

Using Phenomenological Theory for Sustainable Renovation of Historical Open Spaces in Bahrain



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ABSTRACT

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Lack of understanding of phenomenological theory and sustainable pillars and bodily experience for visitors causes poor design, then a bad feeling of the spaces via their five senses. If so, the complete interaction of users with the quality of such sites will be successful. Moreover, in such schemes, designers try to encourage walkability and staying longer, and enjoy the urban atmosphere in the historical parts of cities. This study aims to achieve sustainable renovation of projects using phenomenological theory when designing historical spaces, streets, squares, and green areas, as a conceptualizing key to the success of such projects. Culture as one of the sustainability pillars is the key limitation of this study. The study used phenomenological theory to analyze the area in renovation projects in the historic district of Manama city, Bab Al Bahrain, Kingdom of Bahrain. The study analyzed the bodily experiences of users at different times of the day. Furthermore, the results of this study illustrated the distraction between users and heritage places if designers ignore the five senses of users for such areas.

1. INTRODUCTION

1.1 Background

Many studies focused on the significant role of appropriate design for public spaces in the revival of historic areas and formulating solutions to deal with public spaces in heritage areas [1]. Therefore, understanding the architecture of heritage areas through phenomenological thinking will clarify the place for users to experience it differently. It should be noted that the historical touristic populated areas in the 70s pose great disadvantages when it comes to renovating. Transformation in such areas involves problems derived from the lack of flexibility in design, excess regulation, and environmental issues [2].

A clear phenomenological understanding of places is accessible to users through bodily experiences. In architecture, bodily experiences are places that sense and feel the human body sensing system. The human body sensing system consists of different sensory functions [3]. These different sensory functions, such as touch, taste, hearing, smell, and sight, are essential to experience places and architecture [4].

Designing places that focus on the geometric properties of space is free of emotions, feelings, and memories, thus decreasing the succession of sustainable renovation projects. [5] Unfortunately, designing a space without paying attention to user activities and experiences is one reason for the failure of such projects. Therefore, considering the design of spaces as a preexisting and unchanging container, people fill it up and move around it in their daily activities with an inconsiderable feeling of the historical value of the area [6]. Consequently, in historical areas in Bahrain, moving and walking in this part of

the city is interesting for researchers to analyze user perceptions and understand the historical value of such areas.

1.2 Statement of the research problem

Renovation projects in a historical area require the user to consider visitors' five senses in the design. Essentially, allocating the five senses in the planning process must meet specific goals in users, time, and space, reflecting upon users' sense of quality and understanding the historical dimension of the space. In addition, it will increase the feeling of the value of these historic districts [7]. If the user's senses are not considered in the landscape architecture design of the renovation projects' spaces, verifying the initial objectives will not occur. Consequently, the number of visitors will decrease, leading to a low level of return, deteriorating, therefore urban quality in such areas [8].

1.3 The topic importance

In Bahrain, visitors can observe changes in urban state and impacts on urban patterns and architectural features when walking the streets. It is easy to differentiate between the architecture of buildings over several periods. In addition, it defines the expansion of cities and the typical lifestyle variations of residents [9].

Manama affects the expansion of Bahrain's cities and the typical lifestyle variations of residents [9]. In addition, it represents the heart of civilization and vitality in Bahrain for a long time ago. During the last few decades, the historical part of the urban habitat in Manama; is a witness to the economic, political, and social changes. The primary observation of such

projects indicates the periods of civilization in Bahrain. Therefore, one of the objectives of these renovation projects is to attract visitors to see the history of Manama in different periods [10].

It is well known that the success of renovation projects in the historical part of the city has to respect the sustainable condition in terms of the cultural, social, political, and economic conditions of societies. Observing users and their feelings about such spaces is an important part of the social pillars designers must consider in renovation projects [11].

Consequently, it should be noted that studying open spaces in historical areas dealing with landscape architecture design is taken for granted as a part of the existing urban environment. Unfortunately, designing open spaces does not receive enough attention or consideration in some renovation projects. Therefore, we should improve the quality of these projects by detecting the phenomenological qualities of users in the historical areas to feel the areas. It is a mirror that reflects how others see us and how we see the value of our inner self [12].

Body experience relates directly to how people experience places through their bodies. The human body can experience places through the five primary senses. People see, hear, touch, smell, and taste things around them. These senses create experiences that define their world.

