

Preservation and Adaptive Reuse of Agricultural Industrial Structures within the Context of Rural Tourism Potential

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Abstract

This study examines the conservation and adaptive reuse of traditional olive oil factories in Edremit Bay, Turkey, within the framework of sustainable rural tourism. Agricultural industrial structures like olive oil factories are pivotal heritage elements that reflect rural regions' agricultural history and cultural identity. Due to technological advancements and shifts in the global economy, many of these structures have become obsolete and are at risk of deterioration. The primary objective is to assess how preserving and repurposing these historical factories can enhance the cultural and economic vitality of Edremit Bay. The research employs a multifaceted methodology, including a comprehensive literature review, field studies, interviews, surveys, and analytical tools such as SWOT and AHP analyses. Field studies involved detailed examinations of several olive oil factories to evaluate their current conditions, architectural features, and potential for tourism-oriented adaptive reuse. Findings reveal that many olive oil factories are currently unused but possess significant architectural and historical value. The SWOT and AHP analyses highlight critical factors for successful adaptive reuse, emphasizing preserving architectural authenticity, community participation, and enhancing tourism potential. The study concludes that the tourism-oriented adaptive reuse of these factories offers a viable strategy for preserving cultural heritage and stimulating sustainable economic development in the region. This research provides strategic recommendations and proposes a model that can guide the conservation of similar agricultural industrial structures. By balancing the preservation of historical integrity with contemporary needs, the study contributes to the sustainable revitalization of rural economies and safeguarding cultural heritage for future generations.

Keywords

Adaptive reuse, agricultural industrial structures, conservation, sustainable tourism.

INTRODUCTION

Agricultural industrial structures are buildings constructed during the modernization process of agriculture that emerged after the Industrial Revolution, playing a vital role in developing rural economies. These structures typically include olive oil factories, flour mills, grain storage facilities, and wine production plants, serving as central hubs in agricultural production processes and shaping the economic, social, and cultural fabric of the regions in which they are located. From the beginning of industrial agriculture, these structures have increased production capacities in rural areas and contributed to local economies [1]. However, with the significant changes in agricultural technologies during the second half of the 20th century, along with the globalizing economy, the functionality of these structures has diminished, and many have become obsolete [2].

These structures are important heritage elements that deserve preservation not only for their physical presence but also for their historical and cultural identities. Agricultural industrial structures reflect the history of agriculture and production techniques while revealing rural life's social structure and cultural identity [3]. These structures are significant in society's collective memory and key to preserving local identities [4]. Therefore, the conservation of agricultural industrial structures is not only an architectural necessity but also critical for ensuring the sustainability of

cultural and historical heritage [2].

The conservation and adaptive reuse of agricultural industrial structures have become important components of rural development and sustainable tourism policies. Sustainable tourism presents a significant opportunity to revive these structures by integrating them into the tourism sector. Rural tourism creates new economic opportunities for local communities and contributes to preserving these structures [5], [6]. In this context, agricultural industrial structures can be transformed into tourist attractions to support local economies and preserve the region's cultural heritage.

Edremit Bay, one of Turkey's leading regions for olive oil production, stands out in this regard. This region's traditional olive oil factories provide concrete examples of production processes and hold significant cultural value [7]. However, many of these structures have lost their functions over time and have fallen into disrepair. This situation threatens the physical existence of these buildings and poses a risk to the region's cultural heritage. Therefore, the conservation and tourism-oriented adaptive reuse of olive oil factories holds enormous potential for ensuring the sustainability of these structures and contributing to the region's economic development.

Today, the conservation and adaptive reuse of historic buildings have become a global focus. International organizations and local governments are developing various policies on cultural heritage conservation and sustainable



tourism practices, guiding the adaptive reuse processes of historic structures. In this context, international organizations such as UNESCO and ICOMOS have published declarations and regulations to preserve historic buildings and set the standards necessary for their conservation and transmission to future generations [8], [9]. These standards, such as olive oil factories, guide agricultural industrial structures' conservation and adaptive reuse processes [10].

The olive oil factories in Edremit Bay are significant not only in terms of Turkey's agricultural history but also for preserving the region's cultural identity. These structures reflect the history of olive oil production and form an important part of the region's socio-economic fabric [11], [12]. Therefore, these buildings' conservation and adaptive reuse are crucial steps for preserving the region's cultural heritage for future generations and revitalizing the local economy sustainably.

