
A Study on the Influence of Environmental Factors on the Sustainability of Heritage Values at Misfat Al Abriyeen

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Abstract— *The broad idea of sustainable development is not limited to environmental; it also focuses on the social, cultural and economic aspects of tourism destination and the country region. Many studies have been conducted worldwide to raise awareness about the conservation of cultural heritage. Awareness on the conservation of the cultural heritage will gain the positive impact on the cultural, social, economic and environmental aspects. Some people wrongly perceived that; conservation of the cultural heritage is an obstacle to the economic development. But cultural heritage and preservation can generate many economic benefits like income and employment generation, vocational training and the maintenance of crafts, urban development, heritage tourism, property development, small business development, etc. The reuse of uninhabited or underused old generation buildings is important to revitalize the communities and to improve their well-beingness of life. Cultural heritage must be recognized as a valuable resource and a driver of the development for the better livelihood of the local communities. Priority to cultural heritage should not be deviated even-through there are the sustainable developmental strategies implemented in the country. In the era of globalization, cultural heritage is helpful to reduce the influence of international cultures and improve the well-beingness of the local communities focus on cultural heritage is helpful to avoid the differences between international cultures and it can be the cause for the sustainability of different communities of the country. The concept of sustainable development is aimed to protect the society heritage values from the environmental, social and economic issues. (Hassler, et.al., 2006).*

Keywords— *Environmental, Natural Heritage, Social, Economic, Sustainability*

I. INTRODUCTION

The term sustainable development is well defined by the World Health Organization as the development that meets the present needs without harming the future generations' well-being. So that effectively the next generation can yield their natural benefits. (Throsby D, 2002). Although the broad aspect of sustainable development may cover the economic, environmental, cultural and social aspects, but the key elements of sustainable development is linked to the economic development of the country, especially in the economies where there is shortfall of capital. When sustainability is considered in the general framework, the part of cultural heritage is very clear. It is commonly believed that the 21st century is the century of globalization. Although international trade brings benefits, it also poses a threat to local culture. It is therefore important for each community to define and maintain its identity, reflecting the character of the place and diversity. To the local citizens cultural institutions and historical elements will provide a feeling of belonging. Cultural heritage is beneficial especially to the people who like to live as per their traditions and cultures. It helps to avoid the influence of international culture and encourages people to maintain their uniqueness. Another important part of cultural heritage in the pursuit of sustainable development is its affiliation with productive resources and economic development. Preservation of cultural heritage is often misunderstood as an obstacle to the development of an economy. Preservation of the culture is first and foremost about sustaining and developing culture, but many studies have shown that cultural heritage regulations are beneficial to business in the context of increasing security to preserve the local culture. Better use of real assets, especially intangible assets, is an important part of strategies to strengthen communities and improve the well-beingness of life. Unfortunately, the ability to abandon historic constructions and heritage is often overlooked in the search for a quick buck. The result of this mistreatment made the traditional places as ineffective. To implement the strategies of sustainable development and to raise the quality of life, it is strongly recommended to use the potentiality of cultural heritage, particularly in the sites of historical buildings and uninhabited areas. However, in recent years the concept of sustainability has evolved. At the end of the decade, a new model for explaining reality was proposed by von Bertalanffy L (1968). General Process Theory, which aimed to establish a unity between natural and social sciences. This perspective provides an opportunity for a deeper dialogue between natural and social disciplines and opens the way for research on sustainable development (Dallari, et.al., 2006).

II. STATEMENT OF THE PROBLEM

As far as cultural heritage is concerned, the values of preservation are essential in shaping what to preserve and how. Occasionally, contradictory standards may be revealed even in a traditional preservation choice, such as creative, aesthetic, significant, and fiscal elements concerned with the application of the building or assembly. Though preserving and enhancing cultural properties is the primary goal of cultural heritage preservation, long-term economic benefits are typically dominated by their influence on the environment, culture, aesthetics, and the community. Moreover, the financial aspects of cultural heritage are of high priority to many essential stakeholders in heritage preservation, viz., government officials, bankers, investors, and property owners (Rypkema D, 2006). However, the implications of cultural heritage, as well as the basis for its preservation, could be more clearly understood from an economic perspective. The redevelopment of city centers is another substantial consequence of cultural heritage and its management. This revival is evident in many places, where the rebuilding of cultural heritage is fundamental to reconstruction (Roggers R, 2004). Above all, the conservation of physical structures and the values of ethos, and the safeguarding of cultural heritage, need to be observed as a way of endorsing cultural diversification, a logic of place, and sustainable economic growth. Preservation and conservation of cultural treasures have several financial benefits. In addition, providing training, jobs, and turnover, historical buildings and spaces also offer the opportunity to find local goods. Conservation of cultural heritage enhances the exchange of imports, reactivates city centers, promotes heritage tourism, and subsidizes improving property prices. Furthermore, significant buildings accommodate modernization and the varied requirements of contemporary society, and also contribute to the advancement of small entities. Relatively significant heritage constructions could align with the innovative needs and the fluctuating changes of the modern community, and could be aided by the development of fewer entities. Valuable assets include historical buildings and new construction on vacant land rather than demolishing old buildings. Sustainable development is said to occur when repairs are made to existing heritage buildings (Grazu, Indre, 2006).