1.4 The study significance

Recently, understanding human senses in renovation projects has formed the core of urban design for historical areas because well-design can be the engine of economic means, social well-being, and environmental sustainability. The historical areas worldwide face numerous challenges that affect sustainable development and have been linked to users' senses. Urban planners conduct user senses, but a lack of research motivates these specialists to do more studies [13]. Therefore, placemaking supports the development of historical areas, which enhance the relationship between users and space by increasing a sense of place. In this respect, the value of the space increases parallel to the users' in-depth understanding of its value [14].

Therefore, the improper design of these historical areas leads to low benefits of renovation projects, which will negatively affect the economic resources of the country [15]. The study hypothesizes that the absence of applying phenomenology theory in the design concept of such open spaces deteriorates the quality of these spaces. Furthermore, it negatively affects the quality of open urban spaces in the historic district of Manama city. It is necessary to consider respecting users' senses in the design to avoid a more gradual decline in value in historic districts. As a result, many unhealthy places appeared. The study indicated that the problem is due to a lack of understanding of the bodily experiences of the users.

Furthermore, it is necessary to consider users' activities in daily living. The phenomenological approach in architecture is regarded as a sensual way of conceptualizing areas, which is the key to the success of such projects. Therefore, this study discusses the importance of using phenomenological sensory theory in renovation projects in the city's historic center.

1.5 The study contribution

The contribution of this study will help improve the quality of open spaces in the historical area of Bahrain, which attracts

tourists. Consequently, it positively impacts the economic resources of the country. Additionally, it will encourage movement and walking in this part of the city, which will reduce various sources of pollution. When walking in the streets in these open spaces, visitors can observe changes in the urban state of the city and the impacts on urban patterns and architectural features.

1.6 The study objectives

This study emphasizes the use of this approach to the success of such projects by proposing guidelines in a design matrix using the phenomenological theory that successfully conveys the depth and importance of the historical area to visitors. In addition, it attempts to understand people's sensual and bodily experiences to evaluate its urban design in the Bab Al Bahrain project. In other words, if an urban designer decides to design the open spaces in a renovation project, the people's experience in this area matters; what people see, hear, touch, smell, or taste are essential aspects of the success or failure of such a project.

This study addressed this topic to address the scientific gap and the research question through its structure, which shows the steps and methods, as shown in Figure 1.

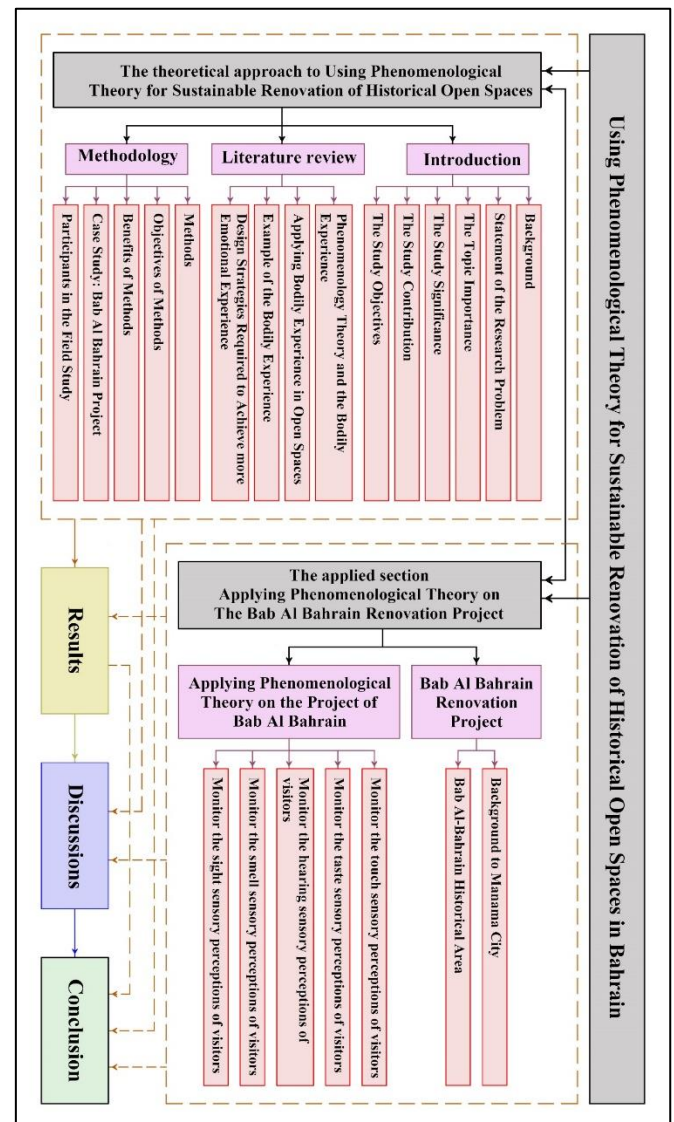


Figure 1. The conceptual framework

2. LITERATURE REVIEW

2.1 Phenomenology theory and the bodily experience

Phenomenology theory aims to recur at the base, captured by the slogan "Back to the things themselves" [16]. The phenomenological theory is a different branch of philosophy. It is a method of reviewing public users and the world or, more precisely, their connection, which emphasizes the environment and reality not as an absolute remaining only outside us, but as a matter of human scrutiny, communication, interaction, and innovation contribution. It is a philosophical reading of architecture.