RESEARCH OBJECTIVES

The primary objective of this study is to thoroughly examine the contribution of conserving and adaptively reusing the historical olive oil factories in Edremit Bay within the scope of sustainable tourism to the cultural and economic vitality of the region. The study emphasizes preserving these structures' historical, architectural, and cultural values. It offers strategic recommendations on how these buildings can be re-evaluated within the framework of sustainable tourism. In this context, the study aims to develop a model that serves as a guide for conserving similar structures by addressing their contributions to the region's cultural identity and economic development.

MATERIALS AND METHODS

This study employed various qualitative and quantitative research methods to analyze the process of conserving and adaptively reusing olive oil factories. The main methods used in the research process are as follows:

Literature Review: A comprehensive review of national and international literature was conducted to guide the conservation and adaptive reuse processes. UNESCO, other international ICOMOS, organizations' conservation declarations and regulations were thoroughly examined. Considering these documents, the evaluation of olive oil factories as cultural heritage and how similar structures have been conserved and adaptively reused worldwide were discussed. The results and recommendations of similar studies were also evaluated in the literature review. The compatibility between international conservation standards and local legal regulations was analyzed. The extensive literature review ensured that the scientific foundations of the study were solidly established.

Field Studies: The olive oil factories' current state, architectural features, and conservation needs in Edremit Bay were examined on-site. The floor plans, material usage, construction techniques, façade details, roofs, chimneys, and other architectural elements were documented in detail

during these studies. Field studies are critical for assessing the current conditions of the buildings, identifying deterioration, and determining restoration needs. In this process, the buildings' environmental impacts and social and economic dimensions were also evaluated. Assessing the buildings' environmental sustainability is important for determining future usage scenarios.

Interviews and Surveys: Interviews and surveys conducted with residents, experts, tourism sector representatives, and public officials revealed various perspectives on the conservation and adaptive reuse of these buildings. In this process, participants' views on the conservation and adaptive reuse of historical buildings were gathered, and the tourism-oriented adaptive reuse potential of the structures was assessed. The surveys addressed issues such as the architectural features, tourism potential, current usage, and conservation needs of the buildings. In the interviews, the suggestions and concerns of residents and tourism sector representatives regarding the adaptive reuse of these structures were also considered. The survey results contributed to identifying the social and economic factors that should be considered in the adaptive reuse process. Interviews and surveys provided important data for ensuring community participation and considering expectations in the adaptive reuse processes.

SWOT and AHP Analyses: SWOT and AHP analyses were used to determine and prioritize the criteria to consider in the adaptive reuse processes. SWOT analysis identified the buildings' strengths, weaknesses, opportunities, and threats [13], while AHP analysis evaluated the relative importance of these criteria and assessed the potential for adaptive reuse [14]. The most appropriate strategies for tourism-oriented adaptive reuse of the buildings were developed in this process. The data obtained from the SWOT analysis were combined with the AHP method to determine the most suitable roadmap for the adaptive reuse of the buildings. These analyses allowed for a more systematic and objective approach to decision-making, enabling the development of optimal strategies. The combined use of SWOT and AHP analyses provided a more scientific and objective approach to making strategic decisions in the adaptive reuse processes.

THEORETICAL BACKGROUND

The conservation and adaptive reuse of historic buildings is a physical preservation process and a multi-dimensional process that should be considered within social, cultural, and economic sustainability. This process should be evaluated interdisciplinary, including architecture, cultural heritage management, tourism, and economics. The theoretical framework aims to understand the concepts of conservation and adaptive reuse, which form the foundation of this study, and the impacts of these concepts on agricultural industrial structures.



Conservation Concept and Historical Buildings

Conservation is a process aimed at preserving historical buildings' physical integrity, authenticity, and aesthetic values by carrying them into the future. In this process, the buildings' historical, cultural, and architectural values are prioritized [15]. Conservation theories offer flexibility that allows for integrating new functions while respecting the original function of the building. In this context, conservation not only maintains the physical existence of the building but also preserves the meanings that these buildings carry in terms of social memory, identity, and cultural sustainability [16].

The concept of conservation allows for integrating modern interventions into the building while preserving the historical integrity of the structures [15], [17]. Some conservation approaches may lead to the loss of the original character of the building. Therefore, in determining the strategies to be followed in the conservation process, the historical and cultural context of the building should be carefully evaluated.

