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# Soundscape, Cultural Landscape and Sustainability: an Architectural Knowledge Systems Approach

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**Abstract.** *The paper is an outcome of the study on Burhanpur urban cultural landscape, Madhya Pradesh, India, where the significance of soundscape is discussed which articulates intangible traits such as the sense of place, folklore, creating a sense of identity and belonging. The Burhanpur landscape units, its historic gardens, settlement planning and layout disposition, shows the connection with the soundscape that could describe the quality of human relationships with the urban landscape and a significant contributor for sustainability. The paper posits architectural knowledge systems approach for soundscape and concludes with an argument for the need of partnership beyond compartmentalised disciplines of the professional domain in a more inclusive and holistic manner in the conservation of Burhanpur urban cultural landscape.*

**Keywords:** *soundscape, cultural landscape, sustainability*

## Introduction

R. Murray Schafer coined the term 'soundscape' in the mid 1960s. His terminology helps to express the idea that the sound of a particular locality, its keynotes, sound signals and soundmarks, can express a community's identity in parallel with local architecture, customs, and dress, to the extent that settlements can be recognised and characterised by their soundscapes (Revill, 2013). The etymology of the term 'scape' references an 'area, scene, space or view' (I. S. Zonneveld, R. T. T. Forman, 1990). Southworth, an urban planner, uses the word 'soundscape' to refer to the acoustic properties of cities that help people relate to certain spaces (Southworth, 1969; B. C. Pijanowski et al., 2011).

The present study was carried out in the historic district of Burhanpur, Madhya Pradesh, India. The historic urban culture of Burhanpur, which flourished in the 14<sup>th</sup> and 17<sup>th</sup> centuries, integrated the notion of coexistence with nature, in which the soundscape formed an essential part of the experience that people associated with this place. The soundscape of Burhanpur, imperative to the quality of the environment and the integrity of the human life within it, is slowly deteriorating due to encroachment and inappropriate interventions. The sonic dimensions of the medieval units of the heritage landscape are no longer acknowledged and maintained, particularly since the colonial period, with its legacy of heritage management in which the built heritage is seldom related to the natural heritage and intangible cultural heritage, especially the soundscape, does not receive ample

attention. There are substantial references that highlight the values and significance of Burhanpur heritage. However, because such references are in segments and only explain the importance of heritage in isolation. The present legislative framework (outdated compartmentalised administrating departments) of heritage management in India focuses on built heritage under the supervision of the Archaeological Survey of India (ASI); and, the Forest Department of India administers natural heritage. Research on the cultural landscape has largely focused on the visual and overlooked the other senses. The soundscape, as a form of intangible cultural heritage (UNESCO, 2003), is rarely acknowledged as important, compared to the other heritage components in the process of conservation and the management of cultural landscapes. Although Burhanpur is designated as the heritage cities of the UNESCO - Indian Heritage Cities Network (since 2006) with the endorsement of the Ministry of Urban Development, Government of India, a coherent, holistic and sustainable heritage outcome has not been achieved (to celebrate the acoustic qualities of the landscape). The argument of this paper is that the soundscape of Burhanpur, as a form of intangible cultural heritage, if correctly identified, conserved and managed, can become a crucial component for sustainability.

The functioning of an ecosystem shows a significant relationship with the sounds generated by organisms (biophony), or by the physical environment (geophony), or by humans (anthrophony) (Krause, 2008). There are numerous approaches that have been adopted for studying soundscapes; the approach posited in this paper is the architectural knowledge systems approach (Thakur, 2002) for the conservation of the soundscape of the Burhanpur urban cultural landscape. As a system, this approach makes it possible to interpret the cultural landscape, as shaped by natural and cultural parameters; hence, it is inclusive of multiple disciplines of professional domains. This approach also helps investigate the positive aspects of sound, rather than focusing only on noise pollution. Several of the important components of the Burhanpur landscape, such as sonic dimension of the landscape, settlement planning, layout disposition and defined landscapes, which are deeply integrated with the natural and cultural systems have tourism potential, thus making positive socio-cultural, economic, historical, recreational, and artistic contributions, are discussed here.

## **The sonic dimension of the Burhanpur landscape**

Mughals, the patrons of Burhanpur, have identified places or settings where the natural and sonic environment has potential for performing interventions in the cultural landscape of Burhanpur. This urban landscape study was done by subdividing the historic city of Burhanpur into units. The potential natural soundscape units of the landscape, such as Ahukhana, Zainabad, Mahal Gulara and Asir, were utilised for several purposes. The picturesque Ahukhana (literally deer park, the walled pleasure garden originally constructed by Shah Jahan's uncle, prince Daniyal, in 1609), one of the significant units of this landscape, is an excellent example of a Mughal-designed landscape, developed with a water system (from the Utaoli River), fragrant grasses, plants and trees. Before the construction of the Taj Mahal, Mumtaz Mahal, beloved queen of Shah Jahan (1631) was buried here for six months and then shifted to Agra (R. V. Russell, 1997). The significance regarding the flora and naturally beautiful setting of this landscape can be traced to the fact that

