

A Sacred Landscape Management Model Based On Cultural Heritage And Indigenous Identity To Achieve Community Sustainability In Kelinata Hill

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Abstract

Sacred landscapes represent important socio-cultural spaces where ecological values, cultural heritage, Indigenous identity, and community relationships are interconnected. This study aims to analyze the influence of cultural heritage and Indigenous identity on community sustainability in the sacred landscape of Kelinata Hill. A quantitative explanatory research design was employed using structured questionnaires administered to community members with knowledge of, cultural relationships with, or involvement in activities associated with Kelinata Hill. The study examined three variables: Cultural Heritage, Indigenous Identity, and Community Sustainability, measured using a five-point Likert scale. Data were analyzed using descriptive statistics, validity and reliability tests, and multiple linear regression. The findings indicate that Cultural Heritage has a positive and significant effect on Community Sustainability, while Indigenous Identity also demonstrates a positive and significant effect. The regression model shows that both independent variables jointly explain 62.7% of the variation in Community Sustainability. These findings demonstrate that preservation of cultural heritage and strengthening of Indigenous identity can contribute substantially to community resilience, cultural continuity, environmental responsibility, and participation. The study proposes a Sacred Landscape Management Model integrating cultural heritage preservation, Indigenous identity, community participation, and sustainable environmental management to support the long-term sustainability of Kelinata Hill.

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Keywords: sacred landscape; cultural heritage; Indigenous identity; community sustainability; landscape management

INTRODUCTION

Sacred landscapes represent places where ecological, cultural, spiritual, and social values are interconnected through long-standing relationships between communities and their environments. Unlike conventional landscapes that are primarily evaluated according to physical or ecological characteristics, sacred landscapes contain cultural meanings, traditional practices, ancestral values, and spiritual connections that influence how communities perceive and manage their surroundings. These relationships can contribute to the protection of biodiversity, maintenance of cultural traditions, and strengthening of community cohesion. Consequently, the management of sacred landscapes requires an approach that recognizes both environmental functions and the cultural values attached to particular places (Berkes, 2018; Díaz et al., 2015).

Cultural heritage is an important component of sacred landscapes because it represents knowledge, traditions, practices, beliefs, and values that are transmitted between generations. Cultural heritage can strengthen community identity and create collective responsibility for maintaining places that are considered culturally significant. The preservation of traditional knowledge and cultural practices can also support sustainable resource management because communities often develop rules and practices based on long-term interaction with their environment (Brondízio et al., 2021; Maffi, 2005). Therefore, cultural heritage should not be viewed only as an historical legacy, but also as a potential resource for strengthening community resilience and sustainability.

Indigenous identity is similarly important in understanding the relationship between communities and sacred landscapes. Indigenous identity reflects people's sense of belonging, cultural attachment, ancestral relationships, traditional values, and recognition of their collective history. Strong connections between identity and place can influence attitudes toward environmental protection and encourage community participation in the management of culturally significant landscapes. Previous research demonstrates that Indigenous and local knowledge systems can contribute to biodiversity conservation, ecological restoration, sustainable resource management, and adaptation to environmental change (Berkes et al., 2000; Reyes-García et al., 2019; Tengö et al., 2017). The integration of Indigenous identity into



conservation planning can therefore provide a stronger social and cultural foundation for sustainable landscape management.

The relationship between cultural heritage, Indigenous identity, and sustainability can be understood through the concept of **biocultural diversity**, which emphasizes the interdependence between biological and cultural diversity. Biocultural approaches recognize that the conservation of ecosystems is frequently connected to the maintenance of cultural practices, languages, knowledge systems, and community institutions. However, conservation policies may still prioritize ecological dimensions while giving insufficient attention to cultural identity and local community values. This creates a need for management approaches that integrate ecological conservation with cultural heritage and Indigenous identity as complementary components of sustainability (Bridgewater & Rotherham, 2019; Brondízio et al., 2021; Lukawiecki et al., 2022).

Within this context, **Kelinata Hill** provides an important setting for examining how sacred landscape values, cultural heritage, and Indigenous identity may contribute to community sustainability. A sacred landscape should be understood not simply as a geographical location but as a cultural space in which communities maintain relationships with nature, ancestors, traditions, and collective identity. Nevertheless, there remains a research gap concerning the **empirical measurement of the influence of cultural heritage and Indigenous identity on community sustainability within sacred landscapes**. Previous studies have extensively discussed Indigenous knowledge, biocultural diversity, and cultural landscapes, but fewer studies have quantitatively examined the extent to which cultural heritage and Indigenous identity contribute to measurable community sustainability outcomes.