Adaptive Reuse

Adaptive reuse is the process of repurposing historic buildings to meet the needs of today in a way that preserves their physical and aesthetic features. In this process, the aim is to sustainably extend the buildings' life by equipping them with new functions while preserving their physical and aesthetic features [18]. Adaptive reuse extends the buildings' lifespan and contributes to the local economy and social life. For this reason, adaptive reuse projects are considered critical tools in ensuring economic and cultural sustainability [19].

Adaptive reuse models include strategies to equip historic buildings with new functions. These models allow for adding new functions while preserving the buildings' original character. The models used in adaptive reuse processes include approaches such as minimal intervention, integrative use, and adaptive reuse [19].

Minimal intervention is based on the principle of preserving the originality of the building by minimizing the addition of new functions. Integrative use ensures that the existing functions of the building coexist with the new functions while preserving the structure's historical integrity. This strategy may include additions necessary for modern uses while preserving the historical integrity of the building [18]. Adaptive reuse offers a flexible approach that allows new functions to be added to the building. Adaptive reuse involves adding new functions to the building with minimal intervention in the existing architectural and historical features. This approach provides flexible solutions that can meet today's needs while preserving the original character of the building [19], [20].

Implementation strategies include the methods used in the process of realizing these models. These strategies determine the necessary steps to ensure the buildings' physical, social, and economic sustainability. Implementation strategies also include solutions that encourage the participation of local communities and ensure the long-term preservation of the

buildings.

Sustainability of Cultural Heritage

The sustainability of cultural heritage is a fundamental goal in conserving and adaptively reusing historic buildings. Sustainability encompasses not only environmental factors but also economic and social dimensions. In this context, conserving historical buildings involves maintaining their physical existence and ensuring that the meanings these buildings carry for society are transmitted to future generations [6], [21]. A sustainable conservation approach includes strategies that increase the energy efficiency of the building, encourage the participation of local communities, and ensure the economic sustainability of the building [3], [22], [23]. Recent studies highlight that strategies such as retrofitting with renewable energy sources and implementing smart technologies can significantly enhance sustainability of these structures [21]. Additionally, participatory approaches that engage local stakeholders in conservation efforts have proven effective in reinforcing heritage buildings' cultural significance and societal relevance [24].

The sustainability of cultural heritage also involves maintaining the relationships that local communities have established with these buildings and evaluating these structures in a way that contributes to the local economy. For example, transforming traditional agricultural buildings into museums and event spaces has successfully attracted tourism while preserving historical integrity in regions like Andalusia and Tuscany [25]. In this context, tourism-oriented adaptive reuse projects contribute to the preservation of cultural heritage while also allowing for the revitalization of local economies [26]. Sustainability should not be limited to preserving the building in these processes; it should also aim to reuse these structures to contribute to society.

Sustainable Tourism

Sustainable tourism plays a significant role in the conservation and adaptive reuse of historical buildings. The tourism-oriented adaptive reuse of historical buildings increases the economic value of these structures and contributes to the preservation of cultural heritage. Such projects contribute to local communities' economic development while supporting the physical conservation of these buildings. For instance, recent projects in rural France have converted abandoned farmhouses into eco-tourism hubs, integrating sustainable practices while maintaining cultural authenticity [27]. Sustainable tourism also ensures the reassessment of buildings in harmony with their natural and cultural environment [26], [28].

The key elements to consider in the tourism-oriented adaptive reuse of historical buildings include preserving the original character of the structures, using environmentally friendly and energy-efficient solutions, and ensuring the active participation of local communities in these processes. In this process, sustainable tourism should be evaluated as an economic activity and a tool for preserving cultural heritage.



In this context, the tourism-oriented adaptive reuse of historical buildings significantly ensures cultural sustainability. Noteworthy examples include reusing heritage structures for eco-lodges and community centers, which align with sustainable tourism principles and bolster the local economy [29].

Heritage and Agricultural Industrial Structures

Industrial heritage encompasses the factories, railways, bridges, other industrial structures constructed after the Industrial Revolution, and more specific structures such as agricultural industrial buildings. Agricultural industrial structures, including olive oil factories, mills, and grain storage facilities, are central to agricultural production processes and play a critical role in rural areas' economic and social development [1], [23]. Recent literature points to successfully reusing such structures in Italy and Greece, where old mills have been transformed into educational and cultural spaces, enhancing their community relevance and tourism appeal [30].

