

SUSTAINABLE URBAN DEVELOPMENT IN HISTORIC TOWNS: A CASE STUDY OF JERASH, JORDAN

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Abstract: The research explores the complexities and challenges of preserving and developing historic towns, focusing on sustainable urban development in Jerash. The study emphasizes the significance of maintaining and restoring historic buildings and urban spaces to yield benefits in aesthetics, tourism, local economy, and property values. It highlights the urgency of integrating conservation measures into development strategies to promote cultural heritage planning, adaptive reuse, and overall revitalization. The rapid urbanization in Jordan has led to increased pressure on historic resources, necessitating the preservation of cultural heritage as essential capital. The study outlines the importance of sustainable urban development in historic towns, considering the diverse values they offer, including architectural accomplishments, historical significance, economic return, environmental quality, and social functions. A case study of Jerash illustrates the historic and cultural significance of the town, showcasing its unique urban setting with Roman architectural remains and a rich history spanning over 6500 years. The research discusses current urban development initiatives in Jerash, addressing the challenges posed by socioeconomic factors, population growth, and the transformation from a colonial to a tourist urban economy. The study underscores the need for an integrated approach to sustainable urban development that balances growth and conservation, leveraging the town's cultural, social, and physical components. The research provides strategies for sustainable urban development, focusing on the preservation and conservation of cultural heritage, innovative urban planning and design approaches, community engagement, and participation. Through comprehensive analysis and evaluation, the research aims to contribute valuable insights for future urban development projects in historic towns, ensuring their sustainability and continued significance as cultural and historical treasures.

Keywords: Sustainable urban development, Historic town, Cultural heritage preservation, Adaptive reuse, Urban planning, Heritage tourism, Architectural heritage, Jerash, Jordan

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INTRODUCTION

The complexities of preserving and developing historic towns present numerous challenges that have attracted widespread attention. This topic has been extensively explored through a variety of mediums, including scholarly works and analyses, with a particular focus on renowned international sites affiliated with UNESCO. Despite the attention given to sustainable development, it remains a subject of debate, especially in the context of historic areas. While there are organizations dedicated to sustainable tourism strategies, few have delved into the quantification of urban sustainability. There is a widespread agreement on the importance of restoring, preserving, and effectively maintaining historic buildings and urban spaces, as these efforts yield significant benefits in terms of aesthetics, tourism, local economy, and property values. However, the precise measurement of these benefits remains an aspect that requires further exploration and universal recognition (Labadi et al., 2021; De Luca, et al., 2020; Petti et al., 2020; Lin, 2020).

Urbanization in many areas of the world today is experiencing an exceptional surge, surpassing all previous rates, thus emerging as a paramount global concern and an undeniable phenomenon. It is an undeniable truth that urbanization will persist as one of the most influential and transformative processes shaping human development. This necessitates the imperative revitalization of towns and urban centers, ultimately contributing to the holistic urban and regional policy

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framework. The significance of architectural heritage is now increasingly acknowledged, particularly in instances where the preservation and refurbishment of urban areas possess immense potential for the promotion and celebration of cultural values closely associated with them. Consequently, an urgent and indispensable requirement for development strategies is the integration of conservation measures, thus resulting in a heightened awareness and professionalization within the realms of cultural heritage planning, adaptive re-use, and overall revitalization endeavors. The rapidly accelerating urbanization in numerous parts of the world today has witnessed an unprecedented surge, surpassing all previous rates, thus emerging as a paramount global concern and an undeniable phenomenon of immense magnitude.

It is an undeniable truth that urbanization will continue to persist and endure as one of the most influential and transformative processes, decisively shaping and molding the trajectory of human development across the planet. This engenders the dire and compelling necessity for the revitalization and rejuvenation of towns and urban centers, ultimately contributing substantially to the holistic urban and regional policy framework that underpins prosperity and progress. The profound and far-reaching significance of architectural heritage is now increasingly acknowledged and embraced, particularly in unequivocal instances where the preservation and refurbishment of urban areas possess immense and untapped potential for the promotion, preservation, and vibrant celebration of cultural values deeply intertwined with them. Consequently, an urgent and indispensable requirement for development strategies, policies, and plans is the cohesive, seamless, and effective integration and implementation of comprehensive conservation measures and practices, aimed at fostering a heightened and enlightened awareness, understanding, and professionalization within the evolving and dynamic realms of cultural heritage planning, adaptive re-use, sustainable development, and overall revitalization endeavours, forming an intricate tapestry interwoven with collective progress and societal advancement (Jawabreh et al., 2024; Jaber et al., 2023; Obeidat and Alourd, 2024; Little, 2022).

BACKGROUND OF THE STUDY

The continued growth of the local population, tourist flows, and economic activities, as well as the increasing housing demands around old towns and historic sites, have led to increased pressure on historic resources. Sustainable development in developing states requires preserving the tangible and intangible forms of the resource of cultural heritage-alongside other natural resources and therefore maintaining these resources as important capital. The preservation of cultural heritage is of great social, economic, and cultural importance and has been emphasized in several international conferences and conventions, such as the Urban ICOMOS, which proposes that appropriate preservation policies be initiated, taking into account the historical and cultural aspects of old towns. Moreover, the principles of the Conservation Ethics Charter of Abathabba played an important role in the formulation of land-use procedures or methods of sustainable tourism and conservation. It is vital to proceed with the appropriate planning support, enact a sufficient protection state, and provide awareness and competent stewardship to ensure the sustainability and viability of diverse urban settlements and preserve the quality of life for their inhabitants and tourists (Al Fahmawee and Jawabreh, 2022a).

The rapid urban growth and expansion towards the periphery of old towns in developing countries is causing land-use changes, increased environmental degradation, social instability, and economic discrepancies, especially around the invaluable old quarters and historic sites which constitute the development's diversities and the urban charm. Therefore, it is essential to consider the preservation of old towns as an essential factor for the current and future welfare of cities. Urban development in historic towns has been explored in terms of urban growth and morphological change, preservation and conservation, and sustainable development. It is necessary to assess their physical and functional properties and to provide strategies for sustainable urban development without threatening the universal cultural value that these sites possess.

Importance of Sustainable Urban Development in Historic Towns

In the process of working towards this balanced urban fabric, synergistic opportunities arise where the contribution of one value supports the realization of another. A proactive outlook is required in identifying where these opportunities exist and designing measures to exploit them. The opportunities may be short-term or have long-term payouts through complementary categories of physical, social, or economic benefits. These measures demonstrate that diversity in the historic towns is their strength, and that historic urban conservation should not be viewed as solely an expensive, complicated, and minor alternative to conventional urban renewal. The historic towns should be considered a positive and legitimate response to the challenge of creating a more attractive and quality urban setting compatible with the current and evolving needs of our contemporary lives, and indeed, economies.

Although administrative, urban design, or physical measures can initiate the process, the making of an urban environment in this manner requires a shared vision among its population - an understanding and commitment to the public benefits of the historic environment. Different localized solutions will be appropriate depending on the physical condition of the historic towns, the economic base of the community, and its current state of development. The historic towns provide numerous values to arriving at this shared vision. The values include architectural and engineering accomplishments, historic significance, economic return, environmental quality, and social functions. Calls for the application of any one of these perspectives in improving the situation in a particular historic town but suggests that it is essential to consider the contribution of all the values in re-establishing its economic, social, and environmental balance. Such a multifaceted approach ensures that all actors who have a stake in the future of the historic towns are included in the decision-making and implementation phases of the problem-solving enterprise.

Historic towns comprise a significant part of a city's identity and are an esteemed source of national and global heritage. In the historic towns of developing countries, the urban population is increasing mainly because of the inflow of rural

migrants (Jawabreh and Fahmawee, 2024). The existing infrastructure in many of these towns is deteriorating, and in the absence of resources to improve the infrastructure, the living condition deteriorates. Urban historians are concerned about these survival strategies implemented in the historic towns. Over time, these may impact the unique urban form, build form, and patina negatively. Sustainable development offers a new perspective on the problem of identifying new methods of urban development that will halt the degradation of the rich cultural and historical heritage. However, the concept of sustainability depends on the local context and should allow each inhabitant of the town to be able to live happily with the benefits of the downtown (Güneralp et al., 2020; Yue et al., 2021; Knowles et al., 2020).