III. LITERATURE REVIEWS

Many research scholars highlighted the benefits of the tourism industry by addressing negative impacts on the social and cultural structures of current societies, without affecting alcoholism, drug transactions, gambling, the commercialization of religion, prostitution, the loss of heritage values, and cultural customs. Given that Al Hamra, Misfat Al-Abriyeen, and their surrounding areas are well-known tourist destinations, the potential for negative impacts is significant. Anticipated adverse effects include a rise in prostitution, alcoholism, and drug addiction, as well as an increase in crime and the loss of cultural heritage. Additionally, certain local traditions are at risk; for instance, the influence of tourist culture has altered the traditional clothing and dietary practices of the residents. In some cases, individuals may feel compelled to change their ways of generating income. Especially in the places of Al Hamra, Misfat Al-Abriyeen, and the surrounding areas the tourism practices may led to the degradation of local ecosystems, air and water pollution, and a decline in marine and aquatic life. Building the accommodations, tourist airports, parks, new resorts and hotel places can cause for the significant burden on the area's ecological balance. Removing the natural plants and raising the non-native plants as a readymade beauty tool, and land leveling activities are further harmful to the environment of Al Hamra and Misfat Al-Abriyeen. The aspect of sustainable development includes the concept of economic

development and gives the feeling that "growth" will not be slow, but in some it will be a self-sustaining decision and "ecology" to manage and improve environmental values (Throsby D, 2002). "It is a wonderful boost to bequest tourism in the country and will ensure the basic and social bequest of Oman. The old Misfat town, which is popular for its zone and idealize sees, was reestablished meticulously and with great effort by securing its one-of-a-kind highlights and plan. The completion of this expand will have a mind-blowing influence on social and bequest tourism and will altogether advantage the neighborhood's community and commerce visionaries from the district. (Alvain Thomas, 2020). The United Nations discussed the 17 types of Sustainable Development Goals (SDGs) serve as a guide for implementing international norms and regulations that promote social sustainability and improve resource efficiency Lucchi, E., et al. (2024). According to (Carla Galluccio, and Francesca Giambona (2024)) their research study explores that, the function of cultural heritage and museums in municipal development, emphasizing their capacity to draw visitors, make money, and encourage inclusivity and cultural variety. Their study explores the function of cultural heritage and museums in municipal development, emphasizing their capacity to draw visitors, make money, and encourage inclusivity and cultural variety. Conventional economic theory holds that cultural heritage upholds sustainability principles while producing positive externalities that increase employment and improve social and human capital. Cultural heritage plays a remarkable role to encourage the cultural economy and generate the economic value of the country Nyasha A. Gurira and Patrick Ngulube (2016). According to Beccherle et al. (2023) the economic concept of cultural capital, financial investments made in cultural and tourism institutions such as museums provide benefits in the form of increased economic success (GDP - Gross domestic product) and societal well-being. Additionally, museums can stimulate urban growth (income generation and employment) by drawing companies, people, and capital to the surrounding areas and enhancing the image of the cities. Although heritage places or museums are primarily places of cultural interest, they also attract tourists, which influences the local economy. Museums serve as archives for a country's cultural riches, preserving its legacy for both the present and the future. Likewise, museums and traditional things serve as an asset for regional advancement and its play a significant role to boost up the tourism sector, based on that it will give the positive impact on economic, social, and environmental point of view in sustainability and heritage values Sacco et al (2018); Florida (2007) and Panzera (2022). Likewise, archeologically objectives at Bat, Bisya, and Salut, or the Al Harat of Al Aqar close to Bahla fort, have amazing potential values to focus and to improve the social well-being off the society. Common sense wins in keeping up a constant conversation with neighborhoods' communities, as they are the stewards of their culture and heritage. Different tourism experts battle for the survivability with their own identities and unique values. Valuable works out in Nizwa and Al Hamra will lead to attract the new tourist continuously. Oman's rich heritage culture symbols like forts, estates, castles, and traditional souqs are strongly believed as an unforgettable land marks. The custom ways of life that are related to the falaj still existing these days, which are occasionally celebrated by neighborhoods and all comprehensive guests. Superb uneven places such as Wakan and Misfat Al Abriyeen are accepting the requests of enormous number of visitors to arrive and experience cultural festivals during the winter season. Enhancing and availing the cash and social related benefits of tourism will yield a nonstop and unremarkable identities to the local communities (Dr. Claudia Eckardt, 2024).

