

Rehabilitating Abu Loza's Historic Bath: A Case Study of Heritage Conservation and Reuse Opportunities in Qatif, Saudi Arabia

Wadee Ahmed Ghanem Al-Gehlani

College of Architecture and Planning, Imam Abdulrahman Bin Faisal University, Dammam 31451, Saudi Arabia; waalgehlani@iau.edu.sa or wadee333@hotmail.com; ORCID: 0000-0002-6603-9835

Abstract: This paper investigates the perceptions and implications surrounding AbuLoza's Historic Bath, a prominent cultural heritage site in Saudi Arabia's Qatif region, with a focus on public awareness, attitudes, and behaviors toward its preservation and rehabilitation. Through a survey distributed via social media using snowball sampling, 515 valid responses were collected and analyzed using the Pearson Chi-Square test to explore key relationships. The findings reveal significant variations in knowledge about the site across age groups, underscoring the need for targeted awareness campaigns. Age and employment status also influence individuals' perceptions of the site's importance and their likelihood of visiting, with employed individuals showing a greater propensity for post-rehabilitation engagement ($\chi^2 = 70.362$, $df = 6$, $p < 0.001$). The study highlights the broader value of repurposing heritage buildings to meet tourism, cultural, and educational demands while fostering job creation and enhancing regional identity. These findings offer actionable insights for policymakers, heritage organizations, and tourism stakeholders, supporting strategic decision-making to preserve and promote cultural heritage in the Qatif region and beyond.

Keywords: AbuLoza's bath; heritage conservation; rehabilitation; historical significance; community participation; maintenance

1. Introduction

In the past, ancient buildings were valued for their practical use and repurposed when they fell into disuse. Today, societies view built heritage as a cultural legacy to preserve for future generations (Tadros 2018). Preserving this heritage is now a current generation's responsibility, posing challenges for engineers due to structural deterioration over time. There is a growing recognition of the economic and environmental value of preserving architectural heritage (Hmood 2019). Current policies focus on revitalizing historic areas in cities to maintain their vibrancy and appeal to residents and tourists (Prieto et al. 2019; Guzman et al. 2018; Munarim and Ghisi 2016). The unique atmosphere of historic city centers, with their narrow streets and squares, is crucial to preserving cultural heritage (García-Hernández et al. 2017), ensuring these areas retain their character and cultural significance. Urban planners, international organizations like UNESCO, the World Heritage Committee, government agencies, and ICOMOS are increasingly prioritizing the protection and enhancement of heritage sites. This includes integrating sustainable strategies through multidisciplinary analysis of urban heritage dynamics (Guzman et al. 2018, Veldpaus 2015; Veldpaus et al. 2013). The ICOMOS Washington Charter highlights community involvement as crucial in heritage preservation (ICOMOS 1987). Heritage serves as a link to society's history and identity, strengthening communities and preserving civilization's legacy. Community participation is key to achieving World Heritage preservation goals, especially for properties in inhabited areas. Neglecting heritage risks cultural loss, emphasizing the need to promote values across social classes for conservation and community resilience (UNESCO 2014; Alfredo 2015; Doempke et al. 2016). Architectural conservation for cultural heritage sites involves rehabilitating older structures to modern standards for comfort and functionality, typically by reusing original components and structures



(Munarim and Ghisi 2016). This process, unlike demolition and new construction, offers environmental, social, and economic benefits. When complemented by preservation policies, architectural rehabilitation helps conserve and enrich significant social capital (Munarim and Ghisi 2016).

Numerous global research efforts have explored cultural heritage rehabilitation (Ornelas et al. 2021, Kumar et al. 2020; Throsby and Petetskaya 2021; Dias Pereira et al. 2021; Etxepare et al. 2020; Al-Sakkaf et al. 2020; Rong and Bahauddin 2023; Said and Al-Sakkaf 2020; De Gregorio et al. 2023; Owusu-Yeboah and Olteanu 2021; Milić et al. 2021), highlighting the importance of architectural rehabilitation in preserving and revitalizing cultural heritage. Studies emphasize the sustainability and community value brought by such initiatives. Additionally, research has focused on the reuse of heritage structures, a critical aspect of heritage revitalization (Philokyrou 2014; Pipa et al. 2017; Salcedo and Arruda 2012; Ry 2008; dos Reis et al. 2022; Subramaniam 2016).

Saudi Arabia boasts a diverse architectural heritage spanning cities, villages, and historical periods (Mazetto and Vanini 2023). This heritage includes palaces, military installations, religious sites, castles, forts, shrines, cemeteries, and archaeological sites. Preserving this legacy requires raising awareness of its value and strengthening civilization. Saudi Arabia's Vision 2030 prioritizes honoring the historical and cultural heritage of the region, aligning with Sustainable Development Goal 11 and Target 11.4, which focus on conserving global heritage. Achieving these aims relies on understanding local community perspectives on heritage conservation to drive successful preservation efforts.

Research reveals varying awareness and attitudes towards Abu Loza's Historic Bath among different demographic groups. Younger individuals show less awareness of its historical significance compared to older generations, while those in heritage-related fields exhibit greater appreciation than others. Targeted awareness campaigns tailored to specific demographics, like youth and non-heritage professionals, could enhance community involvement in conservation. Educational programs and social media initiatives may deepen connections to the site, boosting preservation efforts. Rehabilitating the bath offers economic development opportunities and social cohesion benefits. Job creation in construction, restoration, tourism, and site management can result from its revitalization, attracting investment and supporting local economic growth. Community engagement can strengthen social ties, instilling pride and collective responsibility in the preservation endeavor.

Preserving Abu Loza's Historic Bath is vital for upholding local identity and heritage, ensuring future generations appreciate the city's history. Beyond its physical form, the bath embodies traditions, stories, and communal values, nurturing community pride and cultural continuity. This study underscores the importance of conserving such landmarks, not just for their historical and aesthetic worth but also for fostering a cohesive community identity. While restoration and maintenance are common for heritage preservation, the lack of systematic upkeep due to limited stakeholder involvement can lead to deterioration. Without proper maintenance, historic buildings risk becoming unusable. This paper aims to address the lack of research on the building's condition and community perspectives regarding the bath's rehabilitation and reuse.

2. Literature Review

Heritage conservation practices differ across countries, influenced by cultural, historical, and urban factors. Comparative studies provide insights into strategies, successes, and challenges in preserving cultural heritage (Tahoon et al., 2023). UNESCO (2024) divides cultural heritage into two main types: tangible and intangible (Figure 1). Tangible heritage includes physical artifacts and structures. These are further categorized as immovable (e.g., buildings and archaeological sites) and movable (e.g., paintings and sculptures). Intangible heritage, as defined by UNESCO's 2003 Convention, refers to non-physical elements like traditions, skills, and practices passed through generations. It fosters identity and cultural diversity while supporting community connections.