Edmund Husserl (1859-1938) explained: "sought to develop a new philosophical method which would lend absolute certainty to a disintegrating civilization" [17]. In addition, the roots of phenomenology theory can be traced back to Kant and Hegel. Vandenberg concerned Husserl as 'the fountainhead of phenomenology in the twentieth century' [18]. Husserl rejected the trust that items in the world are self-determining and that information about things is reliable. He discussed that people could be convinced about how things appear or show themselves in consciousness [19]. To realize at certainty, anything outside conventional experience must be discounted, and in this technique, the world is condensed to the fillings of personal consciousness. Therefore, the authenticities are preserved as pure 'phenomena' and the only comprehensive information to begin. Husserl called his philosophical approach 'phenomenology,' the art and science of pure 'phenomena' [20].

Body experience depends on the senses that create feelings and memories, transform space into place, and give it importance. Users experience sites in their five senses; therefore, it is essential in urban design to consider the sensual experience of visitors and the feeling of the uniqueness of places by employing phenomenology theory. Phenomenology theory illustrates that humans, through the senses, live unforgettable adventures in the area and create some feelings and memories. Consequently, from the architectural point of view of the landscape, visitors' feelings for places are established by manipulating the design of the space and selecting the appropriate materials. The phenomenology theory focuses on the sensitivity of human perception rather than mechanical, intellectual understanding. We can say that it considers the relationships between human feelings and places [21]. In a brief clarification, Zumthor explained that for a successful urban system, architects should use the observation method, a visual method, to enhance what is valuable, correct what is disturbing, and create what is missing [22].

2.2 Applying bodily experience in open spaces

When applying bodily experience, it is the most common human experience in places. People perceive and observe things frequently, which affects their view of places. Note that seeing is not the only sense and is not enough for users to feel the spaces, but other senses are just as important. Sound has the power to change the experience of places. Every place can have a distinctive sound based on people, scale, materials, and any other element in that place [23].

Furthermore, touch is generally related to direct contact with the skin and materials. These materials can create a tactile experience that influences the human experience of places. The sense of smell can also create a memorable experience for

sites. Each site has a unique smell affected by people, buildings, the environment, climate, and other factors in urban space. "The skin reads texture, weight, density, and matter. The tactile sense connects us to time and tradition" [24].

However, the audial world is omnidirectional, with a different vision, which is arranged; its purpose is to notice the path of an occasion and suggest different feelings and memories, as every sound has a different spatial quality [8]. Space is conceived and appreciated through its echo and visual shape, but the auditory percept usually remains unconscious. Every building or space creates its characteristic sound of intimacy or monumentality, rejection or invitation, hospitality, or hostility. In architecture, the taste-smell scheme is also used to motivate emotions, feelings, direct, way, or distract. It has real potential to support our spatial memory and imagination. The smell, as part of the sense, "makes us knowingly rent a space that has been erased from the memory of sight; the nostrils stimulate a forgotten image; the nose makes the eyes remember" [24].

2.3 Example of the bodily experience

An example of a bodily experience of place is in the Malacca Heritage Zone, Malaysia. Walking along the famous Malacca River in the morning and hearing the beautiful low sound of the river water, suddenly the disturbance of the boats will pass through and disappear. The sounds of birds above, while cars and motorbikes come from the other side of the road. In addition, the visual senses of the place are clear to everyone. The colors used on the streets, pedestrians, buildings, and many urban facilities give the connectivity between individual sites the general impression that the overall urban place is strongly symmetric and connected. Since it was morning, the temperature was a bit warm due to the tropical location of the city. Also, it is close to the sea. Due to the warm weather in the morning, people prefer to be in the shadow of the river in front of the river because of the airflow. However, warmth will disappear at night; therefore, some unpleasant odors will spread, resulting in less interest at night at the riverfront than during the day. Phenomenological bodily experience can give an impression of the site from different points of view and tastes depending on the users [25].