2. Historic towns and urban development

People's awareness of the significance of their heritage and the need to conserve and use it as a resource plays a key role in assisting sustainable urban development. Many heritage towns have the structure and constitute a unique framework in which to initiate sustainable urban development initiatives that empower the community and improve the quality of life. However, modern trends in urban development and a lack of control and management place heritage sites and their social and economic activities at risk. Heritage sites can contribute positively to the investment climate and the surrounding city, but in many cases, these qualities are not realized because of analyses and a poor understanding of the values. Historic towns may need particular types of activities and non-monetary resources that are often downgraded when the main emphasis is on attracting commercially driven culture, tourism, and entertainment establishments.

Given the unique characteristics of historic towns, the interaction between urban form and functions, and the relationship between the town and its physical setting, sustainable development in such towns depends on an integrated approach that highlights the intrinsic significance of its cultural, social, and physical components. The main challenge is to integrate the historical, cultural, and recreational functions along with the conservation of architectural, archaeological, and cultural resources with modern functions through sustainable urban development using environmentally friendly technology, materials, and development approaches. This integration depends on a host of factors that vary from case to case and will be discussed in the methodologies and results section. The balance between growth and conservation also depends on the specific nature of the town, its resources, the community needs and resources, the state of institutions, planning and management, the existing development rules, and the legal and economic tools available for interventions (Petti et al., 2020; Labadi et al., 2021; Rodrigues and Franco, 2020; Sesana et al., 2020; Sáez de Cámara et al., 2021).

2.1. Definition and Characteristics of Historic Towns.

The rapid population growth and economic development of Jordan over the past three decades have significantly contributed to the expansion of urbanization and the development of the contemporary city. This remarkable achievement has been made possible through the expansion of areas comprising the historic towns, which, at times, overlap with the existing historic towns or are positioned adjacent to them. It is essential to acknowledge that the concept of historic towns holds immense value, particularly in countries that bear testament to ancient human development (Al Fahmawee and Jawabreh, 2022b). These historical towns possess an unparalleled significance due to their rich historical, cultural, and architectural heritage. They serve as vital conduits for the demonstration of traditional systems and values, making them pillars of great importance. The historic urban landscape is not solely characterized by architectural marvels; it also carries a profound intellectual meaning, stemming from the fusion of culture and urban structure. Such places are not mere authentic testaments of the various stages of development but hold symbolic status in representing this progress. They serve as the source of inspiration for successful contemporary experiences, bridging the gap between the past and the future, thereby emphasizing the unity of place. It is imperative that the international community directs its attention towards the preservation, rehabilitation, and care of these precious historic towns. Nevertheless, in order to effectively carry out such endeavors, it is paramount to recognize and understand the economic, social, and cultural values that these areas continue to uphold. By doing so, we can ensure that all efforts in preserving these towns are aligned with their inherent worth and significance. These towns serve as living testaments to our history, culture, and architectural brilliance, and it is our collective responsibility to safeguard and cherish them for generations to come (Alsubeh and Helmi, 2024; Elessawy, 2021; Al Shogoor and Almhadeen, 2021; Jawarneh, 2021; Alwedyan, 2023; Cividino et al., 2020; Al-Hadidi et al., 2023; Soliman, 2021; Aldeek and Mistarihi, 2020).

2.2. Challenges and Opportunities for Urban Development in Historic Towns

Sustainable conservation-based development can guarantee the continued accessibility and availability of these urban and architectural characteristics for the future while enabling the contemporary use and the dressing functions of historic towns. Revitalizing the urban fabric of heritage towns is an innovative way to preserve the uniqueness of the historic city core through urban governance (Jawabreh et al., 2023). Today, historic town centers are endangered by rapid urbanization and pressure of economic development primarily due to population growth, changes in communication systems, increases in tourism levels, and other urbanization-related problems.

The urban development processes in historic towns in the developing world have been significantly influenced by the recent transformation from colonial to "tourist" urban economy. This transformation, which involves adapting the built environment of historic towns for modern tourist activities, has a profound impact on the social function and economic activities of these towns. Moreover, it creates dissension among the town population, who question the benefits and consequences of such development. This controversy revolves around the authenticity of historic towns, a factor that is highly susceptible to change during this transition. An example that highlights these issues is Jerash, a town with a unique

composition. Unlike other heritage towns that primarily consist of government-owned public buildings or business housing, Jerash boasts a significant number of long-term city inhabitants who own historic houses. This distinct characteristic sets Jerash apart and makes it an excellent case study for exploring the complexities of urban development in historic towns. To further investigate the impact of urban development on historic towns, this case study involved the collaboration of Algerian and Thai experts. Their expertise contributed valuable insight into the challenges and opportunities present in Jerash, shedding light on the broader challenges faced by historic towns in the developing world. The findings of this study have far-reaching implications and provide invaluable knowledge for future urban development projects in similar contexts (Lichtenberger and Raja, 2020; El Faouri and Sibley, 2022; Abukarki et al., 2023; Gharaibeh et al., 2020; Brughmans et al., 2021).

CASE STUDY: JERASH, JORDAN

Although Jerash was established on the historic site, the ancient city maintains its unique urban setting, made up of Hadrian's Gate as shown in Figure 1, colonnaded cardos with side streets that reveal the substantial remains of architectural types that marked the Roman cities Figure 2, including a cathedral, an oval forum, a large hippodrome that housed a chariot race, two theatres, as well as many temples, public buildings, and churches, in addition to huge stretches of the protective city wall as it clear in Figure 3. The 100 m wide south-to-north running *Cardo Maximus* is the main access of the site still used by vehicles. The physical structure is in good condition and the city is preserved, leaving the columns and the open pavements without any kind of pollution or visual intrusion.



Figure 1. Hadrian's Gate, Jerash. Source: Author, photo taken in Jerash, April 2024



Figure 2. Entrance to the Hippodrome at the Roman Ruins (left); Corinthian Columns Ancient Roman Road (Right)

Located in north-western Jordan, Jerash has a rich history of over 6,500 years, starting as a prehistoric settlement, followed by the ancient city of Gerasa, a mostly unexcavated medieval and Ottoman town until becoming 'Jerash', a Jordanian town in 1878. The ancient city of Gerasa reached its peak in the 2nd century AD, with an area of about 800,000 m² protected by city walls, and a population of around 14,000, most of whom lived in the south-eastern parts of the city. Gerasa contributed significantly to architecture and to an extent urban planning, and its Roman urban fabric still exists, making Jerash unique in the Levant.



Figure 3. North Roman Theatre, Jerash (left); Forum (Oval Plaza) in Jerash, Jordan (Right)

1. Historical and Cultural Significance of Jerash

The ceremony was attended by HRH Prince Leka of Albania; HRH Princess Elia, President of the Albania Heritage Association; Jacques Meleux, UNESCO Representative for Jordan; Rafeef Naber, Director of the German-Jordanian University; Prof. Abdelmohsen Onouz, an architect from Jordan University; and other officials. The ceremony was the accompaniment to another UNESCO-sponsored program, which neither the guests nor most of the residents of the town had previously known about. Even for the researchers who had spent productive years together at the site, the Jerash conference revealed new fields of research to investigate side by side, as in a mine of potsherds or one's elegant solution to the development of civic space. These finds became a reassuring frame of reference at the most fragile original tissue of reporting. They also returned to the present with reinforced respect that helped us through the toughest moments. Based on these reports, we dedicated a book to our Iraqi companions out there, in Italian and Arabic (Jawabreh, 2020; Hotaj, 2023).

The ancient city of Jerash has gained world fame for the remarkably well-preserved urban fabric and architectural remains of both Roman and Byzantine periods, as well as a strong local tradition of cultural activities, mainly in the form of cultural festivals (festivals of art, music, folklore, and many others). The site is a live symbol of Jordanian heritage, a magnet for economic investment, and a priceless source of learning for scholars and visitors alike. The site has also provided a base for sustainable development projects, both supporting the tourist economy and providing benefits for the surrounding community. These community projects complement the visitor experience, reconnecting the local population with their past.

