The Influence of Ecological Identity on the Cultural Significance of Traditional Urban Public Spaces in Cultural Landscapes

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Abstract
Traditional urban public spaces are highly significant because they retain identities, histories, and memories of the community in any cultural landscape. These spaces have existed since the prehistoric era and are an important part of a landscape's unique identity. These spaces are also a part of larger ecological settings, where ecological features have an impact on the design, purpose, and cultural significance. Therefore, This paper identifies specific indicators of ecological identity through the application of case study analysis and multidisciplinary research methods and explores the influence of ecological features in and around traditional public spaces on their cultural significance within a cultural landscape. The findings reveal that the natural environment and traditional public spaces are intricately entwined with human culture in the chosen study area and emphasise how important it is to comprehend the interactions between ecological and cultural factors to conserve such spaces while promoting sustainable urban development.
Keywords: conservation; cultural Landscape; cultural significance; traditional urban public spaces; ecological identity.

1. Introduction

Public urban spaces are essential for improving human life's social facets and giving an urban community a feeling of belonging (Ziyaee, 2018; Amen & Kuzovic, 2018; Amen & Nia, 2021; (Achour-Younsi et al., 2022; Biswas et al., 2021; Dizdaroglu, 2021; Song & Selim, 2022). Whether they are parks, plazas, or squares, these spaces are more than simply physical structures; they have cultural value ingrained in the community's identity and the natural features of the surrounding area. The interaction that exists between people and their natural surroundings is referred to as their "ecological identity." Since humans are a component of the greater ecosystem, it is acknowledged that their decisions and actions while planning and constructing urban areas should be in line with the ecological qualities and values of the surrounding area (Byrne & Grewal, 2008). This is due to the fact that urban public spaces serve as significant cultural icons that represent the history, customs, and values of a community in addition to being areas for relaxation and social gatherings (Ziyaee, 2018). Through the prism of ecological identity, the cultural significance of traditional urban public places can be appreciated.

Integrating nature is one way that ecological identity affects the cultural significance of traditional urban public spaces. Because they offer a link to nature as well as a sense of peace and serenity amidst the busy urban landscape, urban green spaces like parks and gardens can augment the cultural value of traditional urban public spaces. Additionally, the use of natural features in urban public areas can act as a constant reminder of the sustainability and ecological diversity of the surrounding environment. Incorporating nature into traditional urban spaces enhances cultural significance and promotes a more profound comprehension and admiration of the community's ecological character.

The ecological character of the community can also have an impact on the structure and architecture of common urban public spaces, in addition to the incorporation of nature. Incorporating environmentally friendly and sustainable elements, including water-efficient landscaping and renewable materials, not only complies with ecological principles but also highlights the spaces' cultural significance as conservationists.

Additionally, encouraging cultural activities and events in these areas that emphasize the ecological value and history of the surrounding area helps strengthen the bond between the local community and its ecological identity. Traditional urban public places can actively contribute to the ecological well-being of the urban landscape while also maintaining their cultural significance by implementing these aspects. Moreover, cultural events and activities that happen in traditional urban public places can also be influenced by the ecological identity of a community (Ramezani et al., n.d). To raise awareness and educate people about local ecosystems and environmental issues, a community that values the environment can, for instance, host festivals or events with an environmental theme in these areas. Through the planning of activities like ecological fairs, eco-friendly markets, and educational workshops, traditional urban public spaces can function as forums for promoting a stronger bond between the neighborhood and its ecological identity. These events help preserve traditional ecological knowledge and practices for future generations while also showcasing the cultural significance of the places. Traditional urban public places can express a community's identity and contribute to the overall well-being of urban landscapes through these subtle and deliberate integrations of ecological principles and cultural value. Traditional urban public spaces become living examples of a community's engagement with its natural environment as well as tangible, cultural assets when it

acknowledges and embraces its ecological identity. The objective of this research is to shed light on how ecological identity affects the evaluation of traditional urban places' cultural significance within a particular setting. The study region has been chosen to be in Calicut, most rapidly urbanising city in Kerala- a small state in India.

2 Why traditional urban public spaces?

The significance of public spaces in urban contexts has been studied by specialists in a range of sectors, including social science, community planning, urban architecture, and more (Carr, et al. 1992; Jacobs1961; Whyte1988; Oktay2002; Carr and Francis 2007; Lynch 1961). They argue that urban public spaces are more than just places where people congregate to socialise and celebrate their city. It is a cultural artifact of immense cultural significance that represents the values of the community. For them to continue to reflect the ideas, practices, artwork, and culture of past generations, they must be preserved as a part of human existence, usage, and function as well as the processes that mould cultural landscapes as they evolve (Ziyaee2017). These spaces can improve everyday interactions and promote social cohesion in any natural setting.Traditional urban spaces, according to researchers, help people feel like they belong to the community. Therefore, in order to understand the cultural significance of these traditional urban public spaces, it is crucial to understand the perspectives of those who inhabit them as well as their use, function, and shape.