2.4 Design strategies required to achieve more emotional experience

An emotional experience that evokes human feelings and intellectual responses must provide a more satisfying influence journey in the historic district. "Indeed, social science research suggests that we would not even want to try to make emotions help us learn more effectively" [26]. According to the literature on 'Developing a Toolkit for Emotion in Museums' presented by Linda Norris and Rainey Tisdale (2017), several design strategies can be adapted to define the space. Therefore, as discussed above, create an emotional journey by planning the color, lighting, texture, smell, sound, and other space details that correspond to your desire. Also, consider embodying relative emotions within the displayed objects to elicit an emotional response and organize the displays according to a storyline that discusses the issue in sequences to create a sense of curiosity.

In addition, there is a need to provide a space for sharing knowledge between users. People tend to get expressive experiences from real stories and traditional folklore. Reading these stories in the words of the sensation, all the contributors

create a more critical and meaningful [27]. This can also happen by involving people's voices in the exhibition by displaying multimedia devices.

It should be noted that innovative and intelligent designs for historical areas (following the idea of outdoor museums) are currently playing a significant role in integrating multicultural aspects. The success of these exhibits reveals the unique social characteristics of this area. Using the concept of phenomenology and bodily experiences for the visitor's senses will lead to feeling the deep historical value of spaces and will succeed in creating a sustainable renovation project in such an area [27].

In addition, it reflects the artistic and cultural platform of the country's country through its exhibitions, annual cultural celebrations, and educational institute visitor programs. These activities aim to increase the individual's sensitivity, awareness, and self-behavior to develop the historical areas' goals. Consequently, it can improve the cognition of visitors' minds and feelings about the value of spaces and lead to positive social behavior.

According to Zumthor [22] who explained that for a successful urban system, architects should use the observation method, a visual method, to enhance what is valuable, correct what is disturbing, and create what is missing.

Displays are suitable for observation and consistency with spaces, thus generating a more aware and responsible community towards preserving historical areas and the preservation process for heritage. "To raise awareness of the need to preserve the environment of the heritage, it is also necessary to raise awareness of cultural life and heritage" [27]. Moreover, the cultural activities within the open spaces' displays are also helpful. However, using these outdoor areas as live exhibitions is more prominent and can even display rare ones. Therefore, the need to present culture and heritage using landscape architecture exhibits arises mainly from integrating with public areas. It is to follow your goals and create comprehensive knowledge about traditional cultural life, as your role is to collect, store, exhibit, and educate visitors by creating many interesting and learning opportunities [28].

3. METHODOLOGY

3.1 Methods

After studying the phenomenological theory in the literature reviews, the researchers analyzed the historical area of Bab Al Bahrain according to the theory. They made several site visits using observation and interviews with visitors at different times of the week, asking about their impressions and experiences during their visit to the Bab Al Bahrain area. Additionally, the researchers conducted interviews with the owners of the activities to check their satisfaction with the developed area. The researchers managed this phase by creating various group visits with the cooperation of students from the University of Bahrain in two semesters to investigate the opinions of visitors about the profound value of the historical areas of Bab Al Bahrain in Manama, the capital governorate.

3.2 Objectives of methods

Field studies aimed to examine and analyze users' impressions through the five senses: sight, hearing, smell, taste,

and touch. Therefore, the researchers planned site visits on different days of the week and during different periods (morning and night). Thus, the researchers assessed the user's impressions and emotions about the Bab Al Bahrain area by analyzing the data collected from bodily experience to guide future designs in such a historical area.

3.3 Benefits of methods

Such renovation projects require a large budget and expenses, and the country expects different benefits from such projects. Urban designers believe that the creation of sustainable renovation projects and the optimization of the benefits of such projects will be achieved through the concept of sensing users with the in-depth meaning of the renovated area [29, 30]. In some recent renovation projects for historic areas, there was low performance due to the lack of using such a concept, which decreased the user's feeling by the value of historical spaces. It was observed that there is a low level of consideration of architecture style, sense, and use of spaces, which causes visual clutter [31].

Consequently, these projects were not sustainable and had low performance and low levels of benefits. The Bab Al Bahrain renovation project (2005), implemented by the Bahrain Authority of Culture and Antiquities, was selected to evaluate the success driver in detecting historical value for users [32]. This analysis considered the hierarchy of bodily experiences of users to understand the quality of the design. Therefore, the benefits of analyzing the phenomenology are to meet the cultural significance of the area and achieve sustainable value, which will occur by respecting the senses of users [33].