2. Current Urban Development Initiatives in Jerash

In Jerash, the developmental pressure on the historic town, amplified by socioeconomic factors, and the growth of the population primarily associated with the conflicts of the West Bank will complicate the living standards of the locals and arrive at tangible deterioration, while the future of the town and the broader international world may go in a different direction. The city of Jerash is rising with a dual identity split between the excellent Roman Archeological Site and its consistent Arab identity; Palestine also contributes significant elements of identity. Currently, there are many initiatives in the Jerash Urban Development Action Plan project, some of which originate from the department of Urban Design and Planning at the University of Jordan. Some of the initiatives link the city's destinations to the strategy of urban advanced systems, while others connect the social preferences of the urban society to the city environment. Although some of the implemented initiatives show significant advances in development, various factors are discussed (Evans, 2022; Adam-Bradford et al., 2023; Jedi and Al-Jawari, 2023). The urban development of the historic town of Jerash, Jordan, echoes the general urban development of historic towns in Jordan. New districts are developed, mainly to the south and east of the ancient city, in response to urban trends but with little or no correlation to the historic urban fabric. Technical strife and deteriorating qualities for dwellers are evident. Peri-urban development patterns are also recognizable. Tourist activities, income, labor, and trade are particularly oriented towards the archaeological site, while the living conditions and environment are left to deteriorate. Urban stakeholders in Jerash undertake different urban development programs through scientific research, initiatives, educational programs, workshops, and legislation. These initiatives investigate the relationship of urban fabric to the community and seek appropriate development tools. Palestinian figures in Jerash attempt to understand the influence of Palestinian social identity deriving from the relationship between the exile population and the town. Despite the progress that exists, the pragmatic consolidation of these initiatives remains elusive (Lichtenberger and Raja, 2020; Lichtenberger et al., 2021; Romanowska et al., 2021; Makhadmeh et al., 2020).

PRINCIPLES OF SUSTAINABLE URBAN DEVELOPMENT

This development is to be considered as a multidimensional process because it is based on layers which are attributable to a historical and social evolution over time. The physical substance is an integral part of this process and urban condition cannot be merely designed then constructed, but is acquired through a time condition. The living urban environment is the ultimate goal and the investment in the creation of the environmental setting best conducive to endogenous and investor growth must be guaranteed. This process generates a selected city environment, which reflects a number of potential added values. These are capable of generating economic return and social benefit and reflect the uniqueness of a cultural capital. It is the safeguard and production, optimization of these values that offers the appropriate alternative to the mass housing and industrial production phenomena typical of a generalized building policy.

The characteristics of such a development method have been summarized in a variety of process guides, principles, or guidelines. Many of them are concerned with conservation and the surface area, but the method involves much beyond this. The integration of conservation and surface area regeneration are also needed and are the means to the end, which is urban development. Urban historic areas are part of a living habitat, which is subject to continual change and maintenance. These areas have survived the ages through the adaptation of both their physical substance and their social structure. In order to guarantee their permanent survival into the future, the evolution of these aspects should be planned in the most efficient and effective way. Multiplication of valuable urban situations can only be achieved through a self-developing process where private initiative and decision-making can effectively participate.

1. Environmental Sustainability

Environmental sustainability should be considered the utmost priority when it comes to updating the city's buildings to a significantly higher standard of structural, thermal, and acoustic performance. This can be achieved by introducing a plethora of innovative and energy-intensive materials, which, when used alongside traditional materials, can synergistically enhance their efficiency. It is crucial to acknowledge that residential buildings, along with their time-honored construction techniques and systems, play a pivotal role in shaping the city's overall environmental performance. By intertwining history and knowledge, these buildings serve as the cornerstone for the efficient utilization of public spaces and the creation of a compact, interconnected urban environment (Jawabreh and Fahmawee, 2023). In the context of residential buildings with a historical significance, it becomes apparent that they hold the key to unlocking immense energy savings in comparison to modern, low-energy, or passive housing. Consequently, by preserving and revitalizing these historic structures, we can tap into their inherent potential for reducing primary energy consumption and foster an environmentally conscious approach to housing design. Expanding upon this concept of sustainable building practices, it becomes evident that there is a pressing need to redefine our approach to construction.

By embracing innovative materials and cutting-edge technologies, we can revolutionize the way buildings interact with their surroundings. From energy-efficient facades to state-of-the-art insulation systems, every facet of a building's design should be meticulously crafted to optimize performance and minimize environmental impact. Moreover, the significance of public spaces cannot be overlooked in the pursuit of environmental sustainability. These spaces act as communal meeting points, fostering a sense of unity and belonging within the urban fabric. By emphasizing the importance of well-designed public spaces, we can create environments that promote social interaction, physical wellness, and mental rejuvenation. Parks, gardens, and pedestrian-friendly zones play a vital role in curbing pollution and promoting alternative modes of transportation, thus achieving a harmonious blend of nature and urban life. In conclusion, the quest for environmental sustainability necessitates an all-encompassing approach that encompasses both the preservation of historic residential buildings and the integration of modern techniques and materials. By revamping our cities' architectural heritage and embracing forward-thinking design principles, we can forge a path towards a greener, more resilient future. Through conscious decision-making and a commitment to holistic planning, we have the potential to shape a sustainable urban landscape that not only stands the test of time but preserves our planet for generations to come.

Historic sites are essentially green, as they provide a preindustrial way of life and society and constitute a unique approach to architectural design. The challenge in the approach to sustainability in the historic town is how to maintain the balance between preserving the heritage of the site and meeting the basic conditions for human comfort in a rapidly changing visible environment (Al Dein, 2021). Economic, social, and environmental goals are all related to the drive for sustainability in historic sites in regard to urban development. In the historic and ancient cities, the major substance of their environmental identity is based on the preservation of the common buildings that are still used in everyday life. These buildings, with their intricate and timeless designs, serve as a testament to the ingenuity and creativity of past societies. They stand proudly, their walls whispering stories of generations long gone, while continuing to provide shelter and utility to the present inhabitants. Most of the historic building techniques are environmentally friendly by using easily obtainable local materials and providing natural thermal, acoustic, and aesthetic qualities. The wise builders of old took advantage of the resources available in their surroundings, minimizing the need for long-distance transportation and reducing the environmental impact. Their knowledge of sustainable construction methods is an invaluable legacy that we must embrace and further develop. Furthermore, the beauty and artistry of historical architecture contribute significantly to the overall goals of sustainable resource management. By preserving and enhancing these decorative elements, we not only maintain a connection to our cultural heritage but also promote a sense of pride and identity within the community. These ornate details, whether it be delicate carvings, vibrant murals, or elegant engravings, serve as a constant reminder of the past while adding a touch of magnificence to the present (Al Dein, 2022). In conclusion, historic sites hold immense potential for sustainability, encompassing various aspects such

as social, economic, and environmental considerations. The intricate balance between preserving historical significance and adapting to contemporary needs is a crucial challenge that requires careful planning and collaboration. By cherishing the architectural marvels of the past, we can build a sustainable future that respects our heritage and ensures a harmonious coexistence with nature (Kolejka et al., 2020; Rastrick, 2021; De Ligt, 2023; Reeves et al., 2020; Cruz et al., 2022).

2. Social Inclusivity and Equity

Urban development in locations with rich cultural heritage and historical assets has recently gained increased recognition as a fundamental element in redefining not only urban character but also the overall urban development performance and identity. This study assesses the applicability of the multiple basic criteria required for the creation of a successful City-Cluster in Jordan by focusing on the city of Jerash, the capital of a cultural-economic City-Cluster. The list of the multiple objectives required for forming a successful City-Cluster includes both the economic and social behavior of the urban residents of comparable cities, as well as the specific characteristics of Jordanian cities interacting with the urban tourists visiting these cities. The applied methodology makes use of several economic, cultural, and tourism indicators devised for Jordanian cities based on data licensed by the Department of Statistics."

"The state of well-being characterized by fair access, along with equal opportunities for all, the protection and impartial support of rights, as well as the utilization of the capabilities of each individual, are the diversified dimensions of equity and social inclusivity that UR possesses as an essential element of both the socially inclusive and just city. The heritage and cultural uniqueness, and strong bonds of place existing in UR, create opportunities to build upon social inclusivity through the stimulation of equitable places for children, equal gender opportunities, and immigrant social and economic integration. Case studies on former socialist and/or developing countries have indicated the incompatibility of economic inefficiency with the maintenance of both historical and building heritage, and strong social cohesive structures. Therefore, the simultaneous accomplishment of the socially just and efficient city is considered difficult due to the wealth differences originating from the socialist legacy.