The conservation of agricultural industrial structures should be evaluated in parallel with the conservation of industrial heritage. These structures should be preserved as tangible examples of agricultural history and their role in developing rural economies and communities. The adaptive reuse of these structures is an important tool for transmitting industrial heritage to future generations. In this context, agricultural industrial structures should be reassessed architecturally and functionally [24]. Reuse projects, such as converting historic olive oil factories into agro-tourism attractions, serve as exemplary models that preserve agricultural history while contributing to the modern rural economy [31].

CASE STUDY

Edremit Bay (Fig 1.) is one of Turkey's most important olive and olive oil production centers [7]. The traditional olive oil factories in this region not only form tangible examples of the region's olive oil production history but also hold significant value as an industrial heritage. However, many of these structures are currently in disuse or have lost their originality due to improper restoration works. In the scope of the fieldwork of this study, detailed examinations of some olive oil factories in Edremit Bay were conducted. These structures were evaluated regarding their current condition, architectural features, conservation needs, and potential for tourism-oriented adaptive reuse.

The current condition of the olive oil factories was analyzed considering their architectural and historical features. These buildings' architectural features, materials, and construction techniques were examined in detail. Additionally, the basic criteria considered or neglected in the adaptive reuse process of these factories were identified. The past function of the factory, its impact on the local economy, and its significance for the local community were evaluated within the context of factors considered or neglected in the

adaptive reuse process. If these factories are adaptively reused for tourism purposes, the contributions they would make to the region and the potential impacts of this process on the local community were thoroughly discussed.



Figure 1. Location of Edremit Bay

The olive oil factories examined in the scope of the fieldwork in Edremit Bay include the Evliyazade Olive Oil Factory, Sabit Ertür Olive Oil Factory (Fig. 2), Sezai Ömer Madra Historical Olive Oil and Soap Factory, Güreli Mehmet Sezai Arkök Olive Oil Press, Ferhatoğlu Olive Oil Press, Denizer Olive Oil Factory, Doğrular Olive Oil Factory, Edremit Ali Rıza Karagözoğlu Factory (Now: Olive Oil Museum) (Fig. 3), Mustafa Eğilmez Olive Oil Press, Kırlangıç Olive Oil Factory (Now: Kırlangıç Shopping Mall) (Fig. 4), Küçükkuyu İbrahim Burnaz Olive Oil Factory (Now: Adatepe Olive Oil Museum), and the olive oil factories converted into Migros Market (Fig. 5), Beyaz Yalı Boutique Hotel (Fig. 6), and Bacacan Hotel (Fig. 7).



Figure 2. Dysfunctional Sabit Ertür Olive Oil Factory





Figure 3. From Edremit Ali Rıza Karagözoğlu Factory to Olive Oil Museum



Figure 4. Kırlangıç Olive Oil Factory



Figure 5. The olive oil factories converted into Migros Market



Figure 6. From olive oil factory to Beyaz Yalı Boutique Hotel



Figure 7. From olive oil factory to Bacacan Hotel

FINDINGS

As a result of the fieldwork and analyses, it was determined that a significant portion of the olive oil factories in Edremit Bay are still in a state of disuse. However, with appropriate restoration and adaptive reuse strategies, these structures could enhance the region's tourism potential. These buildings hold great value both architecturally and historically, and if preserved and adaptively reused for tourism purposes, they could significantly contribute to the region's economic and cultural development.

The SWOT analysis identified these structures' strengths, weaknesses, opportunities, and threats (Table 1). The buildings' original architectural features and historical value were identified as strengths, while their unused state and lack of maintenance were identified as weaknesses. The potential for contributing to the region's economic revitalization through tourism-oriented adaptive reuse was highlighted among the opportunities. At the same time, the threats included improper restoration works and the risk of losing the buildings' original character.



Table 1. SWOT analysis.

Strengths	Weaknesses
- Authentic architectural features and historical value of the olive oil factories in Edremit Bay.	- Many factories are currently unused and lack maintenance.
- The region's historical connection to olive oil production and cultural significance.	- Original character damaged due to inappropriate restoration works.
- Tourism potential of agricultural industrial structures.	- Lack of financial resources and insufficient investment.
- Awareness of conservation and reuse among local people and experts.	- Gaps or uncertainties in legal regulations.
Opportunities	Threats
- Revitalization of the regional economy through sustainable tourism.	- Loss of originality of the buildings due to improper restoration practices.
- Preservation and transmission of cultural heritage to future generations.	- Damage to buildings under pressure from rapid urbanization and modernization.
- Gaining prestige by complying with international conservation standards.	- Destruction of cultural heritage if adequate protection measures are not taken.
- Increase in tourism revenues with the rise in visitor numbers.	- Inability to ensure sustainability due to fluctuations in the tourism sector.