Effective heritage conservation requires active involvement from stakeholders and public awareness (Li and Hunter, 2015). Studies from regions like Thailand, Africa, and Saudi Arabia emphasize the importance of preserving historical buildings for their cultural and social value (Alhefnawi et al., 2023). Maintenance is a key factor in protecting these sites, as it prevents structural damage and enhances public appreciation (Lähdesmäki et al., 2020). Recently, maintenance has been recognized as essential for ensuring the longevity of heritage buildings while highlighting their economic and cultural importance.

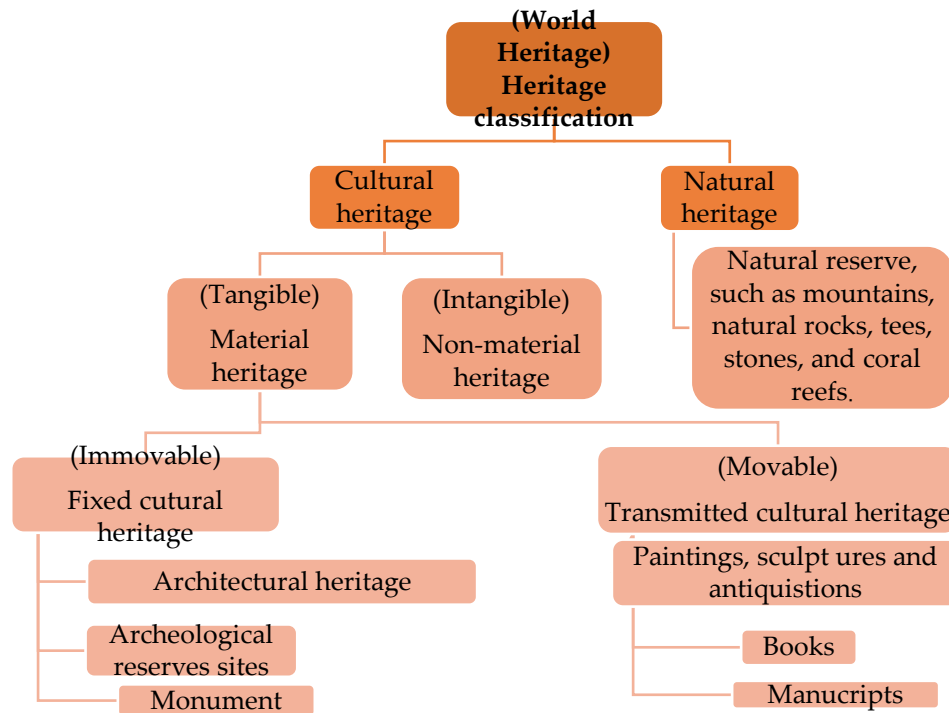


Figure 1. Heritage Classification of world Heritage Presented by the UNESCO (Source: [UNESCO, 2003](#)).

The reuse of heritage buildings has been explored globally. For example, [Salcedo and Arruda \(2012\)](#) studied the São Paulo Building's transformation into social housing, maintaining its original features but facing ventilation and space issues. Similarly, [Cyrenne et al. \(2006\)](#) examined Winnipeg's Exchange District, where historic building rehabilitation raised property values, especially for designated Grade 2 structures. However, they noted that properties further from historic areas had higher values, indicating challenges with spatial impacts. [Albu et al. \(2022\)](#) studied restoration challenges in Moldova, stressing the need for approaches that balance preservation and functionality.

Other studies have highlighted the balance between preserving heritage and meeting modern needs. [Dos Reis et al. \(2022\)](#) explored energy efficiency in historic buildings and suggested changes to insulation standards to maintain authenticity. [Ry \(2008\)](#) discussed revitalization efforts in Poland, such as the Old Brewery in Poznan and the Hotel Copernicus in Cracow, emphasizing historical context and cultural identity. Maintenance remains critical to preserving the function, value, and appearance of historic sites ([Hills and Worthing, 2006](#)). Continuous maintenance, as ICOMOS emphasizes, helps prevent structural deterioration and avoids costly restoration efforts ([Tadros, 2018](#)). Despite global studies, there are gaps in research on heritage conservation in Saudi Arabia. Few studies focus on public involvement in preserving historic sites. Notably, there is no research on Abu Loza's Historic Bath in Qatif, highlighting the need for local studies that examine its preservation and potential reuse. The identified gap, guided the research design.

3. Research Methodology

3.1. Study Setting

Abu Loza's Historic Bath is a cultural landmark located in the village of Altubi in Qatif, Saudi Arabia ([Figure 2](#)). Originally built over 400 years ago by the Ottomans, the site is believed to have been used earlier by the Canaanites for its natural water resources. The bath is known for its sulfur-rich mineral water, used to treat skin and joint conditions. The site includes several rooms for bathing, each designed for a specific purpose. These include a warm soaking pool, a steam room, a hot room with dry air, and a cold room for cooling down. Its intricate tilework, carvings, and mosaics reflect the rich history and culture of the region, making it a popular tourist attraction.



Figure 2. Map of Saudi Arabia showing Qatif municipality (Source: Author).

3.2. Data Collection and Analysis

This study uses a mixed-method research design combining two approaches. The first method involved collecting data through survey tools, including total station, electronic taps, and digital map analysis specific to the study area. This process examined the building's components to identify defects, damage, and the overall condition (Figures 3 and 4). Research on heritage structures (e.g., Elsorady 2012; Sodangi and Kazmi 2020) highlights the importance of regular upkeep to preserve and restore such sites. Therefore, assessing the condition of a heritage building requires a systematic approach to preserve its structural and aesthetic integrity. The assessment of Abu Loza's bath involved detailed visual inspections, historical record reviews, and the use of calibrated tools for precise damage evaluation. Key tools included digital calipers for measuring cracks, crack monitors for tracking structural stability, infrared thermography for detecting moisture, ultrasonic testing for material integrity, endoscopy for inaccessible areas, moisture meters, laser scanners for 3D modeling, and paint thickness gauges for surface finishes. The evaluation covered walls, roofs, floors, plumbing, electrical systems, and decorative features, identifying issues such as cracks, water damage, pests, and structural deterioration.