this location was a proposed site for the Taj Mahal; a conceptual painting can still be seen on the wall of Shahi Hammam of Badshahi Qila (fort). In contrast to the sound of the urban area and surrounding settlements that characterised walled city of Burhanpur, it was the lack of noise here (ie, Ahukhana) that is most often remarked upon. This site may have been proposed for the construction of the Taj Mahal (now Ahukhana) because of the calm and tranquil nature of the water channel from the Utaoli River, which contrasted so dramatically with the recreational, festive, and other types of city sounds. Zainabad, another unit of the landscape, was a royal hunting preserve. In the Mughal period, Zainabad was regarded as an important landscape feature, in terms of both exploration and recreation, and the soundscape formed an essential part of the experience that people associated with this place. Even today, these places are significant in terms of their scenic beauty, natural sounds, and tourism. The importance of such natural soundscapes can be understood by the fact that they can make positive psychological, emotional, therapeutic, spiritual, cultural, historical, aesthetic, recreational and artistic contribution. Reserved forest, natural resource areas and scrublands surround these units of the Burhanpur landscape. Many investigations have demonstrated that natural resources have both immense intangible values, which are intellectual, research-oriented, educational, and artistic (David Harmon, 2003) in nature, and tangible values, related to tourism, revenue generation, and economic and ecosystem services.

Folk songs, folk music, and other form of sounds in the Burhanpur landscape are rich sources of indigenous knowledge systems and reflect the living cultural traditions. The soundscape of Burhanpur offers a way of knowing the landscape in a holistic and comprehensive manner. Sound is a significant element of the Burhanpur setting that contributes to a sense of place. It is a multi-sensory experience (visual, auditory, olfactory, tactile, and gustatory) (Kaymaz, 2012) in which sound is perceived and understood by individuals and society. In the context of cultural landscapes, the cultural, historical, and natural locations of Burhanpur convey distinct sounds, with sound articulating intangible traits, representing meanings, and connecting communities to nature or the landscape. Thus, the soundscape is a significant intangible cultural resource that is combined with human values and the social sciences. The importance of the soundscape can also be understood by the fact that human physical health and mental health are directly related to it. Furthermore, natural soundscapes have qualities to reduce mental stress and thus improve quality of life. The planning and design of Burhanpur is not limited to its walled city but rather extends to the regional and urban levels. There is an excellent blend of land-use zones and surrounding forest areas that presents sounds from nature, such as Zainabad, Mahal Gulara, and Ahukhana. The qualities of natural landscape have been understood and utilised for various cultural and social services while performing interventions in the 16<sup>th</sup> - century cultural heritage landscape.

## **Settlement planning and layout disposition**

The indigenous planning and design framework of historic Burhanpur shows the interaction between sound, architecture and the sonic dimension in the planning, design and construction of the city, including its component parts and particularly the architecture of sacred spaces, for instance, the location and construction of Jami

mosque and its minarets, the most distinctive sights in the medieval Islamic walled city, from which muezzins call the faithful to prayer five times a day. The soundscape of Burhanpur has its own unique tones (biophony, geophony or anthrophony) that endow it with identity; simultaneously, this soundscape creates a sense of belonging in the community. The present Mahatma Gandhi square, an important square in the walled city of Burhanpur with the monumental heritage structure of Jami Mosque, is a cultural space characterised by its sound. The construction of the minarets in this specific location shows the conscious efforts of the imperial administrator to create a specific soundscape. Several researchers of the historic acoustic environment have attempted to interpret the historic soundscape by drawing on historic travel-writing, letters, and diaries. Through the use of music, speech and sound during festivities in the city, the sound dimensions of the Mughals' ceremonial and military band, the ceremonies at the court of Burhanpur (Brown, 2000), the naubat ensemble, and several such instances and passages in the travel diary of seventeenth-century European travel-writing draw attention to the soundscape of medieval Burhanpur. Presently, there are many archaeological heritage sites in Burhanpur that have the potential for adaptive new use. While putting the archaeological remains of Shahi Qila to contemporary use, the adaptive reuse process should include the revival of naqqara khana (the store room for drums common in Mughal forts) and the naubat ensemble. This revival will add an important dimension to understanding a space or landscape and fosters tourism as well. The heritage structure of the Jami Mosque, the surrounding areas, and the soundscape attached are a cultural space and a carrier of ethics and spirituality. The architecture of Burhanpur contributes to the creation and maintenance of a specific soundscape that articulates nature-culture connection, creating a sense of belonging that is critical for sustainability; thus, its management and conservation are worthy in the context of the survival of the Burhanpur urban cultural landscape.

