

Determining an Adaptive Reuse Strategy for Cultural Sustainability

A Discussion on the Ottoman Hamams in Turkey

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Abstract

A significant number of policy texts and discussions in the literature focus on methods and approaches for interpreting and adaptively reusing architectural heritage. However, we should develop a reuse strategy tailored to each historical building to strike a balance between preserving the original cultural and architectural features and incorporating new uses. The subject of this article is the historical Ottoman hamam (baths) in Anatolia, whose original function has largely lost its validity today. Hamams were widespread structures designed as primary venues for cultural ceremonies and social gatherings, as well as for bathing purposes and various activities, such as eating, dancing, and listening to live music. This article examines two abandoned hamams in the city center of Aydın, located in the Aegean region of Turkey. The two historical Ottoman hamams, dating from the 16th and 18th centuries, located close to each other, are now in a state of disrepair and neglect. The architectural and cultural values of the hamams, with their unique technical details, require a holistic approach to reuse. Accordingly, this research presents a comprehensive examination of the factors influencing the adaptive reuse of hamams, drawing on contemporary understanding of cultural heritage. The study aims to develop a holistic model for adaptive reuse strategies that preserve the tangible and intangible heritage values of hamams, characterized by their unique architectural features. The article presents an adaptive reuse strategy designed for case studies categorized into three stages: contextual, spatial, and technical characteristics, as well as sociocultural patterns. The results contribute to creative and adaptive reuse scenarios that address the cultural sustainability values of hamams.

Keywords Ottoman Hamam, Cultural Sustainability, Cultural Values

Introduction

While the original functions of some historic buildings have become entirely irrelevant, others have survived to the present day, their meaning and content having undergone significant changes. For such buildings to continue being used, their original functions must be adapted to the present day, or a new function suitable to their original character must be selected. Reuse defines a role for historic buildings that have fallen into disuse in contemporary life, while also ending the purpose of the building's initial construction.

Adapting old buildings for new uses is a complex process that involves cultural, technical, and economic challenges (Hong, Chen 2017, 204).

This study focuses on Ottoman hamams in Anatolia, which have largely lost their original function. Hamams, with their rituals, traditions, and bathing practices, have been critical public spaces dating back to the Roman and Byzantine periods. Hamams were widely built as essential public spaces in the cities of the Ottoman Empire. Ottoman hamams were not only hygiene facilities but also critical public institutions that served as social and ceremonial spaces (Aboukhater 2008, 109-121, Bousnina 2025, 100). While changes in people's bathing habits today haven't eliminated the function of the hammam, they have gradually weakened its frequency of use and public character. Nowadays, people continue to use some hamams in Anatolia by adapting them to contemporary needs. However, many hamams have become unusable and are facing the danger of extinction.

The loss of the original functions of historic hamams brings not only physical but also cultural losses. It is not possible to protect and understand the hamams by abstracting them from the rituals, expression methods, and practices that created them. (Karadayı Yenice, Ararat 2022). On the other hand, the function-specific architectural design of the hamams presents a fundamental challenge in adapting them for reuse. This dilemma has made the conservation of hamams and their integration into contemporary life a current topic of debate. Hence, it is necessary to address the question of how Ottoman hamams can be adaptively reused without losing their cultural and architectural identity.

This article aims to address the challenges and potential associated with the reuse of Ottoman hamams and to develop a roadmap within the context of cultural sustainability. In this context, the article focuses on understanding the complex spatial structures of hamams, their sociocultural relationships within the urban context, and the potential for reuse. This paper examines two abandoned hamams in Aydin, a city located in the Aegean region of Turkey. The first part of the paper focuses on the relationship between cultural sustainability and adaptive reuse. Following this, the research examines the architectural and cultural characteristics of hamams within the context of Aydin. The final section of the paper explores adaptive reuse strategies for hamams in terms of cultural sustainability. The research findings suggest a place- and spirit-specific approach that goes beyond the generalized new function and use approach, addressing the unique conditions of the hamams and their surroundings while also offering insights into understanding the gaps between theory and practice.

As a result, this paper contributes to the investigation of Ottoman hamams as architectural legacies with profound cultural significance and technological sophistication, while proposing adaptive reuse strategies grounded in cultural sustainability that bridge tangible architectural qualities with intangible social values.

Adaptive Reuse as a Strategy for Cultural Sustainability

Adaptive reuse is the process of adding new features to existing buildings to make them suitable for contemporary living and to accommodate new activities within the same structures (Plevoets, Van Cleempoel 2019, 1). Adaptive reuse is recognized as a crucial approach in contemporary conservation theory and practice for preserving and maintaining the status of heritage buildings, which encompass both tangible and intangible dimensions. Various international heritage charters acknowledge the importance of adaptive reuse in