The second approach used the QuestionPro online survey platform to design a questionnaire and collect responses (Survey Analytics QuestionPro, 2021), interviews, and observations. The online survey is suitable for gauging public opinion on specific issues (Roopa and Rani 2012; Scheaffer et al. 2011). The questionnaire had two sections: the first collected participants' socioeconomic and demographic details, focusing on age and employment (Table 1). The second section sought opinions on the potential reuse of Abu Loza's bath and the social, economic, and environmental benefits of its restoration. Responses were recorded on a Likert scale.

To capture both quantitative and qualitative data, the questionnaire included Likert scale and open-ended questions. It was reviewed by two senior experts, who provided feedback to improve reliability. A minimum sample size of 600 was estimated for validity. With over 30 responses, a normal probability distribution was assumed (Thompson 2012). Using a snowball sampling technique, the questionnaire was shared via social media among Qatif residents. The topic generated interest, resulting in 515 valid responses, which met the required sample size, and the survey was closed. The data was analyzed using Microsoft Excel and IBM SPSS 20© software (Table 1). Both descriptive and inferential statistics were used.

Table 1. Descriptive statistics of dependent and independent variables (Source: Author).

Variables	Responses	n	Mean	Min	Max	Std. Deviation
Age	1 = Young: 15–29 2 = Adult: 30–44 3 = Senior: >45	515	2.71	1	3	1.071
Employment type	1 = Private 2 = Public 3 = Others 4 = Unemployed	515	2.34	1	4	1.110
Do you know the Abu Loza's Historic Bath located in the Qatif region in eastern Saudi Arabia?	1 = Yes 2 = No	515	1.43	1	2	0.716
How important is preserving historical sites such as the Abu Loza's Historic Bath?	1 = Very Important; 2 = Important 3 = Not important	515	1.15	1	3	0.393
Have you ever visited Abu Loza's Historic Bath, before its rehabilitation?	1 = Yes I visited; 2 = No I did not visit 3 = Not Sure	515	1.51	1	3	0.580
How do you evaluate the current situation of Abu Loza's Historic Bath?	1 = Good 2 = Average 3 = Bad	515	2.41	1	3	0.692
What are the chances of you visiting Abu Loza's Historic Bath after its rehabilitation?	1 = I will definitely visit it 2 = I will probably visit it 3 = I will not visit it	515	1.31	1	3	0.510
Does the presence of Abu Loza's Historic Bath building in the Qatif area adds value to investment and attracts tourists?	1 = Yes 2 = No 3 = Not Sure	515	1.20	1	3	0.585
It is important to reuse the Abu Loza's Historic Bath for cultural development and tourism in the Qatif region of Saudi Arabia.	1 = Strongly agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree	515	4.48	1	5	0.775
Reusing Abu Loza's Historic Bath will encourage the private sector to invest in repurposing heritage buildings in the region to meet tourism, commercial, cultural and educational services.	1 = Strongly agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree	515	4.35	1	5	0.798
The Abu Loza's Historic Bath reuse project in the Qatif region will increase job opportunities for young people.	1 = Strongly agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree	515	3.98	1	5	0.870
The rehabilitation and use of Abu Loza's Historic Bath will encourage the private sector to invest in preserving the Qatif region in projects that integrate with the targeted development projects in the region.	1 = Strongly agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree	515	4.17	1	5	0.795

The project to rehabilitate and reuse Abu Loza's Historic Bath in the Qatif region can increase investments in the region, which increases the economic return for the local community in the region.	1 = Strongly agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree	515	4.16	1	5	0.748
The Abu Loza's Historic Bath is considered a distinctive landmark in the Qatif region.	1 = Strongly agree, 2 = Agree, 3 = Neutral, 4 = Disagree, 5 = Strongly disagree	515	4.38	1	5	0.788
Preserving Abu Loza's Historic Bath building through its rehabilitation is an opportunity to introduce a civilization that has disappeared and is preferably rehabilitated.	1 = Strongly agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree	515	4.52	1	5	0.693
Removing everything old, including Abu Loza's Historic Bath, and keeping pace with modernity and contemporaneity is the right thing to do.	1 = Strongly agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree	515	1.49	1	5	0.979
The rehabilitation of Abu Loza's Historic Bath provide a harmonious visual image and unity for the architectural character in the region, strengthen the artistic images and enhance their identity in addition to their sustainability.	1 = Strongly agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree	515	4.37	1	5	0.831

Additionally, [Table 2](#) details the building's components, such as floors, elevations, dimensions, and observed damages. Specific issues like peeling, cracks, and collapses were noted for each section of the structure. This breakdown helps assess the building's condition and prioritize areas needing repair. This methodological framework, which integrates structural assessments with community perspectives, ensures a comprehensive understanding of Abu Loza's Historic Bath. The findings, detailed in the next section, provide insights into the site's physical condition, public attitudes toward its preservation, and the broader implications for cultural heritage conservation in the region.



Figure 3. Cracks measurements of Abu Loza's historic bath(Source: Author).

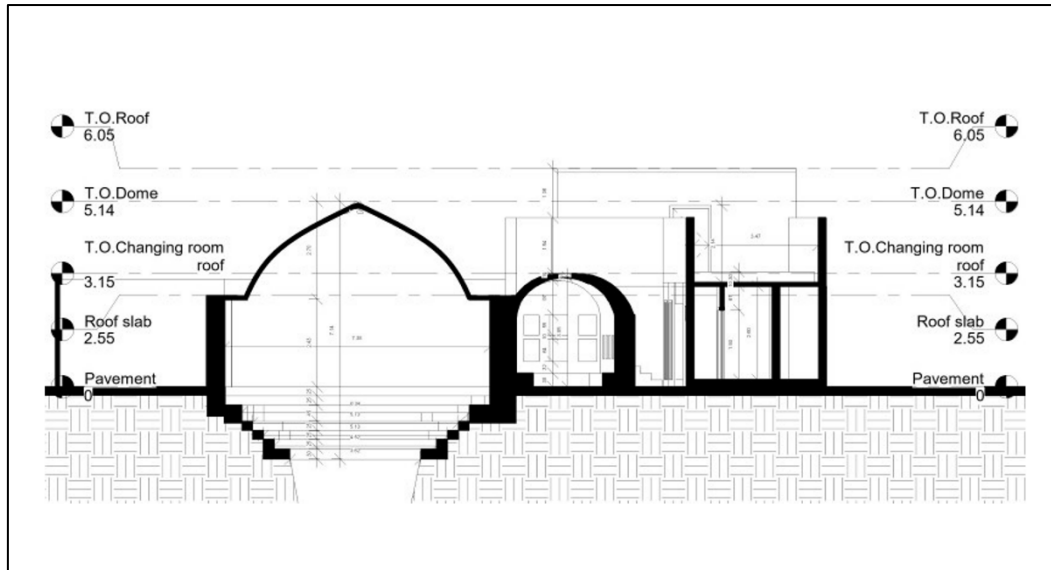


Figure 4. Structural section of the Abu Loza's historic Bath (Source: Author).