The AHP analysis prioritized the relative importance of these criteria and evaluated the potential for adaptive reuse of the structures. As a result of these analyses, the architectural and historical features of the buildings and their tourism potential were identified as the most important criteria. In the process of adaptively reusing the factories, the architectural and historical features, as well as the local community's expectations, should be considered as the primary details. According to the survey participants, in the reuse processes of the factories, it is necessary to repair the existing damage, preserve the original architectural details, and appropriately renew the building materials. In line with the new functions of the factories, interior layout arrangements, infrastructure works, and environmental landscaping should also be conducted. In this process, the relationship of the buildings with their surroundings, how the local community will accept these new functions, and how these functions will contribute to the local economy should also be considered. In the adaptive reuse of such structures, in addition to the physical and aesthetic features of the building, the impact of these structures on the local community should also be considered. In the adaptive reuse process, it is crucial to strike a balance between preserving the historical and cultural context of the building and ensuring its use in a manner that meets contemporary needs, according to the survey participants.

All the literature and field studies indicate that it is necessary to document the historical development, architectural features, and cultural significance of the traditional olive oil factories in Edremit Bay for the local community. These documents will help us understand the technological, social, and economic conditions of the period when the buildings were constructed. The changes these structures have undergone, the materials used, construction techniques, and architectural details should also be examined. These documents will be important resources for academic studies and for forming the basis of conservation efforts.

To determine the conservation needs of the buildings, it is necessary to assess the current condition of the olive oil factories, examine the challenges encountered in the restoration and conservation processes, and determine the buildings' physical condition and conservation needs. In this process, a detailed conservation strategy should be developed, considering factors such as the structural systems of the buildings, material durability, structural damages, and environmental impacts. It is critical to restore in a way that preserves the historical and cultural values of the buildings and to address the challenges encountered in this process to ensure the safe transmission of the structures into the future.

It is necessary to develop various scenarios for the adaptive reuse of olive oil factories. These scenarios should be compatible with the original functions of the buildings while also being capable of meeting contemporary tourism needs. In the adaptive reuse process, the architectural and historical features of the buildings, as well as the expectations of the local community, should be taken into consideration. The new functions of the buildings should be determined in a way that both preserves the character of the structures and maximizes their tourism potential. Strategies for sustainable use of the buildings should also be developed.

Evaluating the tourism potential of the adaptively reused buildings involves analyzing how these structures can be integrated into the region's existing tourism infrastructure and how they can be used as tourist attractions. In this context, factors such as tourist profiles, visitor expectations, and the integration of the buildings into tourism routes should be considered. The necessary infrastructure works and marketing strategies to make these buildings attractive for tourism should also be evaluated. These analyses will determine how successful the integration of the buildings into the tourism industry will be and what strategies should be applied in this process.



DISCUSSION

The comprehensive findings of this study illuminate the significant potential that the conservation and adaptive reuse of olive oil factories in Edremit Bay hold for preserving the region's cultural heritage and stimulating sustainable economic development through tourism. By employing SWOT and AHP analyses, we have gained precise insights into the multifaceted factors that influence the successful integration of these historic structures into the local tourism infrastructure.

Firstly, the SWOT analysis identified the olive oil factories' authentic architectural features and historical significance as primary strengths. These structures are not merely buildings but are emblematic of Edremit Bay's rich agricultural and industrial legacy. Their unique construction techniques, material usage, and spatial configurations offer invaluable insights into traditional olive oil production processes. However, the weaknesses, such as physical deterioration, lack of maintenance, and the risk of inappropriate restoration practices, threaten their structural integrity and authenticity. Opportunities arise from the potential to revitalize the local economy through tourism-oriented adaptive reuse, which can transform these neglected structures into vibrant cultural and economic assets. Nevertheless, threats like unsympathetic modifications and pressures from rapid urbanization pose real risks to preservation efforts.

The AHP analysis further refined our understanding by prioritizing critical criteria for adaptive reuse. The preservation of architectural and historical authenticity emerged as the foremost priority, underscoring that any adaptive reuse strategy must maintain the original character and integrity of the buildings. This aligns with international conservation standards set by organizations like UNESCO and ICOMOS, ensuring that restoration efforts are globally recognized and respected. Community participation was identified as the second most crucial factor, highlighting the necessity for inclusive planning processes. Engaging local stakeholders not only fosters a sense of ownership but also ensures that adaptive reuse aligns with societal values and meets the economic and cultural needs of the community.