3.4 Case study: Bab Al Bahrain project

To evaluate the performance of the design, we need to verify that users have a strong sense of place and are strongly connected to the design elements of the surrounding landscape architecture. This connection comes from understanding history, nature, customs, and cultures. In addition, it comes by observing and experiencing light, shade, colors, and seasons. The methodology in this study depends on the experience of restoration projects using bodily experience for the Bab Al Bahrain renovation project.

3.5 Participants in the field study

Participants who contributed to the study were local visitors, tourists, and students of the University of Bahrain in the two academic years, 2020 and 2022. The results are shown in the analysis phase below.

4. BAB AL BAHRAIN RENOVATION PROJECT

4.1 Background to Manama city

Manama city, one of the oldest cities in Bahrain, emerged in the 1780s; and is the capital of Bahrain. It was the central business in the Gulf, where sellers made their money trading their products. The word Manama means "the place of rest"; therefore, it has a very diverse population; from a long time ago, Jews, Muslims, Christians, Hindus, Buddhists, etc., lived door to door. In Manama, after discovering the oil and

modernization, the oldest residents relocated the historical zone to different areas looking for contemporary and more convenient generous spaces. Weak awareness of new residents of the value of historical cities leads to the deterioration of many areas in the historical part of Manama and traditional buildings. This existing situation has changed the quality of human settlement depending on the varieties of conditions, activities, and events such as movement, employment, and the balance of urban fabrics, as shown in Figure 2 [34].

4.2 Bab Al-Bahrain historical area

Bab Al Bahrain is in the historic district of Manama, Governorate Road, which is the central business district. This area is one of Bahrain's most busy and liveliest streets and

attracts tourists and business visitors. Many phases of development occurred for Bab Al Bahrain, and in 2005, part of the historical area became a pedestrian path [34]. This area is a witness zone to changing life, affecting urban conditions in general and architecture, as shown in Figure 3, Figure 4.

Bab Al Bahrain is an area that includes many activities such as retail stores, handicraft stores, trading, entertainment, restaurants, hotels, cafeterias, banks, tourist offices, governmental and non-governmental office buildings, view frames, learning centers, and open areas. Consequently, it is access and links. It connects all the surroundings and connects existing buildings and paths. Furthermore, the area has a unique image; therefore, it has a strong identity in merging visuals from Bahraini and modern styles and using nature and shading to improve the microclimate, as shown in Figure 5.

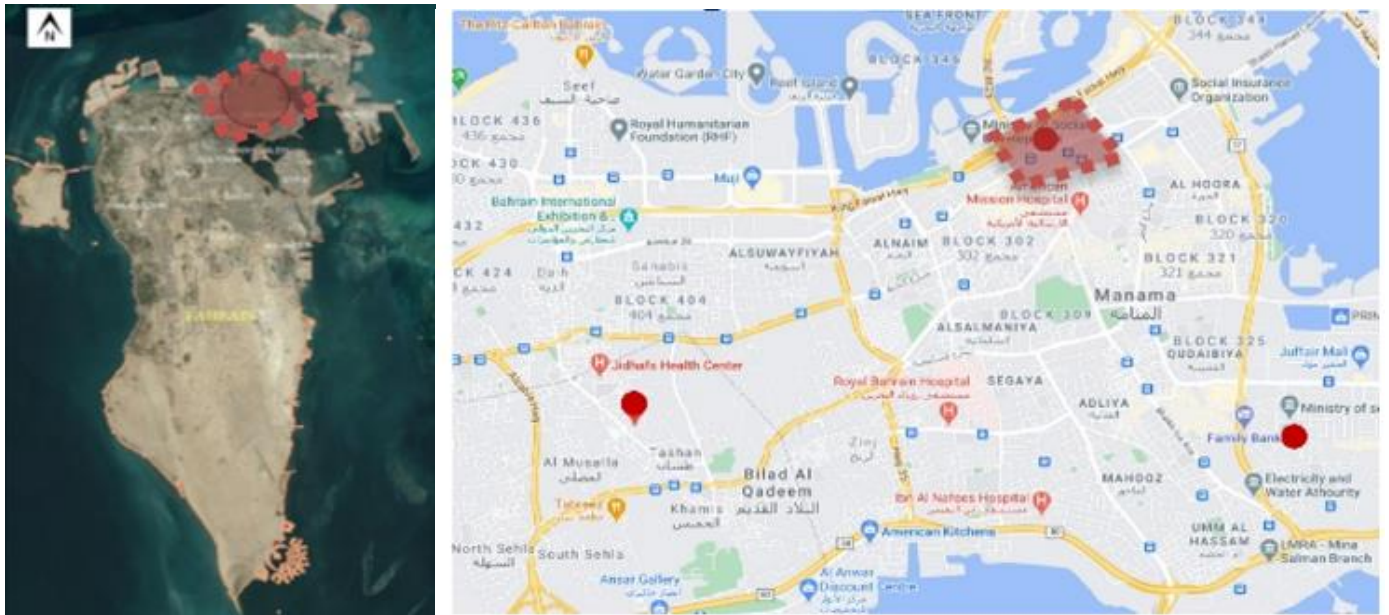


Figure 2. Location of "Bab Al Bahrain", Manama, Kingdom of Bahrain [35]