Table 2. Detailed overview of various components of the building.

SN	Floor	Building	Elevation	Components	Dimensions			Damage
					Width (m)	Length (m)	Height (m)	
1	Ground floor	Whole building	North elevation	Back elevation	19.56	-	3.15	Peeling (70 %)
								Crack (3 m)
								Collapse (4 m²)
			Southern elevation	Facade	17.40	-	2.55	Peeling (40 %)
								Crack (2 m)
								Collapse (3 m²)
			Eastern elevation	Right elevation	13.00	-	4.70	Peeling (20 %)
								Crack (3 m)
								-
			Western elevation	Left elevation	4.35	-	5.14	-
-								
-								
-								
2		Women swimming heat pool			7.30	2.57	4.23	Peeling (30 %)
								Crack (2 m)
								Collapse (2 m²)
3		Men swimming heat pool			7.40	5.98	7.14	Peeling (70 %)
								Crack (3 m)
								Collapse (1 m²)
4		Changing room			2.52	8.26	3.05	Peeling (40 %)

						Crack (2 m)
						Collapse (1 m ²)
5		Bath room (1)	2.15	2.43	2.60	-
		Bath room (2)	2.15	1.50	2.60	-
		Bath room (3)	2.15	1.85	2.60	-
		Bath room (4)	1.40	2.00	2.60	-
		Bath room (5)	1.42	2.00	2.60	-
		Empty room (6)	2.80	2.00	2.60	-
6	First Floor	Empty room (7)	6.30	2.20	2.90	-

4. Results and Discussion

4.1. Building condition of Abu Loza's Historic Bath

The neglected Abu Loza's Historic Bathhouse has suffered significant damage due to neglect, urban expansion, and environmental factors (Figure 5). This has resulted in the loss of cultural significance, economic potential, visitors, and tourism growth. Preservation and restoration efforts should follow scientific guidelines and involve qualified experts. The southern facade shows critical damage, including cracks up to 2 meters long, severe peeling over 6 square meters, and collapsed sections totaling 3 square meters. Immediate repairs are essential to prevent further deterioration, ensure safety, and maintain structural stability. On the eastern facade (Figure 6), peeling covers approximately 3 square meters (20% of the facade), and cracks extend up to 3 meters. This damage exposes the structure to environmental elements, increasing the risk of moisture infiltration and accelerated deterioration.



South elevation

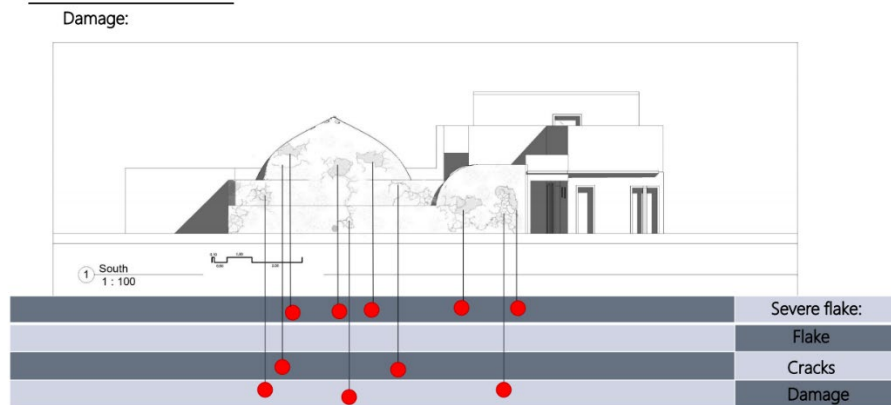


Figure 5. The extent of damage to Abu Loza's historic Bath (Source: Author).



East elevation

Damage:

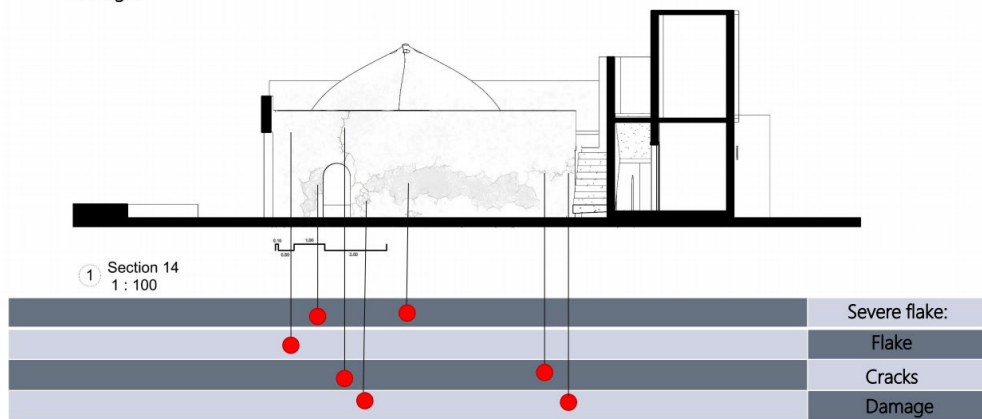


Figure 6. The extent of the damage to the eastern facade of Abu Loza's historic Bath (Source: Author).

The northern facade (Figures 7, 8, and 9) has severe peeling over 4 square meters, covering nearly 70% of its surface. This significantly compromises its structural integrity and visual appeal, necessitating prompt repairs to ensure safety and durability. Inside, the changing room shows damage to 40% of its facades, with peeling covering 1 square meter and cracks extending 2 meters. These structural weaknesses require a thorough assessment and targeted repairs. Similarly, in the women's bathroom, peeling affects 70% of the surface (3 square meters), with collapsed areas measuring 1 square meter. These issues not only compromise the room's appearance but also raise safety concerns, making timely restoration crucial. Regular maintenance and proper repairs are necessary to preserve the facility's condition.