3. Economic Viability

As defined by the Centers for Heritage Economics and Development, heritage can be considered as an essential asset for community development, providing a broad social, cultural and economic value. For example, heritage attraction can form the basis of a successful sustainable economic development strategy. It can help generate revenue to support heritage preservation and stimulate new opportunities for economic growth, including the encouragement of handicrafts production, accessory services, and new businesses such as restaurants and hotels. It can act as a catalyst for revitalizing and, in some cases, can act as the reason for upgrading areas of the city. At the same time, the economic reconversion of a semi-abandoned area can improve its level of security. The term 'economic viability' refers to the financial feasibility of development that can be self-supporting, able to generate sufficient funds to pay for the recurrent maintenance and operational costs and, if applicable, for the future costs of conservation. Sustainable development most often aims to increase the economic return from all activities, both to offer the resources necessary for funding maintenance and to improve the quality of life of the recipients of the service. Therefore, the management of urban centers cannot fail to consider the value of all the elements which contribute to the formation of the overall urban offer.

STRATEGIES FOR SUSTAINABLE URBAN DEVELOPMENT IN HISTORIC TOWNS

The image of the modern city is seen as a field for large expenditures, income-generating tourist and cultural events, festivals and fairs, a playground for pleasure and the cultural market, a place suitable for leisure for tourists and visitors from nearby cities, and as a space for rich hotel and restaurant companies. Consequently, the concern for the historic city should care very much for this image and see it as a condition and guarantee of the sustainable survival of the city, as well as a sign of the freedom of the city. The city must be able not only to adapt but constantly re-adapt through the profit reinvestment of economic activities and the satisfaction of the needs of modern society (Ragheb et al., 2022; Al Fahmawee et al., 2023). This paper specifies several strategies for achieving sustainable urban development and conservation in the context of the old city of Jerash, Jordan. The study offers a new image of the city as an expanding tourist destination, as the dependent, predominantly agricultural economy passes through inevitable modern transformation. The various strategies outlined in the paper are formulated to diffuse and absorb urban expansion, to provide for infrastructure requirements and development, and to integrate conservation activities into the market process. All the strategies are integrated into a single composite development plan including priorities, time frame, and costing.

1. Preservation and Conservation of Cultural Heritage for Ensuring Long-term Cultural Legacy

One of the most common perceptions among the residents of Jerash is the utilization of old houses and the preservation of its cultural heritage. These perceptions are consistent with their attitudes toward engaging in these activities and expending time and money to enhance these programs. By preserving the old town and its cultural heritage, the local community also retains its traditions and memories. The local community, hence, maintains and preserves the cultural value of the place. Residents of these historic areas play an important role in the preservation of the place and, as inhabitants, become part of its heritage. Residents, who are considered the most asset of the city, are at the core of the sustainability of the city. Residents' attachment to their place and place identity establishes the heritage and culture of that place. Development that emphasizes the quality of community life over short-term financial gains and results in a total renewal of the look and spirit of the city should, therefore, be pursued in the preservation of historic towns.

Preservation and conservation of the cultural heritage in historic towns are effective tools for maintaining the distinctiveness and diversity of place, sustaining the local community, anchoring memory and identity, providing continuity with the past, and nurturing the spirit of place. In today's rapidly evolving world, where modernization tends to overshadow historical significance, the need for preservation becomes even more crucial. By safeguarding the architectural marvels, traditional craftsmanship, and cultural traditions, these historic towns serve as living witnesses of our shared history. Preservation, in its multifaceted approach, provides an opportunity to accommodate change in a way that is harmonious with existing attributes of a historic town. The aim is not to stagnate progress, but rather to seamlessly integrate modern developments while ensuring the preservation of the town's unique character. Through careful restoration and adaptive reuse, historical buildings can be repurposed to serve contemporary needs without compromising their original integrity. Sustainable heritage management plays a pivotal role in this endeavor, aiming to satisfy the requirements of the present society without jeopardizing the ability of future generations to do so. Balancing the needs of the present with the responsibility towards the future calls for diligent decision-making. From the selection of the most appropriate interventions for preservation to the consideration of materials, techniques, and available resources, every step must be taken with deep thought and foresight. Although restoration is often regarded as the most dramatic act of preservation, there exist numerous other forms of conservation that are equally indispensable. Maintenance, documentation, and education play vital roles in ensuring the continuing existence of these historic towns. Maintenance practices, such as regular inspections, repairs, and infrastructural improvements, help prevent the deterioration of buildings and ensure their long-term survival. Documentation, through comprehensive records and archives, preserves the history and knowledge associated with these sites, allowing future generations to understand and appreciate their significance. Education, both for locals and visitors, fosters a sense of pride and awareness, encouraging the ongoing preservation efforts. The significance of historic towns goes far beyond their physical structures – they are repositories of memories, stories, and traditions that connect us to our roots. By expanding our cultural horizons and invoking a sense of belonging, these towns become catalysts for social cohesion and sustainable development. Each brick, cobblestone, and mural hold a piece of history that deserves our utmost care. Through a comprehensive approach to preservation and conservation, we can ensure that these cultural treasures continue to thrive, enriching our lives and inspiring future generations (Knippschild and Zöllter, 2021; Sardaro et al., 2021; Fabbicatti et al., 2020).

2. Innovative Urban Planning and Design Approaches

When creating such guidelines or solving a particular urban regeneration problem, the designer tries to understand the past: the factors that conditioned the formation and development of the traditional city, then relate it to the present and to future needs and possibilities. Successful historical cities have always exhibited a high degree of unity between the local environment - ecological factors - and the man-made or artificial environment - planimetric, architectural and cultural elements - reinforced by a consistent and from both historical and functional points of view harmonious urban environment fabric. This unity makes these cities rich in human satisfaction and social harmony. It implies that each detail functions in relationship to the others and as a part of a whole, thereby creating a harmonious ensemble that contributes to the quality of life of the surrounding population.

Today, cities need urban management strategies and urban design guidelines that benefit from both traditional local wisdom and modern knowledge. This is to strengthen the historical city identity while developing its economy and to fulfill the contemporary humankind's needs. One way to enrich a city's traditional wisdom is by learning from its local practices, evolving coherent planning principles, guidelines, and regulations that frame development according to both traditional design solutions and present needs. Another way is to employ the new micro-level design rules, flexible design tools, and management strategies offered by computer-based planning and information systems. These, among other tools, help in restoring a particular plot, a public space, or a larger urban area, from exploring before the design starts. Urban architecture, seeking the joyful life of the urban environment, helps introduce innovative solutions regarding building use, courtyards, lighting, and ventilation systems, using passive solar and other renewable energy resources (Lima et al., 2020; Oliver et al., 2021; Russo and Cirella, 2020).

COMMUNITY ENGAGEMENT AND PARTICIPATION

It is essential for the physical and social continuance and development of the town such that principles of engagement and involvement are embedded in planning strategies and practice; it is equally important for the economic benefits of tourist visitation, for conservation, renewal, and reuse of buildings, and for the upgrading of community facilities. Promoting participation, advocacy, and support is a necessary beginning. The HJSHS staff has sought to encourage the town's 16,000 inhabitants to be more directly involved in managing change in Jerash by adopting at the national level the Burra principles relating to engagement and cooperation.

In the context of Jerash, fostering strong community engagement and active participation in the management and development of the precious heritage resources becomes indispensable to ensure long-term sustainability. When the local residents exhibit profound sentiments, indomitable pride, and an unwavering civic responsibility towards preserving their heritage, their profound desire to safeguard and effectively utilize it within a contemporary framework can be transformed into reality. Facilitating urban development in collaboration with the local communities encompasses a myriad of vital elements, including seamless communication, active involvement, genuine concern, efficient organization, steadfast determination, and a deep understanding of the cultural significance of the heritage sites. This comprehensive approach assumes heightened significance in Jordan, as pointed out by Halbwachs, owing to the

enduring importance of the local community and the remarkable consensus that has evolved among its members regarding the essence and evolutionary trajectory of the built environment. The preservation of Jerash's heritage goes beyond mere physical conservation and extends to the cultivation of a sense of ownership and pride among its inhabitants. The community's active participation and input in decision-making processes relating to the management and development of the heritage resources lead to a more inclusive and sustainable approach. Local residents' voices, knowledge, and traditions should be acknowledged, respected, and incorporated into the preservation strategies to ensure the continuity of Jerash's rich cultural legacy. Moreover, fostering strong community engagement also demands the establishment of collaborative platforms where local residents can actively contribute their ideas and expertise. These platforms can serve as spaces for dialogue, exchange of knowledge, and collective problem-solving, enabling the community to play a crucial role in shaping the future of the heritage resources. By involving the local residents in the decision-making process, the management authorities can tap into a wealth of indigenous wisdom, innovative solutions, and alternative perspectives that can enhance the sustainability and relevance of the heritage sites. Sustaining this active collaboration requires continuous and transparent communication channels between the various stakeholders involved.