Figure 3. Bab Al Bahrain is in the historic district of Manama



Figure 4. Some historical images of the history of Bab Al Bahrain in different periods

The researchers assessed the user's impressions on the landscape architecture design elements and the urban considerations in Bab Al Bahrain using phenomenological theory. The landscape architecture design elements include the hardscape, artistic elements, lighting elements, seating areas, sandings, waste disposals & Garbage Bins-Fences and garbage

bins-fences and barriers, building architecture facades, while the softscape is water element and plantation. Furthermore, the researchers considered the urban considerations in the site visit: diversity of activities, duration & time of the activities, conditions of the roads' network buildings, and diversity of users.

Based on the observations and interviews of the researchers with stakeholders in the Bab Al Bahrain area, the study summarizes the relationship between the elements of the landscape architecture design and bodily experiences in Table 1. The hardscape is divided into two groups; the first group includes the artistic elements, lighting, sitting areas, and Shadings share three bodily experiences (touch, hearing, sight) effects on the users. At the same time, the second group in hardscape is Waste disposals & garbage bins, fences, barriers, and building architecture facades, which share bodily experiences except for taste. However, the third group is the softscape elements of the project that share all the bodily experiences of the users.



Figure 5. The significant characteristics of the site

Table 1. Relationship between landscape architecture elements and body experiences

landscape architecture		The sense of					Notes
Categories	Elements	touch	taste	hearing	smell	sight	
Hardscape	Artistic elements:	✓	✗	✓	✗	✓	Artistic elements, lighting, sitting areas, and shakings share three bodily experiences (touch, hearing, sight) effects on users. At the same time, the other hardscape elements, waste disposals & Garbage bins, fences, barriers, and building architecture facades share bodily experiences except for taste.
	Lighting elements	✓	✗	✓	✗	✓	
	Sitting areas:	✓	✗	✓	✗	✓	
	Shadings	✓	✗	✓	✗	✓	
	Waste disposals & Garbage bins	✓	✗	✓	✓	✓	
	Fences and Barriers	✓	✗	✓	✓	✓	
a. Softscape	Building Architecture Facades	✓	✗	✓	✓	✓	
	Water element	✓	✓	✓	✓	✓	Softscape elements share the same bodily experience effect
	Plantation	✓	✓	✓	✓	✓	

5. APPLYING PHENOMENOLOGICAL THEORY TO THE BAB AL BAHRAIN PROJECT

To evaluate the performance of landscape architecture in the renovation project in Bab Al Bahrain, the researchers assessed the users' impressions of the site's historical value by measuring the visitors' five physical senses (touch, taste,

hearing, smell, and sight) as follows:

5.1 Monitoring the sensory perceptions of touch of visitors

Finishing materials are considered the most effective elements in the touch sensor of users. The use of stone and granite as flooring materials in this area successfully gave the

traditional atmosphere of Bab Al Bahrain through materials' touching. Therefore, roughness and smoothness greatly affect users' awareness of the historical value of this area, as shown in Figure 6. Furthermore, the use of appropriate materials in street furniture strongly affects the impressions and emotions of users in the space and strengthens the impression and feeling of heritage.



Figure 6. Touching of flooring materials determines the sense of history in Bab Al Bahrain

5.2 Monitoring the taste sensory perceptions of visitors

There are various food sources in Bab Al Bahrain, such as bakeries, bakery, candy stores, cafes, and restaurants serving traditional and local food, as shown in Figure 7. Visitors to the renovated site can experience the experience of traditional drinks (Arabic coffee and Karak) and enjoy different traditional Bahraini foods with different historical ambiance. The taste of conventional foods emphasizes the experience of tourists and makes it more interesting.

