental and societal harm while ensuring tourists' satisfaction.

This study's findings should encourage rural tourism sustainability through communities' perceptions of tourism impacts in all four aspects: economic, environmental, social, and physical, as maintaining the three pillars requires local communities' support. Adaptation involves changing one's behaviour, social norms, and self. Humans must also adapt to nature. Local management must examine its control over the economic impact the local community receives to sustain tourism in this rural tourism destination. Does this

proper tourism impact make communities lazy to care for the environment? Reread at the current setup for how local managers set up the involvement of local communities in the environment, intended to keep the environment safe in a planned manner before it deteriorates further.

This study suggested a model to measure the local communities' perceptions of tourism impacts in their living area by merging three theoretical models and frameworks, including the extended theory of planned behaviour, the norms activation model, and the social exchange theory. To the researcher's knowledge, this study is the first to combine all three frameworks and models into a single diagram. This combination is expected to lead to more excellent knowledge of what influences local communities' perceptions of tourism impacts to attain sustainability in rural tourism.

Local tourism authorities should prioritise issuing regulations that encourage other influences than economic ones to gain the support of local communities in the tourism industry. The central government has provided various supports and even incentives for the environmental development of rural tourism destinations, which supports better perceptions of economic impacts. Still, socialisation and training regarding tourism awareness training (7 charms) and aspects of environmental protection must be continuously emphasised, given that people appear too comfortable with current conditions and must realise that failure to protect the environment can endanger their future.

The present study has concluded that its results are highly significant in identifying the relatively negligible direct effects of the influencing elements on the practice of environmental conservation within local communities. The results of this investigation will have significant theoretical and practical utility. The results of this study should cause concern among the local authorities responsible for managing rural tourist destinations. It is necessary to assess the current state of rural arrangements to ascertain their compliance with sustainability principles. Collaboration among the local government, central government, and tourist higher education institutions is required to critically examine the reasons behind the findings and develop several solutions to improve local communities' environmental conservation practices on a broader level.

However, limitations exist. First, we only looked at the direct effect of all the factors; future research can further establish the hypothesised indirect and even more relationships. The location of this research study is a rural tourism destination home to a sizable population; however, it is recommended that future studies be carried out in more diverse locations to better account for the specific conditions and requirements of rural tourism. Future research may also apply the triangulation of methodologies with the interview data, which could lead to a deeper comprehension of the actual context, improve the study's findings, and identify and explore potential variations that may influence perceptions of

tourism impacts. Furthermore, we suggest doing longitudinal research to gain a deeper understanding of the potential changes in environmental attitudes and perceptions of tourist impacts over time, particularly in areas with well-established tourism practices. These investigations have the potential to provide a more profound understanding of the dynamics of these interactions and contribute to the development of theoretical frameworks.

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