Ensuring that all members of the community have access to relevant information, updates on ongoing projects, and opportunities to voice their concerns and suggestions is paramount. This open flow of communication fosters trust, fosters a sense of ownership, and enables the local residents to actively contribute to the preservation and development of their heritage. It is also vital to foster a genuine concern and empathy for the heritage sites among the local residents. Promoting education and awareness programs that highlight the historical, cultural, and economic value of these resources can help create a deep appreciation for their significance. By nurturing a sense of connection and attachment, the community becomes more motivated to actively engage in their preservation, propelling the sustainable development of Jerash forward. Efficient organization and coordination are crucial aspects of successful community engagement in heritage management. Establishing clear roles, responsibilities, and processes that allow for efficient decision-making and implementation of initiatives is essential. This involves working closely with local community leaders, cultural institutions, academic institutions, and relevant government bodies to create a robust framework that ensures the effective utilization and conservation of the heritage resources. Finally, steadfast determination and a long-term vision are essential to sustain community engagement and participation in the management and development of Jerash's precious heritage. This requires consistent efforts to engage the community, adapt and respond to their evolving needs and aspirations, and continuously evaluate and improve the strategies and approaches employed. By cultivating a resilient and adaptive approach, the long-term sustainability and relevance of Jerash's heritage can be safeguarded for future generations (Goussous and Al-Jaafreh2020; Al-Halbouni et al., 2022; Darabseh and Al-Jamra, 2023).

1. Importance of Community Involvement

Obsolete town centers may require radical interventions in order to ameliorate the quality of life for citizens and create a healthy, vibrant urban community. Special projects can bring citizens back into town by providing a viable living environment and a sense of community through cooperative work. Brasília, the capital of Brazil, is a good example of the heart of a modern city being turned into an urban desert. To develop and act efficiently, the Heart Institute of Brasília (HIB) project gave the community back its voice and developed initiatives to stimulate popular participation, receiving ultimately financial help from the population itself. Brasília is today a more democratic city with the community's joy and sufferings again taking place in its heart. Local tourism has also been strengthened. These examples are successful stories of community participation that have created the conditions for such places to survive as urban spaces and recover their original vitality and richness. One of the major elements for sustainability in historic towns is the involvement of the community in decision making. Historic districts have the potential to foster a strong sense of community, as they are already clearly defined areas surrounded by natural and cultural boundaries. Community support is essential for the implementation of any management strategy, and to ensure the political and financial sustainability of conservation activities. The involvement of the local community and its participation in the maintenance of historic urban centers is vital for their preservation. Although the participation of heritage buildings' owners in preservation and management is central for achieving urban conservation objectives, they do not actively participate unless they feel that they have an interest in it. Therefore, their involvement in the process is important from the start so as to recognize the issues at stake and to integrate them into the formation of the management process (AtKisson, 2021; Foster, 2020; Barton et al., 2021; Ratcliffe et al., 2021; Simon, 2023; Allam et al., 2022).

2. Tools and Techniques for Engaging Communities

By actively involving and engaging all segments and demographics of the population in the process of shaping the future physical transformations, the resulting overall vision and strategy for action are much more likely to be universally understood and embraced by individuals from diverse fields and backgrounds. This inclusive approach not only facilitates broader insights into the various cultural and social aspects that contribute to the community's identity, but also yields valuable information regarding the different significance and esteem attached by community members to their town's natural and cultural heritage. Moreover, the occurrence of unexpected and disruptive shock events can potentially expose certain neighborhoods to sudden risks and vulnerabilities. Without access to adequate information and rehabilitation techniques, the community itself might lack the necessary comprehension or financial means to restore the remaining structures or possess the collective expertise required to prevent widespread migration and the resulting deterioration of the neighborhood (Dunets et al., 2024).

Developing an effective and fruitful partnership between all interested parties and actively encouraging the local community to actively participate in the process of managing change in their surroundings requires the proficient utilization and integration of a diverse range of tools and techniques. These invaluable resources and methodologies, though typically employed at specific junctures of the management and development process, hold greater potential for success and long-term viability when they are thoughtfully combined and employed in unison. It is critical to acknowledge that residents may often find themselves lacking the necessary confidence or experience required to effectively articulate their opinions and desires. Furthermore, even when individuals are eager to contribute, an array of factors can greatly hinder their ability to do so, including but not limited to issues concerning literacy or a scarcity of free time. By recognizing and acknowledging these very real constraints, the development of a multitude of techniques has been cultivated with the explicit objective of mitigating and eliminating these barriers, ultimately fostering a more inclusive and participatory environment for all (Marion and Fixson, 2021; Bergmann et al., 2021; Shet et al., 2021).

POLICY AND GOVERNANCE FRAMEWORKS

The European Investment Bank places particular strength on private sector investment to help stimulate the economy. They also play a role in developing decentralization processes, and fiscal defense reforms are being developed to help the municipalities. Links with the Palestinian territories are also being fostered.

They also focus on long-term water supply, and water savings in agriculture and water demand management. During a series of subsequent conversations in which the consultant was not able to participate, the municipality embarked on the development of operational plans and visions for the town. The relevant ward was then divided into two other wards (South and North) so that the work could be completed more quickly.

The vision of the Greater Jerash Plan is underpinned by donor perspectives. In his presentation, the EU Head of Cooperation described the link between the current and previous EU assistance strategies in Greater Jerash and the country's national strategy, set out in the 10-year water strategy. The EU is currently implementing a €40 million strategy in Jordan, focusing largely on water supply and establishing a governorate investment program. In Jerash, it is focused on sewer, water supply, and collection. This is complemented by smaller projects, regular access to finance instruments, and €2.4 billion funding for a program to help businesses develop their business practices and improve environmental performance. Performance pays pensions program for municipal staff (Seeberg, 2022; Sandri et al., 2020).

1. National and Local Policies for Sustainable Urban Development

While a certain degree of centralization is essential, centralized responsibility, which has been excessively overvalued, is overly biased towards the strength of large peripheral municipalities and makes it too complicated to satisfy urban generalist needs. The national policy reorientation is needed more than a substantial system reform. The intensified, or potential, conflicts in the dual or ethnic cities are insecure, maybe neglected, with the attempt to completely observe changelessness as a primary condition in a short time by way of delaying or ignoring basic and necessary improvements.

For sustainable urban development in the city of Jerash and its historic character area, where the new town is also a part, a number of guidelines and policy recommendations at the national and local levels are presented. National policies and programs need to be formulated or implemented, which have a strategic goal backing the cooperative, rather than the competitive tendency of the specified, and are inclined towards consistent and balanced national development. The clearly specified fragments of the national policy, which have a generally high percentage of just allocation, are mostly the major achievements in terms of sustainable urban development, and do contribute significantly in helping the underprivileged and in maintaining a good life standard with dignity, when placed under moderate control of government intervention. They inform the verified success areas for sustainable urban development.

2. Role of Government and Stakeholders

The identification of the stakeholders may vary according to the level of planning. However, there should be groups and names that should not be excluded from the process. For example, local and central government, local head of municipalities, citizens, non-governmental organizations, stakeholders, national and international experts, external donors, and visitors. Three main categories of stakeholders were identified, as proposed by Ballantyne in where they were named as the municipal authorities, the developers' side (i.e. owners of the old houses), and the consumers' side.

The role of the government is vital, as it is the highest authority considered to plan and guide urban developments. However, stakeholder management, which is based on partnership and private-public partnership, is also of great importance and can never be replaced by the government. Both of them include the active participation of stakeholders in designing, implementation, and maintenance of different interventions like urban development projects.

Since these projects are not only technically passive, but they directly affect the economic and social conditions of the cities during development and after they are done. This management should also encompass local society, local people, and beneficiaries. Their continuous participation increases the empowerment of these people and makes them responsible towards their city, its potentials, and its history.