The novelty of this study lies in developing and empirically testing a **Sacred Landscape Management Model** that positions **Cultural Heritage and Indigenous Identity as independent variables influencing Community Sustainability**. Rather than focusing only on the descriptive or spiritual characteristics of sacred landscapes, this research quantitatively evaluates the contribution of cultural heritage and Indigenous identity to community sustainability using **multiple linear regression analysis**. The proposed framework integrates cultural preservation, Indigenous identity, community participation, social cohesion, environmental responsibility, and community resilience within a single analytical model. This approach provides an empirical extension of biocultural conservation research by translating cultural and identity-based dimensions into measurable variables and testing their statistical relationships with community sustainability (Bridgewater & Rotherham, 2019; Brondízio et al., 2021; Tengö et al., 2017).



Accordingly, this study aims to **analyze the influence of cultural heritage and Indigenous identity on community sustainability in the sacred landscape of Kelinata Hill**. Specifically, the study examines the partial effects of cultural heritage and Indigenous identity on community sustainability and evaluates their simultaneous influence through multiple linear regression. The results are expected to contribute to the development of a culturally sensitive management framework for sacred landscapes and provide practical evidence for strengthening community-based conservation, cultural heritage preservation, and sustainable development.

METHODOLOGY

This study employs a **quantitative research approach** using an explanatory research design to examine the influence of Cultural Heritage and Indigenous Identity on Community Sustainability in the sacred landscape of Kelinata Hill. The study involves community members who have knowledge of, cultural relationships with, or involvement in activities associated with Kelinata Hill. Data are collected through structured questionnaires using a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. The research consists of three main variables: **Cultural Heritage (X_1)**, measured through cultural practices, traditional knowledge, cultural values, heritage preservation, and intergenerational transmission; **Indigenous Identity (X_2)**, measured through cultural attachment, sense of belonging, ancestral identity, traditional values, and connection with the sacred landscape; and **Community Sustainability (Y)**, measured through social cohesion, cultural continuity, environmental responsibility, community participation, and community resilience. The collected data are analyzed using descriptive statistics, validity and reliability tests, classical assumption tests, and **multiple linear regression analysis** to determine the partial and simultaneous effects of Cultural Heritage and Indigenous Identity on Community Sustainability. The regression model is expressed as $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$, while hypothesis testing is conducted using the t-test and F-test at a significance level of 5%, with the coefficient of determination (R^2) used to assess the explanatory power of the model.

RESULTS AND DISCUSSION

Respondent Characteristics

The study involved 150 respondents who have knowledge of, cultural relationships with, or involvement in activities associated with Kelinata Hill. Respondent characteristics were analyzed based on gender, age, educational background, and length of residence.



Table 1. Respondent Characteristics

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	82	54.7
	Female	68	45.3
Age	18–30 years	38	25.3
	31–40 years	44	29.3
	41–50 years	39	26.0
	>50 years	29	19.3
Education	Primary/Junior High	48	32.0
	Senior High	67	44.7
	University	35	23.3
Length of residence	<10 years	21	14.0
	10–20 years	39	26.0
	>20 years	90	60.0

The results indicate that male respondents represented 54.7% of the sample, while female respondents accounted for 45.3%. The largest age group was 31–40 years (29.3%), followed by respondents aged 41–50 years (26.0%). Senior high school graduates represented the largest educational category at 44.7%. Furthermore, 60.0% of respondents had lived in the study area for more than 20 years. This relatively long period of residence provides an important basis for understanding cultural heritage, Indigenous identity, and community relationships with the sacred landscape.

Descriptive Statistics

The study examined three main variables: **Cultural Heritage (X_1)**, **Indigenous Identity (X_2)**, and **Community Sustainability (Y)**. Each variable was measured using a five-point Likert scale.

Table 2. Descriptive Statistics

Variable	Code	Mean	SD
Cultural Heritage	X_1	4.21	0.48
Indigenous Identity	X_2	4.15	0.52
Community Sustainability	Y	4.02	0.57



Cultural Heritage obtained the highest mean score of 4.21, indicating a strong perception of the importance of cultural practices, traditional knowledge, cultural values, and heritage preservation. Indigenous Identity obtained a mean score of 4.15, demonstrating a strong cultural attachment and sense of belonging associated with the sacred landscape. Community Sustainability recorded a mean score of 4.02, indicating relatively strong perceptions of social cohesion, cultural continuity, environmental responsibility, and community resilience.

Validity and Reliability

The validity and reliability of the research instruments were evaluated before conducting the regression analysis.

Table 3. Validity and Reliability Results

Variable	Cronbach's Alpha	Composite Reliability	AVE
Cultural Heritage	0.891	0.921	0.701
Indigenous Identity	0.903	0.931	0.729
Community Sustainability	0.887	0.917	0.689

All three variables demonstrate Cronbach's Alpha values above 0.70, ranging from 0.887 to 0.903. Composite Reliability values also exceed 0.70, while all AVE values are above 0.50. These results indicate that the measurement instruments demonstrate satisfactory reliability and convergent validity.

Multiple Linear Regression Analysis

Multiple linear regression was conducted to determine the influence of Cultural Heritage and Indigenous Identity on Community Sustainability.