North elevation

Damage:

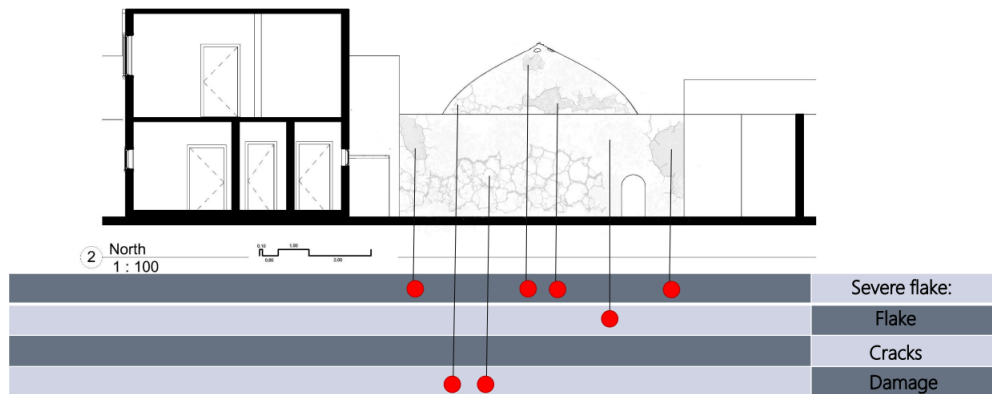


Figure 7. The extent of the damage to the northern facade of Abu Loza's historic Bath(Source: Author).



Changing room

Damage:

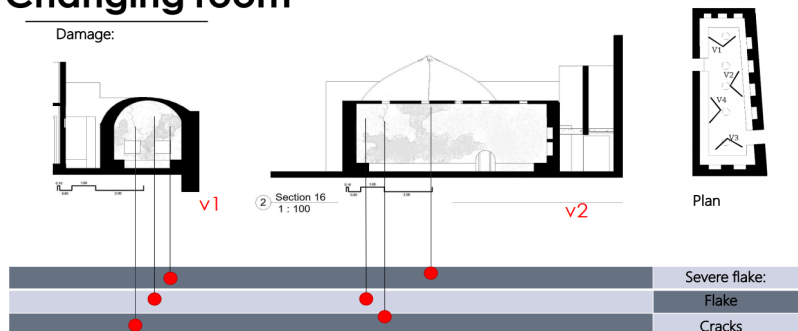


Figure 8. The extent of the damage to changing room of Abu Loza's historic Bath (Source: Author).

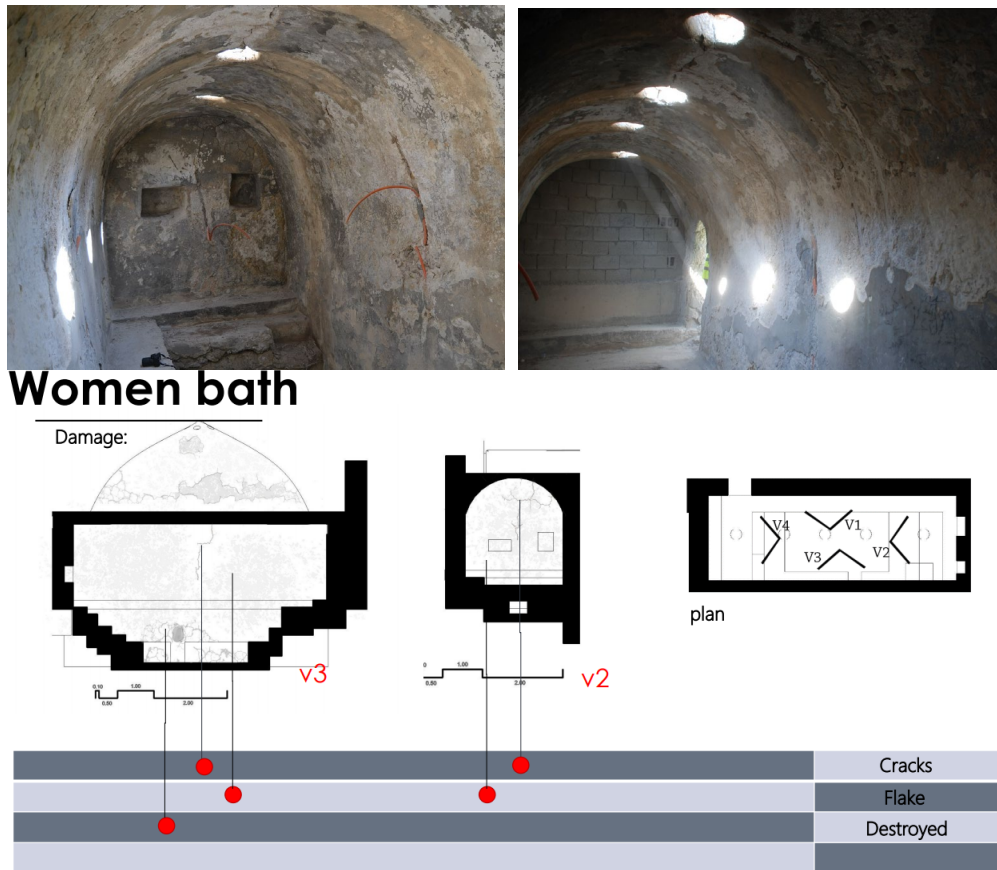


Figure 9. The severity of the damage to the women's bathroom at Abu Loza's historic Bath (Source: Author).

4.2. Community Perspectives on Abu Loza Historic Bath

An interview conducted with residents living around Abu Loza Historic Bath revealed a strong emotional and cultural connection to the site, underscoring its significance in the community's heritage. Several respondents expressed concerns over the lack of maintenance, noting that the bath once held a central role in local traditions. One resident shared, "In the olden days, my parents and their generation would visit the bath for pre-wedding rituals. It wasn't just a place for bathing, it was a place of celebration and cultural importance."

The deteriorating condition of the bath has not only impacted its cultural value but also contributed to economic decline in the surrounding area. Many residents highlighted that the neglect of the site has discouraged tourism, which once brought life to local businesses. "When the bath was better maintained, we saw more visitors, and the area was vibrant with economic activities," another resident remarked. The current state of disrepair, they believe, has hindered the site's potential to attract both tourists and heritage enthusiasts, leaving the community hoping for restoration efforts to reclaim its historical and economic significance. The interviews illustrate a shared community sentiment: restoring Abu Loza Bath is essential not just for preserving its historical legacy but also for revitalizing the economic and cultural fabric of the neighborhood.

4.3. Influence of Age on Some Dependent Variables

Preserving historical sites like Abu Loza's Historic Bath reflects societal values and a commitment to conserving cultural heritage for future generations. Age significantly influences awareness and attitudes toward heritage preservation, as shown by Pearson Chi-Square tests (Table 3). Older individuals demonstrate greater awareness and prioritization of preservation, with significant associations found between age and familiarity with the site ($\chi^2 = 70.362$, $df = 6$, $p < 0.001$) and the importance of its preservation ($\chi^2 = 29.084$, $df = 6$, $p < 0.001$).