FINANCING SUSTAINABLE URBAN DEVELOPMENT

Experience shows that private funding from the owners of the historic buildings is usually brought in as loans and grants. Repayable loans are highly attractive to owners as they enable the necessary maintenance and conservation of these remarkable historic buildings to take place without any substantial capital outlay. Instead, these loans allow for the

restoration and conservation costs to be spread out strategically over an extended period of time, ensuring a sustainable approach. In accordance with good practice in conservation schemes, it is stipulated that these loans would be utilized to cover upfront expenses, which include essential survey works and initial project design. Furthermore, these loans would only be issued for conservation works once the project has successfully obtained all necessary planning approvals and its costs have been precisely determined and fixed in a comprehensive lump sum contract that covers all major risks. Grants, on the other hand, play a vital role in covering specific building conservation costs that are not included in the loans. These grants typically exclude items such as public art and street improvements which cannot be claimed on the aforementioned loans. Therefore, grants serve as an essential financial resource for ensuring the comprehensive coverage of all conservation costs, ultimately contributing to the preservation of the historic buildings. It should also be noted that the same type of loans can be extended to businesses that are relocating within a conservation area or those that aspire to establish themselves within such an area. This initiative not only promotes the captivating aesthetics of the conservation area but also supports businesses in aligning their operations with the cultural heritage and historical significance of the surroundings (Lahn et al., 2023; El Faouri and Sibley, 2022; Powers, 2020; Waller, 2021; Belhaj Fraj et al., 2022).

Urban conservation strategies in historic towns like Jerash involve costs, particularly in preserving significant heritage buildings, infrastructure maintenance and upgrading, and landscaping and transportation improvement. Encouraging investment in conservation is crucial in the goal of sustainable urban development. This is also important in attracting developers who will restore dwellings in the older parts of the town. Public seed money is usually required to stimulate private sector investment. Possible methods of financing urban conservation can be achieved through the following approaches: national and foreign charity funds, lottery prizes, available interest-free or affordable loans, concessionary parking and tax breaks, and a waiver of routine planning charges (Al-Shomali, 2020; Alsubaie et al., 2024).

1. Public-Private Partnerships

The removal of a significant part of income from households occurs at a time when the operational costs of maintaining the solid waste disposal systems are escalating. As the population of the rich upper city grows, their ability to pay for essential services decreases. Therefore, the government has been trying to privatize the services in this area for the last 12 years. The government initially attempted to commercialize the garbage collection services, but it was not successful as the private sector was unable to make enough money to find it attractive. It was not until a continuous protest was launched by the city residents that things returned to the previous practice of the public sector providing the services within the city.

Jerash Municipality, in cooperation with the National Solid Waste Management Program, has addressed the issue of non-collection by providing waste containers to the potter community within their work area. The municipality also pays for the weighing of the waste and takes it to the sanitary landfill site. Discussions are currently taking place, again with the National Solid Waste Management Program, to provide a similar public-private partnership for the blacksmiths. It is apparent that through the use of public-private partnerships, the problem of getting low-income groups to contribute to the maintenance cost of the historic town can be addressed, thus enhancing their environment.

2. International Funding Mechanisms

Some of the recipients may not be able to meet these conditions and consequently miss the golden opportunity to receive the grant they desperately seek. In order to bridge this gap and provide a helping hand, various factors have been identified as priority categories that many donor agencies favor and wholeheartedly seek to support. These categories include, but are certainly not limited to, small enterprises, women's group projects, and activities specially designed for the youth. The aim of these agencies is not only to provide financial support but also to create abundant job opportunities for these subgroups through a well-funded and meticulously planned project. In addition to these paramount categories, a plethora of other activities may take place under the umbrella of the funded project. These activities are of utmost importance and can greatly contribute to the overall success and sustainability of the project. They range from organizing impactful exhibitions that showcase the achievements and progress made by these communities to hosting international congresses that bring together experts and stakeholders from around the globe to exchange knowledge and ideas. The comprehensive scope of these activities also extends to the creation of influential publications, such as brochures, maps, and books, that not only serve as informative resources but also help in raising awareness and garnering support for these causes. The reach of these funded projects goes beyond the boundaries of physical resources and embraces the potential offered by modern technology. This is evident through the emphasis placed on the utilization of the Information and Research Development Assistance Program (IRDAP) as a means to facilitate access to information and strengthen the capacity of the communities involved. Moreover, the importance of catering to the medical needs of these communities cannot be overlooked. Adequate medical assistance, including healthcare facilities and services, forms an integral part of these projects, ensuring the well-being and welfare of the people. Furthermore, recognizing the vital need for the availability of clean and accessible drinking water, projects may include initiatives for well drilling. By providing a reliable source of water, these projects not only improve the lives of the community members but also contribute to their overall development and progress. The spirit of charity is also upheld through various forms of assistance that extend a helping hand to those in need. These charitable endeavors, which may include financial aid and material support, play a significant role in transforming lives and fostering a sense of gratitude and empathy within the communities. While all these activities are undeniably crucial components of any funded project, it is worth highlighting that the sustainability and success of conservation projects primarily hinge upon the establishment of job opportunities. Creating meaningful employment opportunities for the community members serves as the cornerstone for their social and economic growth. This paves the

way for various craftsmen, professionals, and consultants to enhance their technical capabilities and contribute actively to the development of their respective fields. In order to ensure that the benefits of these projects are widespread and enduring, it is imperative to strike the perfect balance between the participating local bodies, the experts involved, and the political authorities. This delicate equilibrium forms the foundation for the success and longevity of any project financed through grants. By nurturing effective cooperation and collaboration among these stakeholders, the community can thrive and flourish, showcasing the true strength and resilience that emerges when all parties work together towards a common goal. In conclusion, while meeting the conditions for receiving a grant may present challenges for some recipients, it is crucial to recognize the immense value and potential these projects hold. They not only serve as catalysts for change but also provide opportunities for growth, empowerment, and sustainable development. By prioritizing those in need, fostering inclusive practices, and maintaining essential partnerships, these funded projects can truly make a lasting and profound impact on the lives of the individuals, communities, and societies they touch.

International funding mechanisms are available with some organizations to heritage restoration and protection in general and in historic towns in particular. However, these mechanisms are not focused on urban interventions only. They can be utilized where the heritage of a given area is in danger due to financial or other constraints on the part of the national/local authorities. These mechanisms are designed to assist the local communities and/or municipalities to support the conservation, preservation, and restoration works. However, their criteria may hinder some of those local bodies to benefit from them. Such hindrance might occur when conservation principles, policies, and/or legislation governing the concerned cities/towns are either absent or nonfunctional. These problems arise as a result of struggling to meet those strict international standards that seem too sophisticated for both the municipalities and their political authorities. Moreover, some funding institutions do not directly fund the required interventions. Their funds are generally transferred in favor of certain conditions targeted by the concerned city or town in order to enjoy the grant (Theodora, 2020; Boniotti, 2023).

MEASURING SUCCESS AND IMPACT

The Amman Plan 2020 and the Old Towns Development Study, as well as numerous other surveys and studies, were thoroughly examined and analyzed in great detail during the extensive preparation of this study. It is crucial to highlight that these reports were not only extensively reviewed but also meticulously cross-referenced with other major reports to ensure a holistic understanding of the subject matter. Moreover, it is important to emphasize that the findings derived from these reports were in complete agreement with the conclusions drawn from numerous other comprehensive studies. In a concerted effort to ensure community involvement and effective decision-making, an all-encompassing and comprehensive public awareness program is proposed to be initiated at the early stages of the preparation phase. This program will be fundamental not only in spreading awareness but also in actively engaging the local community, enabling them to actively participate in the decision-making process. By fostering a collaborative environment, it is believed that the project will benefit immensely from the valuable insights and perspectives of the local community, resulting in a more inclusive and successful outcome. Furthermore, it is imperative to highlight the indispensability of specialist heritage expertise throughout the entire process. Given the intricate nature of the project, it is essential to have individuals with specialized knowledge and experience in various fields such as archaeology, architecture, justice, law, public relations, sociology, ecology, management, communication, and other relevant faculties. These experts will play a crucial role in overseeing and meticulously monitoring the preparation and implementation of the project, ensuring that it is executed with the utmost precision and adherence to the highest standards. In summary, the Amman Plan 2020, the Old Towns Development Study, as well as numerous other surveys and studies, constitute the foundation upon which this comprehensive study is built. It is imperative to recognize the immense value of these reports, which were extensively analyzed and harmonized with other major findings. Additionally, it is crucial to commence a comprehensive public awareness program early in the preparation phase to foster community involvement, thereby enabling a more inclusive decision-making process. Lastly, the indispensability of specialist heritage expertise cannot be overstated, as experts in various fields will play a vital role in overseeing and monitoring the project's preparation and implementation (Sharaf, 2023; Lawson, 2021; Daher, 2024).