Enhancing tourism potential, while important, must be carefully balanced with conservation objectives. The risk of over-commercialization could detract from the historical and cultural value of the factories. Therefore, adaptive reuse plans should aim to integrate the factories into the tourism sector in respectful and sustainable ways, such as converting them into museums, cultural centers, or educational facilities that celebrate the region's heritage.

Economic sustainability remains a vital component, though assigned a lower priority in the AHP analysis. Adaptive reuse projects must be financially viable to ensure their longevity. This involves developing robust business models, securing funding, and implementing effective marketing strategies to attract visitors. The potential economic benefits include job creation, increased tourism

revenue, and the stimulation of ancillary businesses, all of which contribute to the local economy.

Environmental sustainability, while given a smaller weight in the analysis, is also an important consideration. Incorporating eco-friendly practices and energy-efficient technologies into the restoration and operation of these buildings can enhance their appeal to environmentally conscious tourists and reduce operational costs in the long term.

Legal and regulatory compliance, although assigned the least priority in the AHP analysis, is essential for successfully implementing adaptive reuse projects. Navigating the complexities of local, national, and international regulations requires meticulous planning and collaboration with governmental agencies to meet all legal requirements.

The implications of these findings are significant. The adaptive reuse of the olive oil factories in Edremit Bay presents a viable and strategic opportunity to preserve the region's cultural identity while fostering economic development. The emphasis on preserving architectural authenticity ensures that these structures' historical narratives and cultural significance are maintained for future generations. Community involvement enhances the social sustainability of the projects and leverages local knowledge and skills, contributing to the empowerment of residents.

Furthermore, the study's methodological approach, combining SWOT and AHP analyses, offers a precise and systematic framework that can be replicated in other regions facing similar challenges with historical industrial structures. This model facilitates objective decision-making by quantifying and prioritizing various factors, enabling stakeholders to develop tailored strategies that balance conservation with development.

In the context of Edremit Bay, the adaptive reuse of olive oil factories can diversify the region's tourism offerings, attract a broader visitor demographic, and promote sustainable tourism practices. By converting these structures into functional spaces that serve both tourists and the local community, such as museums, boutique hotels, or cultural centers, there is potential to create a unique and authentic tourism experience that differentiates the region in a competitive market.

In conclusion, this study provides a precise and detailed roadmap for conserving and adaptive reuse of traditional olive oil factories in Edremit Bay. Integrating architectural preservation, community engagement, and sustainable economic development is the cornerstone of successful adaptive reuse initiatives. By adhering to international conservation standards and prioritizing the factors identified through the AHP analysis, stakeholders can develop strategies that preserve the region's cultural heritage and enhance its economic vitality. The findings underscore the importance of a balanced approach that respects the historical significance of these structures while adapting them to meet contemporary needs, ensuring that they continue to enrich the cultural fabric and economic prosperity of Edremit Bay for



generations to come.

CONCLUSION

This study provided a comprehensive analysis of the conservation and adaptive reuse potential of traditional olive oil factories in Edremit Bay, highlighting their significant role in preserving cultural heritage and contributing to sustainable economic development through tourism. The conservation and adaptive reuse of historical buildings are crucial for preserving cultural heritage and revitalizing local economies. Agricultural industrial structures in rural areas play a critical role in preserving local cultural identity and economic sustainability [3], [26], [28]. By employing a multifaceted methodology that included a literature review, field studies, interviews, surveys, SWOT analysis, and AHP analysis, we identified the critical factors influencing the successful integration of these historic structures into the region's tourism infrastructure.

The findings indicate that the olive oil factories in Edremit Bay possess substantial architectural and historical value, characterized by unique construction techniques, material usage, and spatial organization reflective of the region's agricultural industrial heritage. However, many of these structures are underutilized or in disrepair, posing a threat to their physical existence and the cultural identity they embody.

The SWOT analysis revealed that the strengths of these factories lie in their authentic architectural features and historical significance, while weaknesses include physical deterioration and lack of maintenance. Opportunities were identified in the potential for tourism-oriented adaptive reuse to revitalize the local economy and preserve cultural heritage. Threats encompass improper restoration practices and potential loss of original character due to unsympathetic modifications.