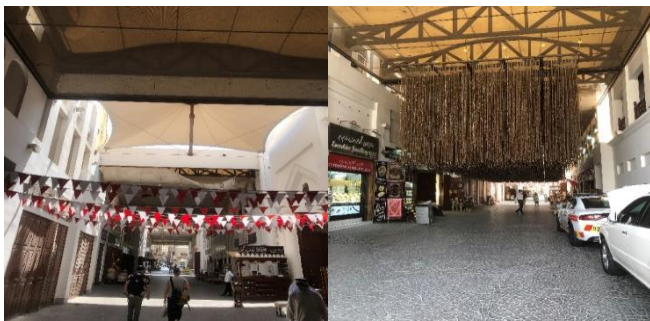


Figure 7. Candy shops, cafes, and restaurants in the study area that serve traditional foods

5.3 Monitoring the hearing sensory perceptions of visitors

The natural materials in the hardscape in the area have the proper roughness to control the reproduction of sound and reduce the sense of the noise. Consequently, these natural materials do not spread and distribute the sound and control the noise in the area, giving the feeling of comfort in the area. Additionally, using some roads for pedestrians finished with natural materials gives a feeling of history and heritage. There are many items in the landscape that control the noise in the area.

However, the researchers noticed air conditioning (window-type) and fans in some restaurants in the area, and their sound affects the visitor's audio. In addition, the tile materials in a few places caused sound problems for the users due to their poor selection. Unfortunately, some workers in Bab Al Bahrain restaurants sing modern western songs during their

work shift and ignore songs and music that emphasize the historical spirit of the region. Therefore, this activity affects hearing in the historical area, as shown in Figure 8, there are many items to control the noise in the area. The renovated part includes amplifiers to present traditional folklore through study observations.



Figure 8. There are many items to control the noise in the area

5.4 Monitoring the smell sensory perceptions of visitors

The smell is one of the most important factors that strongly influence user impressions in Bab Al Bahrain. Unfortunately, the plants and vegetation in the area were not used after development. In the past, residents created a pleasant smell and personal appearance using plants and placed sweet scents and incense in front of stores or hung them on windows in commercial areas. Consequently, this element is not taken advantage of when developing a project. Furthermore, the litter boxes are insufficient and scattered randomly regardless of the foul smell, as shown in Figure 9.



Figure 9. Trash boxes and their impact regarding smell and odor

5.5 Monitoring the sight sensory perceptions of visitors

The site has many elements that create high visual quality. For example, there is a beautiful sculpture near Bab Al Bahrain, and visitors like to take photos in front of them or the hanging coin icon. The historic buildings of Bab Al Bahrain and the post office have excellent visual quality, while the other modern facilities contradict historical principles. Unfortunately, the visual quality is deteriorating due to many distortions in the urban space, which the visitor's eye feels when viewed with psychological discomfort in many places.

The inappropriate use of the monumental and valuable features of the area led to visual pollution and created harmful changes in the urban context, leading to aesthetic problems. Visitors used to regularly deal with the deterioration of the visual quality, impairing one's ability to enjoy a vista or view. Therefore, visual corruption disturbs people by harmful changes in the historic environment. Therefore, increasing visual pollution in Manama's historic districts is related to the poor application of design elements, as shown in Figure 10.



Figure 10. Visual pollution is a common feature in the area

6. RESULTS

Applying the previous findings in Table 1 and the data derived from the 'Bab Al Bahrain Renovation Project' based on personal interviews and observation by researchers and staff dedicated to verifying urban considerations, the study summarized the urban effects that were carried out and depend on the foundations of the phenomenological theory in the study area.

Sensory elements are used in multiple ways that provide intimacy and a strong sense of community. These elements are not overloaded but are not simple and incorporate Bahrain's culture and identity. Therefore, interacting with the place through the five senses leads to pleasure and a more in-depth understanding. In addition, it sends messages to users that do not need to be written or verbal but are somewhat perceptible and tangible. It has a more significant and profound impact on users. Therefore, the resulting renovation project did not present the actual value of the renovation project in Bab Al Bahrain. There was no relationship between the historical dimension of the area and the bodily experience of the users to present the development and improvement of historical areas by promoting the sensual experience.

This continuous existential dialogue did not occur in this renovation project. The main reason was ignoring the multi-feeling comprehension of the users, in which all the senses participate. Therefore, each historical part of the city has its unique imprint based on the area's history, urban characteristics and conditions, users' activities, building styles, materials, etc. Therefore, it was necessary to consider this point in improving the historical areas concerning the five senses of the users to convey the feelings of the value of the site. It could be summarized that the design did not correctly use the elements of the landscape architecture in the design with the bodily experiences of the users.

In the Bab Al Bahrain renovation project, it is worth mentioning that there is awareness of using phenomenological theory for a sustainable renovation project. Designers can improve the design by creating a solid relationship with these phenomenology theories.