2.1 Exploring Ecological Identity in Urban Public Spaces

The impact of ecological identity on the cultural significance of traditional urban public spaces in cultural landscapes is a growing issue in urban planning and development (Widiyastuti, 2014).Urban landscapes' social and environmental fabric are greatly influenced by the interaction between ecological identity and the cultural value of traditional urban spaces. These places become live examples of the community's engagement with its natural surroundings through the integration of nature, the incorporation of sustainable features, the organisation of ecologically themed events, the promotion of educational programs, and the application of sustainable practices. In addition to maintaining their cultural value, embracing and fostering a community's ecological identity inside traditional urban public spaces benefits the ecosystem of the city. In the end, these deliberate integrations contribute to the overall health of the urban environment by strengthening the cultural value of these areas and strengthening the bond between the community and its natural identity.

The interplay between ecological identity and the cultural value of traditional urban public spaces is critical in shaping the social and environmental fabric of urban landscapes. By incorporating nature, adding sustainable features, supporting educational programmes, organising ecologically themed events, and implementing sustainable practices, these places become living expressions of the community's interaction with its natural surrounds. Embracing and maintaining a community's ecological identity inside traditional urban public spaces preserves their cultural value while also contributing to the ecological well-being of the urban landscape. These purposeful integrations not only enhance the cultural value of these spaces, but they also develop a stronger connection between the community and its natural identity, ultimately contributing to the overall well-being of the metropolitan area.

3 Materials and Methods

The first study objective is to investigate the link between perceptions of ecological aspects and the cultural significance of traditional urban places in urban environments. This would entail examining numerous quantitative qualities of a space and determining whether there are any significant variations between spaces with a strong place identity and those without. Another goal of this study is to investigate how different social groups perceive these ecological characteristics.

It is probable that some natural aspects are particularly important in the formation of place identity, but that various groups recognise and value these features to varying degrees. The second research objective is to acquire an understanding of how to measure the cultural significance in terms of environmental identity. While these methodologies are increasingly employed in academics, little research has been conducted to see how they may be applied to real-world decision-making in the built and natural environments. This goal is expected to help shed light on how areas can adapt and change in the future.This objective is supposed to provide insight into how locations can adapt and develop in the future.Because of the possible depth and richness of the collected data, this study use both qualitative and quantitative methodologies to examine the impact of ecological identity on traditional urban public space and its cultural significance. Despite the time commitment, qualitative research is well suited to illuminating how a community creates ecological identity. It may also aid in clarifying the range of place values and meanings that participants give to various urban spaces in Calicut, as well as the interactions that contribute to cultural significance assessments.

4 Context of the Study Area

Calicut, commonly known as Kozhikode, is an Indian city of about two million inhabitants. According to the 2011 census, it is the 19th largest urban agglomeration in the country and the second largest in the Indian state of Kerala. Calicut, previously Kolathunad, was a port town on Kerala's coast that played an important role in the trading of Indian spices.The Indian government has recognised Calicut as a Tier 2 city. During the Middle Ages, it was the capital of a separate kingdom governed

by the Samoothiris (Zamorins). Indicus Analytics, an economic research group, rated Calicut second in terms of investments, houses, and income.
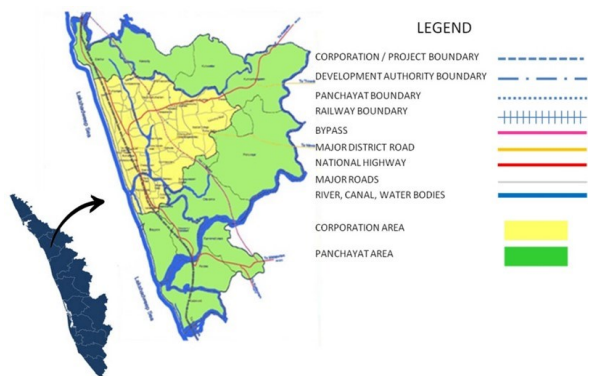

Figure 1. Urban extent

4.1 Traditional Urban Spaces in Calicut

According to Unal, Altunkasa& Uslu(2023), urban public spaces play a crucial role in enhancing liveability by promoting regular activities and special occasions like festivals, which boost social interaction. They are social hubs with opportunities for in-person conversation, however, their quality varies. In an ideal world, they would be accessible to all and serve as forums for discussing and resolving issues. Since traditional urban neighbourhoods are a vital component that acts as a spark for a variety of artistic associations and activities, they are critical for creating social cohesion. For this reason, conservation planners are finding it increasingly difficult to conserve them. To aid conservationists in their decision-making, this study emphasises how social cohesiveness impacts cultural significance.