Through the AHP analysis, we prioritized essential criteria for adaptive reuse, determining that preserving architectural authenticity, ensuring community participation, and enhancing tourism potential are paramount. The local community's expectations emerged as a critical component, underscoring the necessity for inclusive planning processes that align new functions with societal values and economic aspirations. The analysis also highlighted the importance of adhering to international conservation standards while considering local regulations and cultural contexts.

The study concludes that the tourism-oriented adaptive reuse of these olive oil factories is both feasible and beneficial for the Edremit Bay region. Implementing adaptive reuse strategies that respect the original architectural and historical features can lead to sustainable economic growth, preservation of cultural heritage, and diversification of the region's tourism offerings. Specific adaptive reuse scenarios, such as converting factories into museums, cultural centers, boutique hotels, or educational facilities, can create new economic opportunities while maintaining the buildings' historical narratives.

Moreover, the model developed in this research is a practical framework that can be applied to similar agricultural industrial structures globally. By integrating international conservation principles with local community engagement and sustainable tourism strategies, the model ensures that adaptive reuse processes are both culturally sensitive and economically viable.

Future studies should focus on the practical implementation of the proposed adaptive reuse model, including detailed feasibility analyses, funding mechanisms, and stakeholder engagement plans. Assessing the model's adaptability to different regions with varying cultural and architectural contexts will enhance its applicability and contribute to global best practices in heritage conservation and sustainable tourism development.

In conclusion, the conservation and adaptive reuse of traditional olive oil factories in Edremit Bay represents a significant opportunity to preserve local cultural heritage while stimulating economic development through sustainable tourism. This study not only underscores the importance of these structures in the region's cultural and historical landscape but also provides a strategic roadmap for their preservation and integration into contemporary economic activities. By balancing the preservation of architectural authenticity with the needs of modern usage, stakeholders can ensure that these historical edifices continue to enrich the cultural fabric and economic vitality of Edremit Bay for generations to come.

REFERENCES

- [1] Morato-Moreno, M., and Ramírez-Juidías, E., 2023, Virtual Recovery of Agricultural-Industrial Heritage: A Case Study: The Olive Oil Mill of Gines (Andalusia). In: Proceedings of the International Conference on The Digital Transformation in the Graphic Engineering, June, pp. 451-467. Cham: Springer Nature Switzerland.
- [2] Angelakis, A. N., Valipour, M., Dietrich, J., Voudouris, K., Kumar, R., Salgot, M., and Tsoutsos, T., 2022, Sustainable and regenerative development of water mills as an example of agricultural technologies for small farms. Water, 14(10), 1621.
- [3] Grecchi, M., 2022, Industrial Heritage: Sustainable Adaptive Reuse. In: Building Renovation: How to Retrofit and Reuse Existing Buildings to Save Energy and Respond to New Needs, pp. 53-69.
- [4] Diaz-Mendoza, M. A., De-La-Hoz-Franco, E., Gómez, J. E., and Ramírez-Velarde, R., 2023, An Ontological Model for the Representation of Vallenato as Cultural Heritage in a Context-Aware System. Heritage, 6(8), 5648-5671.
- [5] Strumiłło, K., 2016, Adaptive reuse of buildings as an important factor of sustainable development. In: Advances in Human Factors and Sustainable Infrastructure: Proceedings of the AHFE 2016 International Conference on Human Factors and Sustainable Infrastructure, July 27-31, 2016, Walt Disney World, Florida, USA, pp. 51-59. Springer International Publishing.
- [6] Mısırlısoy, D., and Günçe, K., 2016, Adaptive reuse strategies for heritage buildings: A holistic approach. Sustainable Cities and Society, 26, 91-98.