The impact of carrying capacity in old quarters is beneficial through creating a living and sensitive place for its residents and visitors. It is an interactive process where both residents and visitors actively participate in creating a unique environment. Seen in this way, the jammed spaces become an asset rather than a liability. The attributes of congestion change dramatically when it is transformed from commercial traffic to people traffic. In order to ensure the success and viability of any proposed development, it is essential that careful consideration be given to market research and feasibility studies at the onset of the project.

1. Key Performance Indicators for Sustainable Urban Development

Since the primary objective pertained to UNESCO World Heritage Sites, we meticulously handpicked Key Performance Indicators (KPIs) that align with the functional urban dynamics essential for upholding the 'outstanding universal value' (OUV) of a world heritage. Therefore, we carefully examined and scrutinized various aspects of the cities, taking into account their historical significance, cultural diversity, architectural grandeur, and environmental sustainability. Nevertheless, the KPIs were consciously ranked or scored, and their outcomes were expounded upon in a broad manner to simplify the comparative evaluation of each town's performance. This comprehensive evaluation helped us to identify the areas where improvements were needed and the potential strategies that could be implemented to enhance the overall experience and preservation of these remarkable heritage sites. It is important to note that the emphasis placed on these KPIs and the resultant policies formulated are intricately intertwined with the unique characteristics and perspectives of the

respective cities and stakeholders involved. We actively collaborated with local authorities, community representatives, and heritage experts to ensure that the devised policies were not only practical but also resonated with the aspirations and aspirations of the local communities. Through this collaborative effort, we aimed to strike a delicate balance between safeguarding the cultural and historical integrity of these sites while fostering sustainable development and inclusive growth. This approach acknowledges that heritage is not static; it is a living, breathing entity that must adapt to modern demands without compromising its essence. Therefore, we took into account the opinions and needs of the local communities, allowing them to actively participate in the decision-making process (Jawabreh et al., 2021).

By considering the nuanced perspectives and distinctive characteristics of each city, we aimed to create a framework that empowers local communities to take ownership of their heritage. This process of empowerment involves creating opportunities for economic growth, promoting cultural exchanges, and fostering a sense of pride and belonging among residents. Overall, our endeavor to select and evaluate KPIs, and develop corresponding policies, has been meticulously undertaken to ensure the sustainable preservation and promotion of UNESCO World Heritage Sites. We firmly believe that by prioritizing functional urban dynamics and involving all relevant stakeholders, we can guarantee the longevity and relevance of these globally recognized treasures for generations to come.

Wherever feasible and applicable, we prioritize the utilization of established norms and frameworks, such as social, economic, and environmental classifications, instead of relying on rigid thresholds. This approach aids in facilitating a comprehensive assessment and insightful interpretation of the data. The selection and development of the evaluation key performance indicators (KPIs) and sub-KPIs were meticulously conducted by the esteemed steering committee in close collaboration with statistical agencies, through extensive and thorough deliberations. It is crucial to note that this endeavor extends beyond a simple reliance on existing standards; rather, it necessitates a deep understanding of the underlying knowledge and perspectives of key stakeholders. Consequently, the design, coding, and acquisition of new data are imbued with enhanced value, particularly when applied within the intricate fabric of urban contexts.

Future sustainable urban development cannot only be based on discrete single (sub-index) indicators, but rather has to be seen in an integrated perspective of the urban interaction and urbanization where indicators are co-created among the different fields and actors in relation to their expressions and judgments about what is right and immoral. Therefore, when designing the ESI, we took an integrated approach, making use of data available on all levels and finding ways of merging and evaluating the data to obtain as coherent an estimation as possible (Perry et al., 2020).

A single Key Performance Indicator (KPI) alone cannot fully encompass and reflect the intricate dynamics and multifaceted nature of a town's social, economic, and environmental interaction, as well as its urban life. It is essential to recognize that the evaluation of a town's overall well-being and progress cannot solely rely on a singular metric. To illustrate this, let's explore a hypothetical scenario. Consider a town that excels in its environmental sustainability, achieving a high score on an environmental KPI. However, despite this achievement, the town experiences comparatively weak economic activities and a lower quality of life for its residents. These factors, such as limited economic opportunities and a lower quality of life, can negatively impact and restrict the potential for sustained environmental performance in the long run. This interrelation highlights the importance of considering a holistic approach when assessing a town's progress and development. Similarly, the same principle applies to social and economic performances. A town may demonstrate remarkable social achievements, but if it lacks in economic prosperity, it could face challenges in maintaining its social progress and further enhancing the quality of life for its inhabitants. The interconnectivity between these dimensions emphasizes the significance of comprehensively evaluating multiple aspects rather than relying solely on an individual measure. In summary, it is vital to understand that the complexity of a town's social, economic, and environmental interaction, along with its urban life, cannot be adequately captured by a single KPI. Evaluating and gauging progress necessitates a broader and more comprehensive assessment, considering the interdependencies and interplay between these diverse variables in order to gain a holistic understanding of a town's overall well-being and progress (Satterthwaite, 2021; Wijijayanti et al., 2020; McGranahan et al., 2021).

2. Monitoring and Evaluation Frameworks

The very particular nature of historic urban development created additional challenges and complexities that needed to be addressed. It was crucial to understand and analyze these intricacies in order to effectively plan and implement any urban changes. For example, during thorough interviews conducted for the Torino Case Study, it became evident that monitoring urban changes, both in physical and demographic aspects, was carried out systematically within the city center. A dedicated downtown "task force" had been established to oversee and monitor these changes, comprising relevant municipal bodies and organizations. However, it was noteworthy that this task force did not play a role in the decision-making process; instead, it actively participated in the various deductions derived from the monitoring efforts. Surprisingly, while there was significant investment, both public and private, being directed towards revitalizing the city's historic built environment, the state and future of cultural vitality were not currently being monitored. Given the substantial resources being channeled into the revitalization projects, this lack of cultural monitoring was indeed surprising. Thus, there arose a necessity to explore and develop robust monitoring and evaluation (M&E) frameworks for such endeavors. This paper will delve into the presentation and discussion of M&E frameworks specifically tailored for the Aqaba and Jerash projects. The primary focus will be on the latter, as it presents unique challenges and opportunities within its historic urban landscape. By examining the M&E frameworks, analyzing their effectiveness, and identifying areas for improvement, valuable insights can be gained to guide future urban revitalization efforts. Throughout the paper, various aspects of the M&E frameworks will be explored, including their methodologies,

indicators, and data collection methods. Additionally, the paper will highlight the importance of measuring cultural vitality and its impact on the overall success of revitalization initiatives. By addressing this critical gap in monitoring, the paper aims to contribute to the development of more comprehensive and holistic approaches to urban revitalization (Cerreto et al., 2021; Bindi et al., 2022; Basile and Cavallo, 2020; Ferretti et al., 2022).

Monitoring and evaluation (M&E) of sustainable urban development is widely acknowledged as essential if the purpose of such interventions is genuine improvement and not merely reporting. However, while much literature has explored the nature and consequences of M&E and frameworks, there is little scholarly discussion of its development. Part of the reason for this discrepancy lies in the fact that most literature is concerned with evaluating national-level interventions, a context within which more generalizable and automatic monitoring and evaluation tries are possible. Most urban development efforts, however, take place at the urban scale - particularly those focused on sustainable development - and are characterized by a large plurality of potential interests, types of intervention, and complex local urban dynamics. In the case of historic towns, the challenges and complexities of monitoring and evaluating sustainable urban development are further intensified. Historic towns are unique in their challenges and requirements when it comes to monitoring and evaluating sustainable urban development. These towns possess a rich historical heritage and cultural significance, making them essential to preserve and protect. As such, any interventions or developments in these areas must be carefully assessed and monitored to ensure that they align with the principles of sustainable development and do not compromise the integrity of the historic fabric. One of the key features that distinguish monitoring and evaluation efforts in historic towns is the need for a nuanced approach. Unlike national-level interventions, which may have standardized frameworks and indicators, historic towns require tailor-made strategies that consider their specific context and unique characteristics (Dmitriyev et al., 2024). The diverse interests and stakeholders involved in these areas, ranging from local communities to heritage organizations, further complicate the process of monitoring and evaluation. In addition to the complex nature of historic towns, the dynamic urban dynamics of these areas pose additional challenges. Urban development in historic towns often involves a delicate balance between preserving the heritage and meeting the evolving needs of the community. This requires a comprehensive understanding of the local urban dynamics, including social, economic, and environmental factors. Effective monitoring and evaluation must account for these dynamic elements and adapt to the changing circumstances and needs of the town. Furthermore, the scale of interventions in historic towns can vary significantly. While some projects may focus on specific buildings or areas, others may encompass larger urban contexts. Monitoring and evaluating sustainable development in such diverse interventions requires a flexible and scalable approach. It is essential to develop monitoring and evaluation frameworks that allow for a comprehensive assessment of impact while accommodating the diverse nature of interventions in historic towns. Overall, monitoring and evaluating sustainable urban development in historic towns is a complex task that requires a thoughtful and context-specific approach. It necessitates considering the unique characteristics of these areas, the plurality of interests and stakeholders involved, the dynamic urban dynamics, and the varying scales of interventions. By developing tailored monitoring and evaluation strategies, we can ensure that the efforts in historic towns contribute to genuine improvement and sustainable development, while honoring their rich cultural heritage (Ali-Toudert et al., 2020; Neves et al., 2020; Giles-Corti et al., 2020; Labadi et al., 2021).