## **Conservation issues and discussion**

The issues and challenges linked with soundscape conservation are multiple and complex. The sonic expectations of experiencing authentic local places and communities have set the stage for soundscape tourism to grow and succeed in many landscapes of India, including Burhanpur. There is a growing realisation of the indigenous knowledge systems of the Burhanpur urban cultural landscape that are present in the form of folk songs, musical stories, folk operas, poems, rituals, belief systems, and ethics, including the meanings and other forms of sounds. The local soundscapes of Bohras, Jains, Behnas, Cutchis, and other Barela tribal traditions (transmitted in the form of sounds from one generation to another) in Burhanpur that possesses an immense global heritage significance but that hitherto have been accorded low status are a part of a national resource related to rare varieties of medicinal and herbal plants (Ayurveda and Unani medicine) and biodiversity.

In contrast to the Ahukhana (tomb garden), the Mahal Gulara and the Zainabad (defined landscape unit) of the cultural landscape were designed as recreational spaces. The contemporary tourist activities along these spaces and the increasing amount of unplanned urbanisation are threatening the acoustic environment, which is becoming increasingly homogenised. The forest coverage surrounding Burhanpur city has shrunk to only five reserved forest areas, ie, Asir, Ichhadevi, Samardev, Mandwa and part of the Satpura water catchment area. This threat to the natural

soundscape is also an indication of the weakened human relationship with nature. Because there are multiple management authorities responsible for Ahukhana, Zainabad, Mahal Gulara and Asir in the Burhanpur urban cultural landscape (e.g., ASI, the State Department of Archaeology, the Forest Department of India, and Municipal Corporation), the implementation and monitoring of protective measures are challenging. Similarly, defining the soundscape boundaries and buffer zones to protect the sites from negative influences is also problematic.

The revival of the medieval Burhanpur soundscape based on early-published diaries and travel writing has potential limitations in terms of the availability of data, and often because these are biased towards certain segments of the community, such as the elites, with servants (including local communities) being under-represented. However, the revival of the Shahi Qila soundscape and the naubat ensemble (the ceremonial and military band) is an example that has been validated through the naqqara khana and records in the A'in-i-Akbari (the administration report of the Mughal emperor Akbar). The architecture and soundscape of Jami Mosque and its surrounding areas (the present-day Mahatma Gandhi square) continue to provide us with a glimpse of medieval Burhanpur. However, the condition of other parts of the Burhanpur walled city is often degraded, polluted, and not properly maintained. The areas outside the walled city are facing the severe noise pollution common in the cities of developing countries (World Health Organisation, 2002). Although the historic land-use pattern of Burhanpur is of a mixed type (in where small-scale industries are coupled with residential areas), the new development and the addition of several heavy industries raise the issues of noise pollution. Other issues that lead to threats to the soundscapes are inappropriate (out-of-context) landscape treatments, the lack of maintenance, inappropriate interventions, and the inclusion of infrastructure elements. The rapid urbanisation of Burhanpur has a major impact on landscapes and therefore on soundscapes as well.

## Conclusion

The sonic dimension of Burhanpur urban cultural landscape, its intangible cultural heritage, its planning, layout disposition, and the soundscape of heritage structures and historic gardens, which are imperative to the sustainable development of historic Burhanpur, are slowly deteriorating. The argument of this paper is presented by two key insights and links the inferences on the soundscape as an intangible cultural heritage for Burhanpur landscape sustainability, which is directly linked to the quality of the human relationships with the landscape, ecosystem services, revenue generation through tourism, various cultural and social benefits, and resources for present and future generations.

First, section of the paper demonstrated that the Burhanpur landscape units such as Ahukhana, Zainabad, Mahal Gulara, and Asir are crucial natural and sonic environments, with the potential for tourism and making positive psychological, emotional, therapeutic, spiritual, cultural, historical, aesthetic, recreational, and artistic contributions. Second, the Burhanpur settlement plans and layout disposition, showed the interaction between sound, architecture, and the sonic dimension, simultaneously endowing the place and community with identity and creating a sense of belonging that expresses a long and intimate relationship between peoples and their environment that is critical for sustainability. Authenticity

in the conservation of Burhanpur urban cultural landscape will be achieved truly, if we are able to understand and conserve intangible aspect such as the soundscape. Urbanisation, tourism impact, changes in socio-economic and cultural paradigm and, with the advancement of technology, soundscapes often degrade and convey no meanings, and thus the landscape's sustainability is under threat.

The example of Burhanpur cultural landscape demonstrates the strong connections between soundscape and cultural landscape. Soundscape can become a crucial component in the sustainable development of Burhanpur cultural landscape. There is a need to further research in this area to understand how humans are affecting natural soundscapes, cultural landscapes and gradually the ecosystem as a whole. The potential of soundscape as an intangible cultural heritage for sustainability can only be utilised with further scientific endeavours, detailed information and research of noise effects. Hence, there is a need to identify threats and to develop new practices to perform an inventory (presently not included in the ASI inventory format) of the perceived landscape that will help protect intangible cultural heritage such as the soundscape, a highly fragile and elusive quality attached to the landscape.

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