Additionally, the production of waste, including sewage and garbage, along with atmospheric emissions from aircraft, adversely affects the environment in these regions. Tourism can lead to shortages of certain commodities in local areas, contributing to inflation. It may also create competition for agricultural land, as the development of tourist facilities requires space for activities such as establishing national parks or protected areas for various tourism purposes. This often results in conflicts between local communities and government authorities. Another economic challenge associated with tourism is its seasonality, which can lead to seasonal unemployment. For example, tourist arrivals tend to peak from November to January. Additionally, tourism can drive up prices for goods and services in tourist destinations, increase construction costs for infrastructure, and raise the prices of land and rental properties. (Gebranynya Gebru, 2011). Additionally, cultural heritage contributes to economic growth in the form of revenues from the tourism sector. It is acknowledged that the cultural and traditional production is poised to be a preceding sector in the post-industrial economy, with artifacts increasingly evolving into 'experiences' (Hassler U and et.al, 2006). In the economic framework, maybe it is not possible to gain the revenues from all the cities and urban areas. But in the development strategy integrating the tourism sector, protection of natural values, cultural heritage and its enhancement will play a wide role to retain the country's unique values and identities (Rypkema D, 1999). To detail the difficult effects of heritage preservation and renovation more thoroughly on the environment and on society, the interconnections highlighted in (United Nations Educational, Scientific, and Cultural Organization, 2021) have been reorganized and consolidated into five macro-areas (energy, water footprint, biosphere, responsible consumption and production and sustainable communities (fig 1)) of intervention. The Sustainable Development methods state that each macro-area of intervention seeks to accomplish the proper tactics to guarantee urban rehabilitation and cultural preservation.

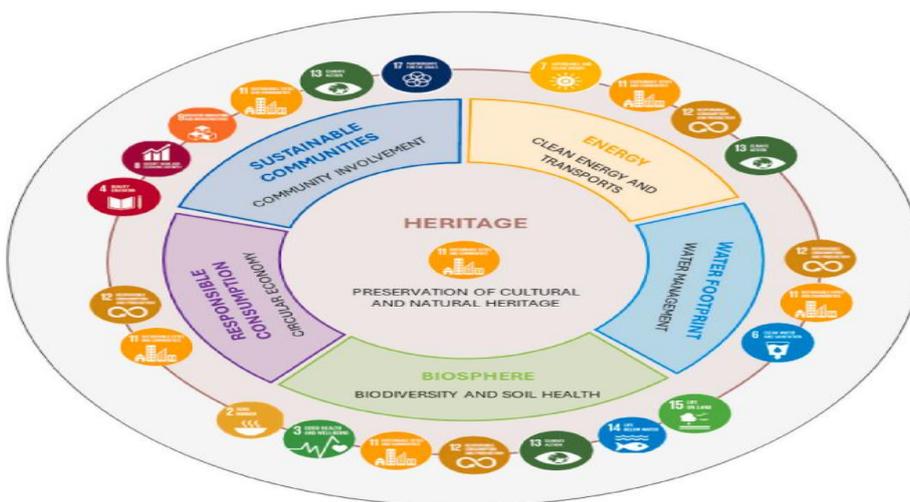


Fig. 1. The macro-areas of intervention for the Sustainable Development developed by FAI (2020) according to the SDGs (Source: Authors' elaboration).