The Chi-Square test also reveals a strong association between age and prior visits to Abu Loza's Bath ($\chi^2 = 75.310$, $df = 6$, $p < 0.001$). Older participants are more likely to have visited the site before its deterioration, potentially due to longer residency or stronger cultural connections. Younger participants,

with fewer opportunities to visit, are less likely to have seen it before rehabilitation.

Additionally, age correlates with evaluations of the site's current state ($\chi^2 = 23.044$, $df = 6$, $p < 0.001$). Older individuals, having witnessed its decline, tend to provide a nuanced evaluation. In contrast, younger participants, with limited exposure or personal biases, may hold different perspectives. While awareness of rehabilitation plans shows a marginally significant relationship with age ($\chi^2 = 12.493$, $df = 6$, $p = 0.052$), other variables, such as willingness to visit post-restoration, show stronger associations.

Younger individuals are more likely to support rehabilitation and express interest in visiting the site afterward. This aligns with [Jaafar et al. \(2015\)](#), who found that younger residents often exhibit higher interest in cultural heritage conservation.

Table 3. Relationship between some dependent variable and age (Source: Author).

Dependent variable	n	X ²	DF	p-value
Do you know the Abu Loza's Historic Bath located in the Qatif region in eastern Saudi Arabia?	515	70.362	6	<0.001
How important is preserving historical sites such as the Abu Loza's Historic Bath?	515	29.084	6	<0.001
Have you ever visited Abu Loza's Historic Bath, before its rehabilitation?	515	75.310	6	<0.001
How do you evaluate the current situation of Abu Loza's Historic Bath?	515	23.044	6	<0.001
Are you aware of plans to rehabilitate Abu Loza's Historic Bath?	515	12.493	6	0.052
What are the chances of you visiting Abu Loza's Historic Bath after its rehabilitation?	515	43.686	6	<0.001
Does the presence of Abu Loza's Historic Bath building in the Qatif area adds value to investment and attracts tourists?	515	19.673	6	0.003
It is important to reuse the Abu Loza's Historic Bath for cultural development and tourism in the Qatif region of Saudi Arabia	515	16.948	12	0.152
Reusing Abu Loza's Historic Bath will encourage the private sector to invest in repurposing heritage buildings in the region to meet tourism, commercial, cultural and educational services	515	14.583	12	0.265
The Abu Loza's Historic Bath reuse project in the Qatif region will increase job opportunities for young people	515	9.076	12	0.696
The Abu Loza's Historic Bath is considered a distinctive landmark in the Qatif region.	515	57.113	12	<0.001
Preserving Abu Loza's Historic Bath building through its rehabilitation is an opportunity to introduce a civilization that has disappeared and is preferably rehabilitated	515	30.245	12	0.003
Removing everything old, including Abu Loza's Historic Bath, and keeping pace with modernity and contemporaneity is the right thing to do	515	46.274	12	<0.001
The rehabilitation of Abu Loza's Historic Bath provide a harmonious visual image and unity for the architectural character in the region, strengthen the artistic images and enhance their identity in addition to their sustainability	515	34.552	12	<0.001
What is your view of the obstacles facing the process of rehabilitating someone qualified to use Abu Loza's Historic Bath	515	30.499	12	0.002

[Figure 10](#) demonstrates a strong consensus on the importance of preserving historical sites like Abu Loza's Bath, with 87% of respondents rating it as very important, 11.8% as important, and only 1.5% as not important. This indicates widespread recognition of the site's cultural and societal value.

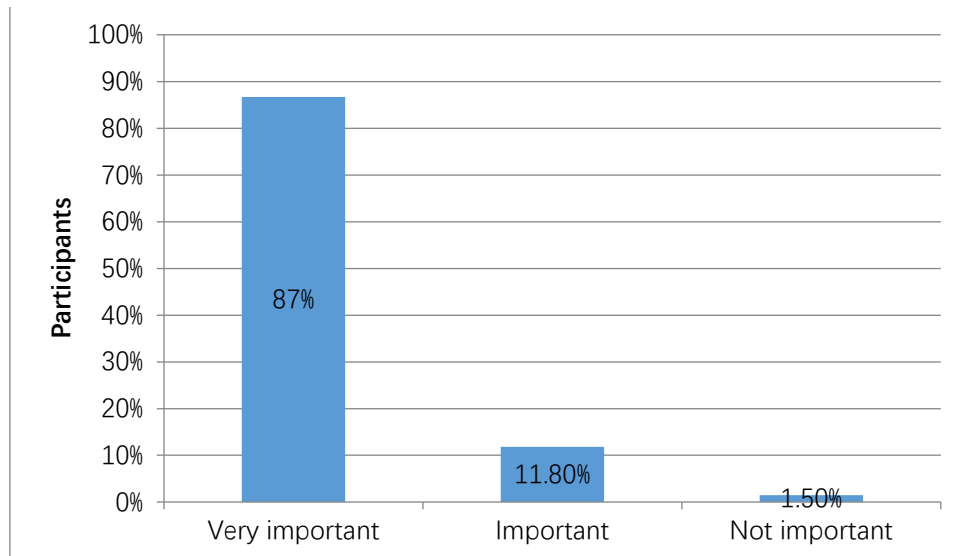


Figure 10. Importance of preserving historical sites of Abu Loza's Historic Bath.

Regarding the bath's current condition (Figure 11), 52.2% of respondents rated it as bad, 35.8% as average, and only 12% as good. This highlights public dissatisfaction with its state and underscores the urgent need for interventions. Support for rehabilitation is overwhelming (Figure 12), with 60.2% strongly agreeing and 34.1% agreeing that it is an opportunity to reintroduce a vanished civilization. Only 0.5% strongly disagree and 0.6% disagree, while 4.6% remain neutral. This majority support reflects broad public acknowledgment of the benefits of restoring Abu Loza's Historic Bath and preserving its cultural significance for future generations.