The elements of the design of the landscape architecture of

the renovation that has historical characteristics should consider physical axes, environmental (context), social dimension, and urban considerations to produce renovation projects that have a deep relationship with the value of such historical areas. The urban considerations that should be considered in the renovation of the Bab Al Bahrain project are the diversity of activities, duration & time of activities, roads networks and conditions, building conditions, and diversity of users. Ignoring urban considerations in the project deteriorates feelings of belonging and a sense of the value of the historic district, giving visitors who view the area a negative picture of it. Therefore, there should be a proposal for a practical, comprehensive plan to mitigate non-belonging.

7. DISCUSSIONS

The practical part of the study discussed the current situation in the upgraded area of Bab Al Bahrain and the attached unupgraded part, which was analyzed based on people's senses while visiting historical places through their 'bodily experience'. This bodily experience there depends on the human feelings of the visitors in terms of touching, heat and temperature, sound, visual aspects, smell, and odor, and how they interact with the design elements to bring the feeling of history to the area. We assume that urban designers in such historical regions can control the sense of the historical dimension by manipulating the human senses of the visitor to the history of the area. If the design is successful, people can create a memorable experience and remember and feel connected to these places. Therefore, developers must apply the theory of sensory phenomenology concerning the historical dimension in the design to revive historic sites and improve the traditional urban culture in Manama. However, unfortunately, the Bab Al Bahrain upgrading project did not follow the phenomenology of the sensory approach successfully in the design and even during the implementation.

Furthermore, the analysis concluded that the existing situation in the renovated part of the Historical Open Spaces in the historical part attached to the unrenovated part in Bab Al Bahrain is characterized by the low quality of the relationship between visitor perception and elements of landscape architecture, especially the elements related with the sense of smell, hearing, and sight. Consequently, it leads to an unclear and ill-balanced cacophony of harmony in applying finished materials to cover the facades of buildings, pavements, and landscape elements, leading to a bad situation in which the gap is detected.

Furthermore, the lack of softscape elements in the Bab Al Bahrain area led to a low level of attractive elements, a low value of landscape architecture, and a lack of aesthetic considerations in the area, which led to the deterioration of the general feeling of visitors and residents in Bab Al Bahrain, increasing acceptance of the ugly image, and spoiling the visitor's sensitivity. Moreover, unpleasant optical problems spread, resulting in deterioration of the optical properties in the area.

The current situation in the historical part of Manama city has lost most of its materiality, depth, and identity. Therefore, tourists will not find logical reasons to visit historic districts. In addition, investors and businesspeople will not look to invest there. The area will lose its importance and specialist in attracting investors, which will reduce social, cultural, economic, and environmental value.

8. CONCLUSIONS

The study confirmed the importance of dealing with the phenomenological approach when developing heritage areas in Bahrain, as this approach was applied to assess the Bab Al Bahrain area developed in Manama. The Bab Al Bahrain area has been developed by designing elements of landscape architecture to improve the historical dimension in the area and enhance the feeling of the site's value. The landscape considered the hardscape, represented in seating areas, sculptures, umbrellas, and building facades, and the softscape in the project represented by increasing plantations and water figures and fountains.

The researchers explored the influence relationship between the elements of the Bab Al Bahrain landscape architecture and the project conditions, including the type of users, the activities that they took part in, and the degree to which visitors visit the developed area. The researchers found that dealing with the phenomenological approach in the area increases visitors' sense of the five senses (hearing, touch, taste, smell, and vision). Consequently, the effect on these senses indirectly serves to understand the values of the heritage and evoke a more emotional experience for visitors to the area, thus creating a more pleasant journey and a better response to the formation of an active area of life according to the concept of an open museum.

The study proposes a design matrix that links visitors to heritage areas by influencing their natural senses while they are in these areas by designing the squares and outdoor spaces associated with the heritage areas. Thus, the relationship between human beings and historical spaces is strengthened through a sense of historical value inspired by phenomenological philosophy. The use of the proposed matrix of design elements will help designers create a successful design for the development of heritage areas, providing them with a better sense of the value of historical areas, which increases their attraction to these areas, boosting the key pillars of sustainability represented in environmental, social, and economic benefits.

The area of this study is subject to many environmental, social, and economic limitations. These limitations motivate researchers to conduct further studies, which serve the main objectives of this study. Various approaches can widen the gate for deeper findings in this scope by linking it with close branches in multilevels of urban studies; of them, the streetscape, which recently emerged as a critical approach during in-depth field survey observation of this study that led to that achieving the targeted objectives of sustainable renovation of historical open spaces requires more efforts to promote sustainability in such projects.

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