Xi Zhao et al. (2024) discuss in their study establishes an expert-driven evaluation system to assess the sustainable tourism development of drama-related intangible cultural heritage in China. Based on their work, they evaluated under four dimensions, i.e., humanistic value, project quality, tourism development, and sustainability. Traditional drama's intangible heritage, with its ease of appreciation and popularity, makes it an attractive option for tourism sector development Lombardo et al. (2016). The traditional perception of Arab cities has been drastically altered by the enormous oil exports that have caused the Middle East Regions to see unprecedented urban growth. Regarding the future growth directions in the post-oil age, many doubts have been raised. Considering the necessity to reuse national history in pursuit of local identity and social values,

the issue has sparked a serious debate between the preservation of heritage and the recent emergence of new Arab towns. Saudi Arabia has recently started several initiatives aimed at promoting a great, healthy model of urban expansion. Through promoting the virtues of regional customs and increasing citizens' awareness of heritage values, the Saudi National Vision 2030 fosters the sustainable and successful expansion of the nation. The remarkable examples of local heritage that the ancient Saudi societies built are at risk of collapsing and being lost because of neglect today. The nation hopes to fortify its national identity values and boost local investments in tourism offerings by protecting the natural environment and local heritage (Silvia Mazzetto 2023). To improve the country's tourism offerings, the Saudi government has recently finished several heritage restoration projects and added numerous new public transit options and links between the Kingdom's major towns A. Al Alshakh, et al. 2010); M. El Shawaty (2011); A. Alomar (2007); E. Ishteaque, and F. Alsaied (2008) and S. Mazzetto, A. Petruccioli (2018).

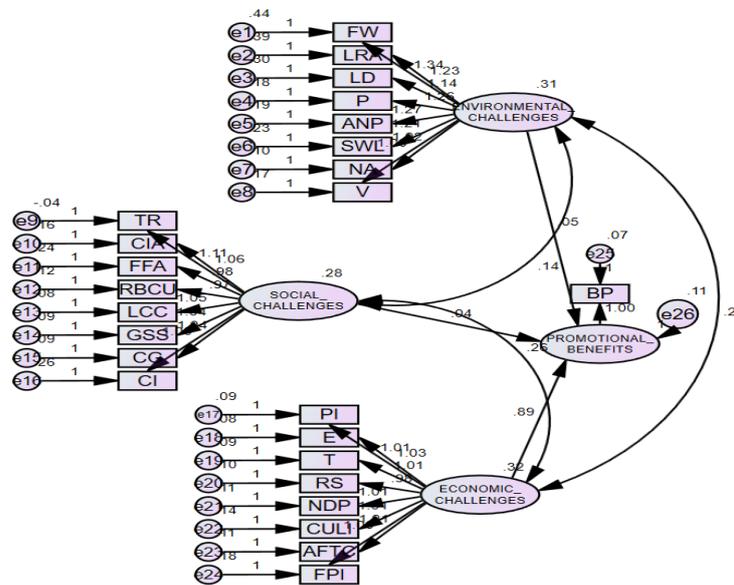
IV. RESEARCH GAP

The importance of cultural heritage in fostering sustainable development is becoming more widely acknowledged, but in-depth studies of the complex interrelationships between environmental, social, and economic factors in heritage value preservation are still lacking, particularly in understudied areas like Misfat Al Abriyeen, Oman. Existing research highlights the economic advantages of tourism-driven cultural heritage, but it frequently ignores the negative social and environmental effects of tourism-driven urbanization, which can result in the loss of regional ecology, customs, and cultural identity. Several modern approaches to sustainability, specifically those that focus on cultural heritage territories, have not addressed the negative impacts of tourism, namely pollution, depletion of natural resources, and the loss of traditional values of living. Most studies on sustainability and heritage preservation have concentrated on large repositories of scholarly records, namely Oman, which are less explored in the global discourse. Detailed approaches have been carried out in challenging environments for tangible and intangible cultural heritage. At the same time, there are very few studies that have explored protecting cultural heritage from an international tourism perspective by safeguarding local territories. The study also used mixed-methods approaches to identify research gaps by extracting studies on the social environment, economic perspective, and environmental aspects of sustainable development in Misfat Al Abriyeen's cultural heritage. The study also focused on enhancing and understanding the heritage sites that could serve the society's welfare, travel, and preservation.