Four separate TUPS typologies were chosen for this study: the Big Bazaar (Valiyangadi), the Commercial Street (SM Street), the Residential Neighbourhood (Kuttichira), and the Temple Precinct (Tali Temple) (Figure 3). With the help of this Questionnaire, 424 samples were collected, and 90 percent of people believe that tangible elements in traditional urban public spaces contribute to cultural significance. Attributes such as connectivity with the surroundings, the presence of natural elements, the quality of built environments, and so on are regarded as elements of people-place connectedness in these areas.

Figure 2. Urban Public spaces and open spaces in Calicut

Figure 3. TUPS in Calicut: a) Valiyangadi   b) SM Street   c) Kuttichira   d) Tali Temple Precinct

5 Analysis

To assess the impact of ecological identity on its cultural significance, this study employs a psychological model of ecological identity that comprises cognitive (Nature Connectedness) (Schultz, 2002), affective (nature delight), and conative (Emotional Affinity) components.
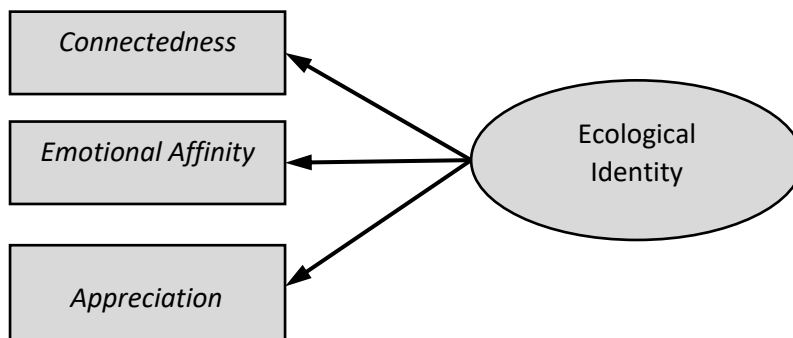
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Figure 4. Measurement model for Place meaning

Nature Connectedness: Many metaphysical and sociological concepts concerning human-environment relationships use the term "connectedness" to characterize how frequently humans feel a part of the natural world. It's a scale used to characterise one's relationship with nature. Although it is frequently used in a broader sense, the foundation of a connection with nature is cognitive. Connectedness is the degree to which a person incorporates nature into his or her mental concept of themselves (Schultz, 2002). This is the most crucial aspect of merging with nature. Individuals who see themselves as part of nature share many cognitive representations of themselves and nature. Individuals who do not perceive themselves to be a part of nature.On the other hand, Individuals who do not believe they are a part of nature, are less likely to have self-and-nature schemas. These cognitive representations can be quantified using cognitive techniques, and they form the basis for human-nature interactions.

Table 1. Variable defining Ecological identity

Factor	Variable Name	Variable Description
Ecological Identity	**Emotional Affinity to nature**	I am excited to see the water body or any other natural elements connected to the TUPS in my area
	Nature connectedness	I feel strongly connected to nature and the environment due to the presence of natural elements in TUPS
	Appreciation of nature	The neighborhood's environmental and cultural potentials are unique.

Commitment to nature: A commitment to nature is the second most important feature of ecological identity. If a person feels linked to nature, they will be more likely to behave in the best interests of the environment. In interpersonal relationships, commitment refers to a desire to preserve the relationship. It describes a person's readiness to invest time and effort into a relationship. Commitment to identity has two components: interactional (the number of interactions that trigger that identity) and emotional (the perceived relevance of such ties) (Stets & Biga, 2003). People are inspired by a sense of place, as well as a sense of community.

Emotional Affinity: The third dimension of ecological identity is affective: a person's emotional connection to nature. This dimension explains whether or not a person feels connected to nature and how much they value it. According to Kals, Schumacher, and Montada (1999), the emotion of emotional attachment to nature is difficult to characterize using cognitive tests and attributions. It refers to a positive tendency in a number of nuances that have been studied in the literature. One of the most significant features of a close relationship is a sense of intimacy, often known as closeness and affection. That is, spending time in nature and having favorable experiences with it leads to emotional affinity (Kals, Schumacher, and Montada,1999). The emotional affinity to nature can be distinguished from its cognitive interest (Langeheine&Lehmann, 1986 as cited in Kals, Schumacher, and Montada,1999). Emotional affinity can be formed by both expressing feelings and translating pleasant social emotions to the natural world. The three essential characteristics of psychological inclusion mentioned above provide a foundation for understanding human-environment interactions. However, it appears that these three structures are interconnected in some way. Compassion is essential for commitment to environmental protection (Walton & Jones, 2018). Figure 5 depicts the causal chain.