historical buildings in terms of cultural value and sustainability (Arfa et al. 2022, 49). The term “adaptive reuse” doesn’t just mean changing the function; it also means “adapting to the changing needs of its environment to maximize its value throughout its existence.” (Schmidt III et al. 2010, 233–242) An effectively reused historic building should facilitate a connection between individuals and their cultural heritage, promoting a shared cultural identity in their lives and the remembrance of the past (Vafaie et al. 2024, 438–440). When adapting historical buildings for contemporary use, it is essential to strike a balance between preserving their socio-cultural integrity and meeting modern functional requirements. In this context, “cultural sustainability” is a key term. The concept of cultural sustainability was first introduced in 1995 by the World Commission on Culture and Development (WCCD) and defined as “intergenerational and intragenerational access to cultural resources” (WCCD, 1995). Numerous academics define cultural sustainability as the ability of a culture to preserve its identity and values over time while adapting to changing conditions (Amro et al. 2023, 2–4). Cultural sustainability refers to the preservation and maintenance of a community’s cultural heritage, history, and indigenous knowledge, emphasizing the importance of local histories and the transmission of cultural values to future generations (Axelsson et al. 2013, 215–228). As Soini and Birkeland (2014) argue, cultural sustainability is crucial for preserving a society’s identity, maintaining ties to the past, and fostering cultural diversity. Cultural sustainability also includes the preservation of cultural areas and monuments, as well as the promotion of cultural activities and events (Izadi et al. 2024, 361–362).

However, achieving cultural sustainability is not an effortless goal in terms of adaptive reuse. Culture is a dynamic and evolving phenomenon. Due to contemporary conditions, a change in culture and cultural values is inevitable. Cultural sustainability requires a balance between preserving identity and allowing for cultural evolution (Soini, Birkeland 2014, 213–223). UNESCO (2003) stated that the holistic approach to cultural sustainability considers not only tangible heritage such as artifacts, monuments, buildings, and tools, but also the intangible aspects of culture, including learned traditions, lifestyles, beliefs, and symbols that are important to the community. The relationship between place and culture plays a critical role in preserving social and cultural identities and maintaining cultural diversity. Adaptive reuse of architectural heritage enables the transmission of culture to future generations. Through this framework, the article examines how the adaptive reuse of hammams can preserve cultural identity and continuity in evolving urban contexts and lifestyles.

Case Study: Ottoman Hamams in Aydın

The hamams examined in this study are in the historic city center of Aydın, in the Aegean Region of Turkey. Ottoman hamams are situated within the urban fabric, which comprises numerous monumental structures, traditional residences, and commercial units (Fig. 1). Ottoman hamams are characterized by unique architectural spaces and technological characteristics, as extensively documented in the literature (Klinghardt 1927, Aru 1949, Önge 1978, Sibley 2007). The main parts of an Ottoman hamam are the undressing area, the cold room (*soğukluk*), the warm room (*ılıkılık*), the hot room (*sıcaklık*), and the furnace (*küllihan*). The three main spaces of the hamam design are intended to ensure that the temperature of the surrounding area gradually rises in tandem with the body’s temperature. These are complemented by secondary spaces, including restrooms, WCs, shaving areas,



Fig.1. Hamams in Aydın (Google earth, 2025)

and other supporting spaces such as cold and hot water tanks. The interior of the hamams is entirely isolated from the exterior world. The spaces are arranged in sequence, starting with the room adjacent to the entryway, which serves as a changing room. The continuity of space causes the temperature and humidity to rise, which eventually leads to the formation of steam clouds.

The functional systems of Ottoman hamams showcase advanced technologies, particularly in heating, plumbing, lighting, and acoustics. The heating system utilized a wood-burning furnace, which heated both air and water. The furnace has its entrance and consists of an upper water reservoir and a fireplace below it. The steam from the boiling water in the cauldrons is released into the bathing spaces through an opening in the wall of the hot room. The smoke from the fire passes through a duct under the floor of the bathing spaces before rising into a chimney in the wall that separates the warm room from the cold one. Water systems in hamams were designed for efficient water supply, storage, distribution, and wastewater disposal. Both natural and artificial lighting systems were used in hamams. To ensure privacy, natural lighting was primarily provided through skylights. Glass lanterns containing multiple small light sources, known as *filgözleri*, were used in the dome of the warm and hot areas. The acoustics of the hamams were carefully considered, and the historical plaster materials contribute to lower reverberation times and higher speech intelligibility (Klinghardt 1927, Aru 1949, Önge 1978, Sibley 2007). These technical details also enhance the social experience within the hamams.

The hamams in Aydın adhere to the design principles of classic Ottoman hamams, as outlined above. The oldest of the three hamams examined in the study, the Gümrükönü Hamam, was built in the 16th century. The hamam, considered a “double bath” consists of two separate sections, one for men and one for women. The hamam was once used for wine production, but it hasn’t been used for many years. A *han* constructed in the 19th century can be found adjacent to the hamam. Restoration work has been done on the han, but it is not currently in use. Restoration work has been carried out on the han, but it is currently

unused. The hamams dilapidated state also negatively impacts the potential of new function of the han (Fig. 2).

The Cemal Bey Hamam, which has been out of use, was built in the 18th century. The hamam was designed for men and women to use on separate days. Located northwest of the Gümrükönü Hamam, this hamam has remained unused and neglected for many years. To ensure its revitalization, a comprehensive restoration project is necessary to address the hamam and its immediate surroundings (Fig. 3).