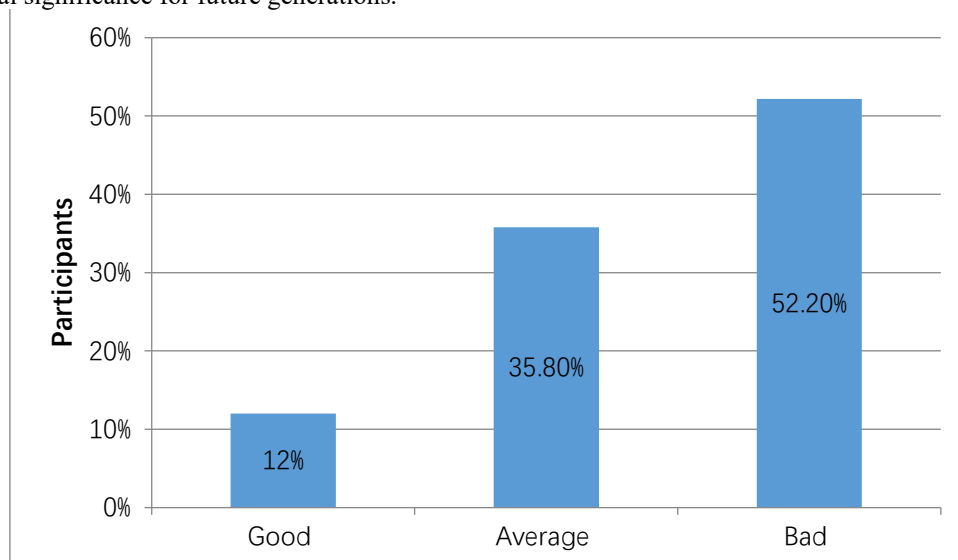


Figure 11. Evaluation of the current situation of Abu Loza's Historic Bath.

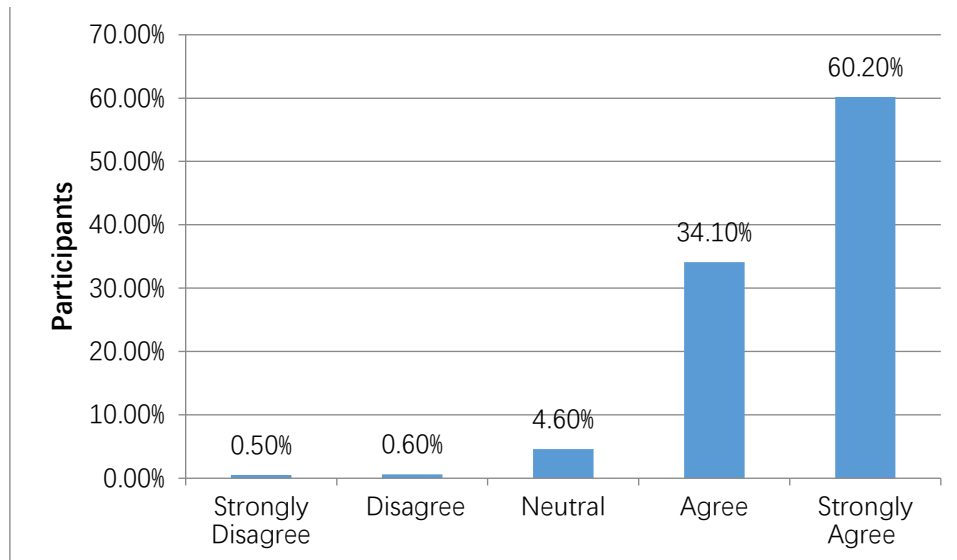


Figure 12. Importance of reusing Abu Loza's Historic Bath for cultural development and tourism.

4.4. Influence of Employment on Some Dependent Variables

The Pearson Chi-Square test was used to explore the relationship between employment status and perceptions of Abu Loza's Historic Bath in Saudi Arabia's Qatif region (Table 4). The analysis showed no significant relationship between employment status and awareness of the site ($p = 0.239$), suggesting that factors other than employment likely influence knowledge. A moderate but non-significant association ($\chi^2 = 7.986$, $df = 6$) indicates that awareness may be shaped by variables such as education, community engagement, or media exposure. For the perceived importance of preserving historical sites, a marginally significant relationship with employment status was observed ($p = 0.080$), with a moderate association ($\chi^2 = 11.273$, $df = 6$). This finding suggests that individuals working in heritage-related fields may place greater value on cultural preservation due to their professional knowledge and exposure.

The test found no significant relationship between employment status and prior visits to Abu Loza's Bath ($p = 0.330$). The Chi-Square statistic ($\chi^2 = 6.904$, $df = 6$) indicates a moderate association, but the lack of significance suggests that visitation patterns are more strongly influenced by factors such as personal interest, accessibility, or available leisure time. Similarly, employment status does not significantly affect evaluations of the site's current condition ($p = 0.652$, $\chi^2 = 4.185$, $df = 6$). Instead, personal experiences, historical knowledge, or aesthetic preferences may play a larger role in shaping opinions. Awareness of rehabilitation plans also shows no significant association with employment status ($p = 0.593$, $\chi^2 = 4.621$, $df = 6$). This indicates that employment status does not heavily influence individuals' knowledge of the project, with communication methods, community engagement, or local heritage initiatives being more likely factors.

In contrast, a significant relationship exists between employment status and the likelihood of visiting Abu Loza's Bath post-rehabilitation ($p = 0.021$, $\chi^2 = 14.949$, $df = 6$). Employed individuals may be more inclined to visit due to having greater resources, such as disposable income and flexible schedules, enabling them to engage in leisure activities. This supports findings from Alhefnawi et al. (2023), McGehee et al. (2002), and Rubin & Rubin (2008), which highlight the role of employment in shaping engagement with heritage conservation and tourism.

Therefore, employment status significantly influences the intent to visit the rehabilitated site but has limited impact on other factors like awareness, perception of value, or recognition as a tourist attraction. Variables such as education, personal interests, and access to information may play a more substantial role in shaping individuals' views on the site. Further research is recommended to investigate these factors and their implications for heritage preservation and community engagement in the Qatif region.

Table 4. Relationship between some dependent variables and employment (Source: Author).