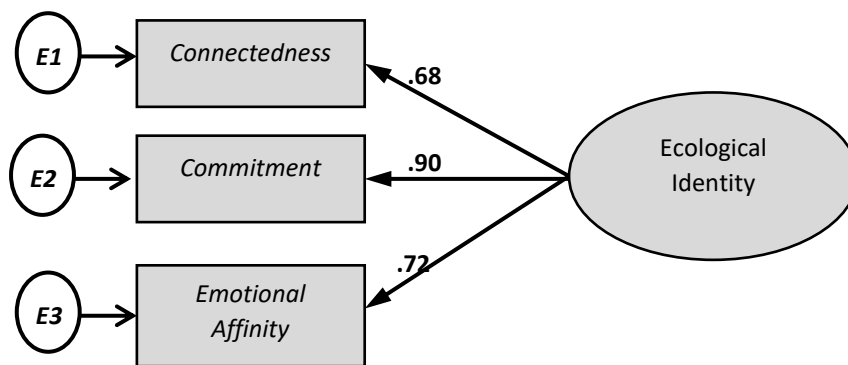## 5.1 Reflective Model for Ecological Identity

Figure 5. Reflective model for Place meaning

The reflective model establishes that the commitment to nature is very important in determining a place's identity though the other factors play a vital role.

5.2 Friedman's test statistics
Friedman's test statistics have been used to validate the indicators of ecological Identity by ranking them to establish their influence on assessing significance in traditional urban public spaces in Calicut.

Table 2. Friedman's test statistics

Test Statistics	70.824
Dof	16
No.	424
Level of Significance	.000

According to Friedman's test, the greatest scores for ecological identity were given to connectedness to nature, familiarity with the site, and social activities that take place in traditional urban public spaces; the lowest rankings went to emotional affinity to nature and closeness to the location. This demonstrates that ecological elements that help people feel connected and the feelings of fulfilment they elicit may be crucial contributors in improving ecological identity within an urban context. However, depending on the context, each indicator's preferences can differ.

Table 3. Ranking of Influential elements of ecological identity

Elements of Ecological Identity	Ranking
Connectedness to nature	4.58
Commitment to nature	3.22
Emotional Affinity	3.02
Proximity to location	3.15
Familiarity with the site	4.08

6 Discussion
Here are some of the study's findings: Customised and localized indicators that were consistent with the historical context and current situation in Calicut were created, and they could be utilized as a management tool to monitor the situation at any time. The relationship between various elements of people-place relationships and the cultural significance of traditional urban public spaces was proven by testing related hypotheses. A ranking of the developed elements and indicators was also created based on their impact on ecological identity . When using this model in a new setting, indicators and values may alter depending on the context, culture, way of life, social customs, or religious beliefs. Even if the indications for each component alter, the fundamental paradigm remains consistent. As a result, conservation specialists can consider the

ecological identity as one indicator for assessing the cultural significance of a traditional urban space in any urban landscape. This will also help them decide what to retain and what to replace with new improvements.

7. Conclusion

These findings emphasise the need of prioritising ecological factors when establishing urban policies and plans, especially in traditional public spaces. Testing similar hypotheses indicated a link between several characteristics of ecological identity and the cultural significance of traditional urban public spaces. According to these findings, traditional urban public areas in Calicut should be prioritised because they are critical to determining their cultural significance and, thus, the area's cultural value. The findings could be utilised to guide resource allocation by the state's urban conservation management towards more effective planning and management in order to preserve its cultural significance.Finally, our findings shed insight on the complicated relationship between cultural significance and ecological identity in traditional urban areas. We can successfully maintain and improve the cultural worth of these priceless urban landscapes by strengthening community bonds and encouraging diversity. This study has important consequences for community leaders, politicians, and urban planners. Techniques for increasing cultural relevance and social cohesiveness should be incorporated into public space management and urban design. Furthermore, collaboration with environmental experts, landscape architects, and cultural historians can help to strengthen the integration of ecological identity into the cultural value of traditional urban public places. Urban planners can use interdisciplinary cooperation to build public places that honor the community's natural identity while simultaneously celebrating its cultural history. Finally, aligning ecological identity and cultural significance in traditional urban public places reflects a community's beliefs while also taking a step towards establishing sustainable and meaningful settings for current and future generations. As urban environments evolve, recognizing and incorporating ecological principles will be critical in sustaining communities' unique cultural fabric while also creating a better feeling of belonging and environmental responsibility.

Conflict of Interests
The Author(s) declare(s) that there is no conflict of interest.

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