V. RESEARCH METHODOLOGY

The study uses both qualitative and quantitative methods to examine the impact of environmental, social, and economic factors on the sustainability of cultural and heritage values. These techniques help identify each element's relationship awareness. Misfat Al Abriyeen is one of the heritage territories with excellent sustainable values and a rich cultural heritage. The study used a structured questionnaire and interviews with local authorities, conservationists, and other members of society who influence social, environmental, and economic factors. The study has been circulated to and responded to by 223 sample respondents, using Statistical Equational Modelling, employing factor analysis and path analysis. SEM is a sophisticated statistical method for analyzing multivariate relations among observable and unobservable variables. The model helps indicate the association among different components; model fit is examined using fit indices, viz., the chi-square test, comparative fit index, root mean square error of approximation, and standardized root mean square residual. Significant elements of the study reflect the respondent's perception of the environmental, social, and economic variables identified through the thematic investigation.

VI. DATA ANALYSIS



Source: Questionnaire

Table Model fit summary of Structural Equation

Indices	Value	Suggested value
χ^2/df	3.562	<5.00 (Hair et al., 1998)
p-value	0.053	>0.05(Hair et al., 1998)
GFI	0.893	> 0.90 (Hu and Bentler, 1999)
AGFI	0.942	> 0.90 (Hair et al. 2006)
NFI	0.929	> 0.90 (Hu and Bentler, 1999)
CFI	0.940	> 0.90 (Daire et al., 2008)
RMSEA	0.043	<0.08(Hair et al. 2006)

Source: Questionnaire

The complete results for Structural Equation Model 2 indicate that the model fits the data relatively well. The χ^2/df ratio of 3.562 is lower than the standard benchmark of 5.00, suggesting that the difference between the observed data and the model-implied covariance matrix may be within a reasonable range. The p-value of 0.053 is moderately greater than the predicted cutoff of 0.05. Thus, a well-fitting model is considered statistically acceptable because the null hypothesis cannot be supported. Goodness-of-Fit Index, which considers absolute fit indices, yields a score of 0.893. This falls short of the suggested minimum cutoff of 0.90. It is close enough to be considered moderately acceptable, though it shows that, for this exact measure, the model does not reach the ideal level of absolute fit. It does not indicate a complex issue with model fit, but is a signal that there may be scope for minor deviations to the model definition. However, the Adjusted Goodness-of-Fit Index value of 0.942 is far above the 0.90 cutoff. This outcome indicates that the model, after accounting for the number of estimated parameters, still delivers a reasonable degree of fit, since the AGFI corrects for model complexity. These opinions are based on the fact that the model is not over-fit to the data and is suitably described. Moreover, the model's sufficiency is supported by the incremental fit indices. The Normed Fit Index, NFI = 0.929, as well as the Proportional Fit Index, CFI = 0.940, are higher than the suggested limits of 0.90. Values above 0.90 indicate that the proposed model is a significant improvement over a model that assumes no correlations among the variables. These indices compare the hypothesized model to a null or independence model. This provides more substantial evidence that the observed data and the relationship structure delineated in Model 2 are compatible. Lastly, the RMSEA is well below the suggested upper limit of 0.08, at 0.043. More significantly, it falls below the conventional cutoff point of 0.05, which is frequently taken to indicate a close approximation. This suggests that the model fits very well, with minimal mismatch in population approximation error. Collectively, these indices indicate that Model 2 performs well and imposes few limitations. Reliably high values for AGFI, NFI, CFI, and RMSEA overcome the marginally lower GFI, which signals little room for improvement. Such results support the suitability of Model 2 for evaluating visitor perceptions and their implications for sustainable tourism practices in the context of the present study and provide strong empirical support for the suggested structural links among the constructs.

VII. CONCLUSION

The tourism industry is one of the key essential sectors in Oman, through the environmental, economic and social sustainability only it is possible to get the desired results by 2040 and its further period. Developing long-term collaborative association with the public sector, private sector, local residents and implementing the experts' guidelines are the fundamentals to succeed, in addition to avail the maximum revenue from the tourism sector (Dr. Claudia Eckardt, 2024). In the wilayat of Al Hamra in Dhakhliyah governorate, the World tourism Organization (UNWTO), chosen the Misfat al Abriyeen as one of the best tourism towns. Movement was impelled to improve the portion of tourism sector in guarding national towns, along with their specialties, typicality's social contrasts, their adjacent merits. The best places along with their town names are identified and honored by the United Nations World Tourism Organization (UNWTO). Forty-four towns from thirty-two countries over five world districts were invited the affirmation in 2021. All the invitees are honored for their natural and social resources and also for their transformative and creative exercises and dedication to the headway of tourism sustainability and developmental models along with its attainable enhancements and periodical targets (Alvain Thomas, 2020).

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