Dependent variable	n	X ²	DF	p-value
Do you know the Abu Loza's Historic Bath located in the Qatif region in eastern Saudi Arabia?	515	7.986	6	0.239
How important is preserving historical sites such as the Abu Loza's Historic Bath?	515	11.273	6	0.080
Have you ever visited Abu Loza's Historic Bath, before its rehabilitation?	515	6.904	6	0.330
How do you evaluate the current situation of Abu Loza's Historic Bath?	515	4.185	6	0.652

Are you aware of plans to rehabilitate Abu Loza's Historic Bath?	515	4.621	6	0.593
What are the chances of you visiting Abu Loza's Historic Bath after its rehabilitation?	515	14.949	6	0.021
Does the presence of Abu Loza's Historic Bath building in the Qatif area adds value to investment and attracts tourists?	515	4.295	6	0.637
It is important to reuse the Abu Loza's Historic Bath for cultural development and tourism in the Qatif region of Saudi Arabia	515	13.771	12	0.316
Reusing Abu Loza's Historic Bath will encourage the private sector to invest in repurposing heritage buildings in the region to meet tourism, commercial, cultural and educational services	515	9.965	12	0.619
The Abu Loza's Historic Bath reuse project in the Qatif region will increase job opportunities for young people	515	27.150	12	0.007
The Abu Loza's Historic Bath is considered a distinctive landmark in the Qatif region.	515	11.659	12	0.473
Preserving Abu Loza's Historic Bath building through its rehabilitation is an opportunity to introduce a civilization that has disappeared and is preferably rehabilitated	515	6.605	12	0.883
Removing everything old, including Abu Loza's Historic Bath, and keeping pace with modernity and contemporaneity is the right thing to do	515	18.276	12	0.108
The rehabilitation of Abu Loza's Historic Bath provide a harmonious visual image and unity for the architectural character in the region, strengthen the artistic images and enhance their identity in addition to their sustainability	515	12.199	12	0.430

As shown in [Figure 8](#), 71.1% of respondents expressed a firm commitment to visiting Abu Loza's Bath after rehabilitation, while 26.5% indicated they would likely visit. Only 2.4% stated they would not visit, reflecting a strong overall anticipation for the site's restoration. This high level of interest suggests promising potential for increased visitor engagement following rehabilitation efforts.

[Figure 13](#) highlights strong public support for repurposing Abu Loza's Bath to promote cultural development and tourism in Qatif. A majority (60.6%) strongly agree, and 31.5% agree with this initiative, reflecting widespread recognition of its value. Minimal opposition was observed, with only 1.3% strongly disagreeing and 0.6% disagreeing, while 6.0% were neutral. These results underscore a shared belief in the site's potential to enhance cultural and tourism opportunities, emphasizing the importance of restoration efforts in benefiting the local community and preserving cultural heritage.

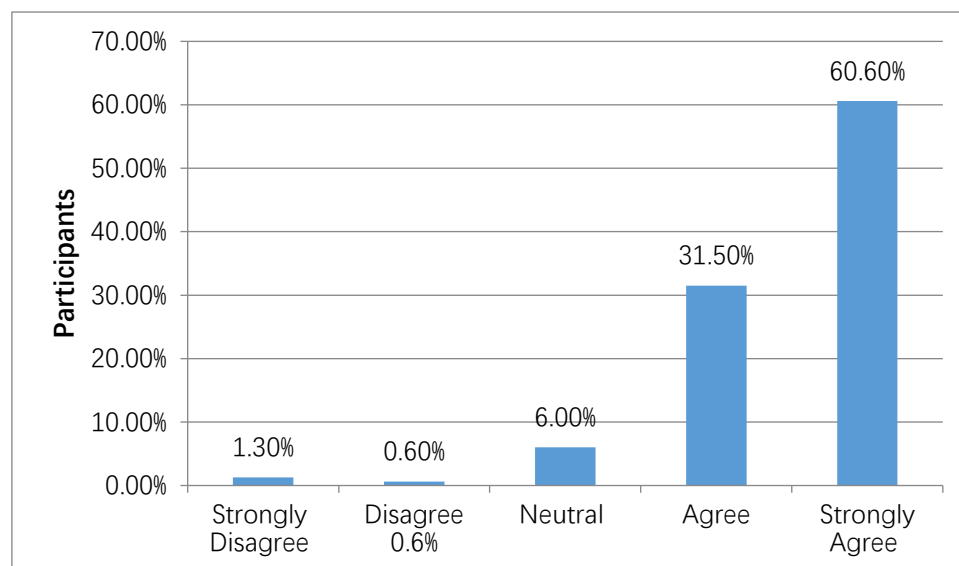


Figure 13. Chances of visiting Abu Loza's Historic Bath after its rehabilitation.

5. Conclusions

This study provides significant insights into the challenges and strategies for preserving Abu Loza's Historic Bath in Saudi Arabia's Qatif region. The findings emphasize the importance of heritage preservation, highlighting how factors such as employment status and age influence perceptions, attitudes, and engagement with historical sites. The originality of this research lies in its focus on Abu Loza's Historic Bath, an underexplored site, contributing to the broader field of heritage conservation by addressing the unique challenges faced in preserving culturally significant but neglected landmarks. Given these findings, it is essential to implement concrete and targeted strategies to ensure the site's sustainable preservation and enhance public engagement. The following recommendations outline specific actions that can be taken to achieve these goals:

Recommendations

- **Tailored Awareness Campaigns:** Develop targeted initiatives to increase awareness of Abu Loza's Historic Bath among younger age groups and non-heritage professionals. This could include educational outreach programs in schools, digital storytelling campaigns, and collaborations with local influencers to highlight the site's cultural value.
- **Interactive Visitor Experiences:** Implement innovative visitor engagement strategies, such as virtual reality tours of the bath in its original state, hands-on restoration workshops, and community-led storytelling events. These initiatives can foster a deeper connection to the site while promoting cultural appreciation.
- **Corporate Partnerships for Restoration:** Engage local businesses and corporations in preservation efforts through sponsorship programs, employee volunteering initiatives, and collaborative heritage events. These partnerships can provide funding and resources while creating a sense of shared responsibility for the site's upkeep.
- **Sustainable Preservation Practices:** Introduce environmentally friendly restoration techniques, such as using local and durable materials for repairs, ensuring minimal environmental impact. Additionally, conduct regular environmental monitoring to mitigate damage from humidity, pests, or urban expansion.
- **Local Tourism Development:** Promote Abu Loza's Bath as a central attraction in Qatif by integrating it into regional tourism itineraries. This could involve partnerships with tour operators, heritage-themed events, and the development of supporting infrastructure like signage, parking, and nearby amenities.
- **Research and Documentation:** Establish a comprehensive database documenting the site's history, current condition, and ongoing preservation efforts. This repository can serve as a resource for researchers, policymakers, and the public, ensuring long-term accessibility and understanding of the site's significance.

While the study focuses on age and employment as key variables, future research should expand to include other socio-demographic factors, such as education, gender, and income, for a more comprehensive understanding of community engagement with heritage sites. Additionally, comparative studies on similar under-researched historical sites can provide further insights into transferable strategies for heritage conservation and tourism development.

By addressing these recommendations, stakeholders can ensure the sustainable preservation of Abu Loza's Historic Bath, fostering cultural development, tourism, and community engagement in the Qatif region and beyond.

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