The Nasuh Pasha Hamam, part of a complex that includes a madrasa, a mosque, and a caravanserai, was constructed in the 18th century. Today, it continues to serve as a hamam



Fig. 2. Gümrükönü Hamam, 2025

and spa. This hamam is an example of where the function of the bath has been updated to meet contemporary needs. It is essential to note that hamam has various levels of transformation, and new facilities include saunas, jacuzzis, and personal care and massage services. In addition to these facilities, special organization services such as bridal hamam and groom's hamam, which are part of traditional Ottoman hamam culture, are also offered at the hamam. Men and women use the hamam at different times of the day. (Fig. 4). As one of the city's recreational areas, its continued existence highlights the delicate balance between tradition and modernity.

The architectural organization of hamams creates physical spaces that embody cultural practices, social relationships, and traditions inseparable from the buildings themselves. The inseparability of physical structure and cultural meaning demonstrates why the hamam must be understood as a holistic heritage site, encompassing both its architectural features and social practices. As the need to adapt two Ottoman hamams in Aydın becomes increasingly urgent, it is essential to conduct a thorough evaluation that considers their historical context while also exploring new possibilities.



Fig. 3. Cemal Bey Hamam, 2025

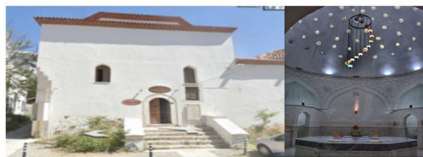
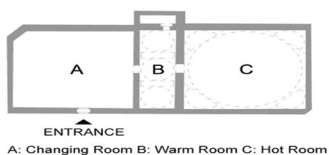


Fig. 4. Nasuh Paşa Hamam, 2025

Discussion and Results

In accordance with UNESCO's (2003) definition of intangible heritage, adaptive reuse should preserve the physical fabric and revitalize the rituals, sensory experiences, and social meanings embedded in heritage sites. This dual focus is significant for Ottoman hamams, whose spatial arrangement and sensory qualities are inextricably linked to their cultural practices. As indicated by Karadayı Yenice, and Ararat (2022), it is not possible to preserve and understand hamams by isolating them from the rituals and social practices. Therefore, cultural sustainability necessitates a comprehensive strategy that encompasses the physical, functional, and symbolic aspects of hamams.

When considering the reuse of hamams in Aydın, from a cultural sustainability perspective, two fundamental issues emerge. Firstly, we need to adopt a comprehensive conservation strategy for both the tangible and intangible aspects of the hamam culture. Secondly, it is crucial to establish a connection between the new use and the historical context, which includes space, people, and cultural traditions. In this context, adaptive reuse strategies for Ottoman hamams in Aydın, can be examined under three headings: contextual, architectural, and sociocultural characteristics. A culturally sustainable adaptive reuse framework that integrates contextual, architectural, and sociocultural dimensions can transform abandoned hamams into active components of urban life. This approach bridges the gap between tangible and intangible heritage, ensuring that these monumental spaces continue to represent community identity and cultural continuity for future generations.

The settlement patterns in which the hamams are located constitute their contextual characteristics. The process of reusing abandoned hamams requires a holistic perspective that goes beyond simply selecting a new function. Since Aydın city has five historical hamams are unique due to their connections with their immediate surroundings, a holistic approach is essential to ensure the continuity of hamam culture. The continued use of the Nasuh Pasha Hamam as a modern spa is extremely important for preserving the continuity of hamam culture in the city. However, given the frequency of hamam use today, it is inevitable that the Gümrükönü and Cemal Bey Hamam will be used for a function different from their original purpose.

The spatial and technical characteristics of hamams related with their architectural heritage values. Hamams are self-sufficient buildings, with spatial relationships and architectural and technical details tailored to their functional needs. Regardless of the chosen new functions, we must identify the heating, cooling, ventilation, and lighting systems as heritage elements and preserve them accordingly. Furthermore, adaptive reuse interventions should preserve and reinterpret the multi-sensory experience, including the sensory qualities—heat, sound, texture, and light. By prioritizing these aspects in preservation efforts, we can ensure that future generations can appreciate and connect with the rich human history, thereby

fostering a deeper attachment to their cultural heritage.

The significance and cultural practices associated with hamams in social contexts are closely tied to sociocultural attributes. The periodic use of hamams for both daily needs and cultural rituals in the past should be taken into consideration during the adaptive reuse process. Given their social importance to the community, the frequency of use is as important as the continuity of their physical features. Maintaining the frequency of use in adaptive reuse processes reinforces their role as important social hubs in the community. Ensuring that hamams reuse as vibrant social centers and inclusive public spaces is vital to strengthening their relationship with the city.

In conclusion, the adaptive reuse of Ottoman hamams can contribute to cultural sustainability by fostering inclusivity and social interaction while meeting contemporary needs. This approach ensures that hamams remain an integral part of community life for future generations. Through this multifaceted lens, it is possible to envision a future in which hamams in Aydın and throughout Anatolia continue to serve as living spaces that foster community connections across generations.

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