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- [7] Olive Oil Times, 2024, "Olive Oil Times Olive Oil News, Information and Analysis," Accessed: September 23, 2024. [Online]. Available: https://www.oliveoiltimes.com/
- [8] Khalaf, R. W., 2020, The implementation of the UNESCO World Heritage Convention: Continuity and compatibility as qualifying conditions of integrity. Heritage, 3(2), 384-401.
- [9] Martínez Yáñez, C., 2022, The ICOMOS draft international charter for cultural heritage tourism (2021): Reinforcing cultural heritage protection and community resilience through responsible and sustainable tourism management. In: INTERNATIONAL SYMPOSIUM: New Metropolitan Perspectives, May, pp. 2361-2370. Cham: Springer International Publishing.
- [10] Labadi, S., Giliberto, F., Rosetti, I., Shetabi, L., and Yildirim, E., 2021, Heritage and the sustainable development goals: Policy guidance for heritage and development actors. International Journal of Heritage Studies.
- [11] Yildiz, G., and Guchan, N. S., 2018, An Industrial Heritage Case Study in Ayvalik: Ertem Olive Oil Factory. Journal of Contemporary Urban Affairs, 2(3), 20-30.
- [12] Yorulmaz, A., 1991, Ayvalık'ı Gezerken. Geylan Kitabevi.
- [13] Dalton, J., 2019, SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats). In: Great Big Agile. (Berkeley, CA: Apress).
- [14] Saaty, T. L., 1980, The Analytic Hierarchy Process. (New York: McGraw Hill).
- [15] Yazdani Mehr, S., 2019, Analysis of 19th and 20th century conservation key theories in relation to contemporary adaptive reuse of heritage buildings. Heritage, 2(1).
- [16] Li, L., and Tang, Y., 2023, Towards the contemporary conservation of cultural heritages: An overview of their conservation history. Heritage, 7(1), 175-192.
- [17] Cameron, C., 2023, Evolving Heritage Conservation Practice in the Twenty-first Century. In: Evolving Heritage Conservation Practice in the 21st Century, pp. 1-17. Singapore: Springer Nature Singapore.
- [18] Kahvecioğlu, B., and Arslan Selçuk, S., 2023, Adaptive Reuse in the Realm of Architecture: Global Research Trends and Gaps for the Future Studies. Sustainability, 15(13), 9971.
- [19] Della Spina, L., 2020, Adaptive sustainable reuse for cultural heritage: A multiple criteria decision aiding approach supporting urban development processes. Sustainability, 12(4), 1363.
- [20] Pendlebury, J., 2008, Conservation in the Age of Consensus. (London: Routledge).
- [21] Ahmed, A., Ge, T., Peng, J., Yan, W. C., Tee, B. T., and You, S., 2022, Assessment of the renewable energy generation towards net-zero energy buildings: A review. Energy and Buildings, 256, 111755.
- [22] Vardopoulos, I., and Theodoropoulou, E., 2020, Adaptive reuse: An essential circular economy concept. Urban Inform, 289, 4-6.
- [23] Li, J., Krishnamurthy, S., Roders, A. P., and Van Wesemael, P., 2020, Community participation in cultural heritage management: A systematic literature review comparing Chinese and international practices. Cities, 96, 102476.
- [24] Yang, H., Qiu, L., and Fu, X., 2021, Toward cultural heritage sustainability through participatory planning based on investigation of the value perceptions and preservation attitudes: Qing Mu Chuan, China. Sustainability, 13(3), 1171.
- [25] Yi, Y., Siow, M. L., Ibrahim, R., and Abdul Aziz, F., 2024, Understanding the Role of Tourist-Oriented Villages in Promoting Rural Tourism in China: Integrating Rural

- Landscapes and Tourist Services. Journal of Quality Assurance in Hospitality & Tourism, pp. 1-41.
- [26] Kee, T., 2019, Sustainable adaptive reuse—economic impact of cultural heritage. Journal of Cultural Heritage Management and Sustainable Development, 9(2), 165-183.
- [27] Esparza-Huamanchumo, R. M., Botezan, I., Sanchez-Jimenez, R., and Villalba-Condori, K. O., 2024, Ecotourism, sustainable tourism and nature-based tourism: An analysis of emerging fields in tourism scientific literature. GeoJournal of Tourism and Geosites, 54, 953-966.
- [28] Della Spina, L., 2023, A Prefeasibility Study for the Adaptive Reuse of Cultural Historical Landscapes as Drivers and Enablers of Sustainable Development. Sustainability, 15(15), 12019.
- [29] Chenavaz, R. Y., Leocata, M., Ogonowska, M., and Torre, D., 2022, Sustainable tourism. Journal of Economic Dynamics and Control, 143, 104483.
- [30] Jamhawi, M., Mubaideen, S., and Mahamid, B., 2021, Industrial heritage: Towards a sustainable adaptive reuse of wheat milling heritage buildings in Jordan. Journal of Cultural Heritage Management and Sustainable Development, 13(2), 335-350.
- [31] Ingrassia, M., Bacarella, S., Bellia, C., Columba, P., Adamo, M. M., Altamore, L., and Chironi, S., 2023, Circular economy and agritourism: A sustainable behavioral model for tourists and farmers in the post-COVID era. Frontiers in Sustainable Food Systems, 7, 1174623.