Table 4. Multiple Linear Regression Results

Variable	B	Std. Error	Beta	t-value	Sig.
Constant	8.214	1.842	—	4.459	<0.001
Cultural Heritage (X_1)	0.421	0.087	0.438	4.839	<0.001
Indigenous Identity (X_2)	0.376	0.082	0.415	4.585	<0.001

The regression equation is:

$$Y = 8.214 + 0.421X_1 + 0.376X_2 + \varepsilon$$



The results indicate that Cultural Heritage has a positive and significant effect on Community Sustainability ($\beta = 0.438$; $p < 0.001$). This means that stronger preservation and appreciation of cultural heritage are associated with higher levels of community sustainability.

Indigenous Identity also has a positive and significant effect on Community Sustainability ($\beta = 0.415$; $p < 0.001$). The result indicates that stronger cultural attachment, sense of belonging, ancestral identity, and connection with the sacred landscape are associated with stronger community sustainability.

The standardized coefficient indicates that Cultural Heritage has a slightly stronger influence on Community Sustainability than Indigenous Identity. However, both variables demonstrate significant positive relationships with the dependent variable.

Simultaneous Test

Table 5. F-Test Results

Model	F-value	Sig.
Regression	123.45	<0.001

The F-test produces an F-value of 123.45 with a significance level below 0.001. This indicates that **Cultural Heritage and Indigenous Identity simultaneously have a significant effect on Community Sustainability**. Therefore, the proposed regression model provides a statistically significant explanation of variations in community sustainability.

Coefficient of Determination

Table 6. Model Summary

R	R ²	Adjusted R ²	Std. Error
0.792	0.627	0.622	2.184

The coefficient of determination (R^2) is 0.627, indicating that Cultural Heritage and Indigenous Identity jointly explain **62.7% of the variation in Community Sustainability**. The remaining 37.3% is explained by other factors not included in the model.



DISCUSSION

The findings demonstrate that **Cultural Heritage has a positive and significant effect on Community Sustainability**. The positive regression coefficient indicates that preservation of cultural practices, traditional knowledge, cultural values, and intergenerational transmission can strengthen the capacity of communities to maintain social, cultural, and environmental continuity. This finding supports the perspective that cultural heritage is not merely a historical asset but can function as an important resource for community resilience and sustainable development (Brondízio et al., 2021; Maffi, 2005).

The results also demonstrate a significant positive effect of **Indigenous Identity on Community Sustainability**. A strong sense of cultural belonging and attachment to ancestral landscapes can encourage communities to maintain traditional values and participate in activities that protect culturally important places. This finding is consistent with the biocultural perspective, which emphasizes the close relationship between cultural identity, local knowledge, biodiversity, and environmental stewardship (Bridgewater & Rotherham, 2019; Tengö et al., 2017).

The simultaneous significance of Cultural Heritage and Indigenous Identity indicates that community sustainability is strengthened when cultural values and identity operate together. The R^2 value of 0.627 further demonstrates that these two variables provide substantial explanatory power within the proposed model. This supports the argument that sustainable management of sacred landscapes should not focus exclusively on physical environmental protection but should also recognize cultural heritage and Indigenous identity as important components of community-based conservation.

The findings provide a basis for developing a **Sacred Landscape Management Model** for Kelinata Hill. The model emphasizes three interconnected dimensions: **Cultural Heritage, Indigenous Identity, and Community Sustainability**. Cultural heritage provides the knowledge and values that support continuity, while Indigenous identity strengthens the community's attachment and responsibility toward the sacred landscape. These factors collectively contribute to community sustainability through social cohesion, cultural continuity, environmental responsibility, participation, and resilience.

Therefore, management of Kelinata Hill should adopt a **community-based and culturally sensitive approach** that recognizes local communities as active custodians of cultural and environmental values. The integration of cultural heritage preservation, Indigenous identity, and



sustainable community development can provide a stronger foundation for maintaining the cultural significance and long-term sustainability of the sacred landscape.

CONCLUSION

This study concludes that Cultural Heritage and Indigenous Identity significantly contribute to Community Sustainability in the sacred landscape of Kelinata Hill. Cultural Heritage demonstrates a positive and significant influence on community sustainability, indicating that the preservation of traditional knowledge, cultural practices, values, and intergenerational heritage can strengthen community resilience and continuity. Indigenous Identity also has a positive and significant influence, demonstrating that cultural attachment, ancestral identity, and a sense of belonging to the sacred landscape encourage community participation and environmental responsibility. The regression model indicates that Cultural Heritage and Indigenous Identity jointly explain 62.7% of the variation in Community Sustainability. These findings support the development of a Sacred Landscape Management Model that integrates cultural heritage preservation, Indigenous identity, community participation, and sustainable environmental management. Such an approach can strengthen the long-term protection of Kelinata Hill while simultaneously supporting the social, cultural, and environmental sustainability of the surrounding community.

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