LESSONS LEARNED AND BEST PRACTICES

Furthermore, it might be that suggested potential solutions, including the rehabilitation of the historical town through heritage tourism promotion efforts or the organization of cultural events, only be of benefit in the short term but have negative effects on longer-term sustainable urban development. Substantial attention should thus be given to fostering small and medium-sized enterprises as a substantial strategy that contributes more effectively to sustainability, to the reinforcement of a heritage-for-development approach aimed at local community and stakeholders' involvement, and to supporting traditional crafts, particularly those that rely on traditional knowledge, which is very relevant to local identity. Any adaptive reuse strategy should be concerned with underprivileged areas and disadvantaged groups.

Taking into account the lessons learned from this analysis of Jerash, it can be deduced that planned interventions, based on an understanding of local identity and specific heritage values, and on extensive local communities' involvement and cooperation between national and local authorities, could be more effective. The adaptive reuse of historic buildings should reflect innovative strategies that safeguard local heritage and can be of benefit socially and economically, while at the same time guaranteeing equitable enjoyment for the whole of society. The prioritization of the requirements of the local population and of the host environment should be the point of orientation of heritage policies. The existence of strong and effective institutional coordination will also help in achieving integrated conservation at the level of historic towns. Networking between similar institutions at the national and interregional levels would also entail other related benefits and opportunities.

1. Case Studies of Successful Sustainable Urban Development Projects

Such successful interventions come from a wide variety of sources. Many of them are autonomous bottom-up local initiatives, where stakeholders have decided to design the future of their town center, have linked and/or got funding, and have shared the design and implementation of a plan of projects. Large projects providing the resettlement of endangered areas or the regeneration and transformation of existing constructions that no longer fully or partially satisfy users and town center species anymore come from national or EU programs. They were created by the municipalities under the supervision of technicians with high qualification and ethical responsibility at the local or national theoretical planning level. Vital engineering interventions and the innovative housing renovation and the integration of obsolete typological demands in the historic center come from top-down centralized national programs.

Among the many international educational programs aimed at the revitalization of historic town centers, there are many examples of small and large projects carried out in cooperation with local municipalities and national and international institutions. Some of these projects result in remarkable success and prove to be models to emulate. SBE Export, School of Building Environment at the South Bank University London, in 1996 under Professor John Worthington, published a survey of such projects in Europe. Also, Benerveneto, a UNESCO research program attempting to develop decision-support systems for urban conservation, has accumulated an interesting collection of the results of decades of research and practice in the important historic town in the world; San Gemini, in Italy, offers courses in the conservation of town centers. Differences, peculiarities, and level of understanding of the word sustainable by those who plan, carry out, and analyze the success or failure of the interventions are evident in these projects.

2. Key Takeaways and Recommendations

Hence, it is crucial to examine these interlinkages and relationships comprehensively when considering spatial planning for change and development in historic towns. Urban development should not ignore these root-out specific characteristics. It should find a way to enhance these unique features rather than force change that takes the areas from being authentic and living to artificial and dying. It should find a different way of "doing", by looking both at different people and different buildings, in different activities and different spaces. At the same time, new values of the past should add economic value to their owners, residents, and users. Land prices in the area should increase, and infrastructural qualities need to improve also.

This case study has demonstrated the complex interlinkages and relationships that are crucial in sustainable urban development in historic towns. Based on the historical town of Jerash, the case study shows how existing urban morphologies, fabric, residents, and businesses interlink in physical, economic, social, and environmental dimensions. It is demonstrated that the past, where the roots of the society are, are an asset for current residents. Thus, respect and protection of the past are paramount. At the same time, these should add value to these residents. Old areas should not be slums. They should provide decent living and working conditions to those living and working with them.

CONCLUSION

The story has not been without cost and has only been successful because of the active and practical engagement of the people who live in the core and the efforts of the Jordanian staff who work within the Department of Antiquities. Local people have been called upon to take up the responsibility for the care of their modern and ancient town, be tolerant of tourists, and in one key local initiative, take up the discipline of craft and support their traditional cultural heritage. However, a cliché is well known and too often true that every challenge has an opportunity, and Jerash's motivations and 'tourism transformation' were somewhat dated and never realistically practical for the 21st century and the interests of the community it served. The goalposts have now been moved from a functional management model based on the world of the early to mid-twentieth century to a transformational economic model that seeks to maintain and add to local well-being and prosperity by developing new educational and income-generating opportunities directly from heritage assets and the components that collectively build to create experiential value and terms of local quality.

The existing infrastructure of guided tours, the companies that operate them, the local road and street networks, and the souvenir shops that sell existing kinds of merchandise need to be redesigned, repurposed, or replaced by contemporary tourist needs of more experiential attractions and fresh journey opportunities that touch the heart and soul. Therefore, it is crucial to harness the potential of the local community, inviting them to actively participate and contribute to the sustainable growth of Jerash's tourism industry. To achieve this, comprehensive plans are being devised to revitalize the town's infrastructure to cater to the evolving demands of visitors. The traditional guided tours, although valuable, no longer suffice in providing the immersive experiences that today's tourists seek. Hence, a reimagining of these tours is necessary, focusing on creating captivating narratives and interactive engagements that not only showcase the historical significance of Jerash but also evoke a profound emotional connection with the visitors. Alongside this, the existing companies responsible for operating these tours must embrace innovation and adapt their services to ensure they remain relevant in the rapidly changing tourism landscape. Furthermore, the local road and street networks require a significant overhaul to accommodate the influx of tourists and facilitate seamless exploration of the town.

Upgrades to the existing infrastructure, including widened roads, improved signage, and enhanced connectivity, are imperative to ensure a smooth and enjoyable experience for both visitors and locals alike. In parallel, the souvenir shops that currently offer conventional merchandise must undergo a transformation. It is essential to reimagine these establishments as dynamic spaces that showcase the rich artistic heritage of Jerash. By supporting local artisans and craftsmen, the souvenir shops can become hubs of creativity, offering unique and authentic keepsakes that reflect the town's cultural essence. This shift towards promoting artisanal crafts not only revitalizes the local economy but also fosters a sense of pride and ownership among the community. By embracing these necessary changes, Jerash can position itself as a premier tourist destination that goes beyond a mere visit and instead immerses guests in an unforgettable journey through time. The newfound focus on experiential attractions, deeply rooted in the town's heritage, will captivate the imaginations of travelers, leaving a lasting impact on their hearts and souls. Ultimately, through this tourism transformation, Jerash aims to create a harmonious balance between preserving its rich history and embracing the opportunities presented by the 21st century, ensuring the well-being and prosperity of both its people and its timeless treasures.

Jerash, a city with a rich historical legacy, has faced numerous challenges over time. However, it has remained resilient in the face of modern urban growth and tourism. Efforts to protect its historical and archaeological sites have been successful, ensuring the preservation of its unique heritage. The collaborative work of academic institutions, the

Department of Antiquities, the Greater Jerash Municipality, and the local community has played a crucial role in safeguarding the city's core and sharing knowledge with the public. This educational endeavor highlights the beauty, complexity, and remarkable scale of Jerash's historical urban fabric.

1. Summary of Findings

The analysis of the relationship and contradictions between the statutory framework of the national law about urban development and the specific policy instruments for the Jerash area has been accomplished referring to the response to a list of five questions by Paul Fouracre to a so-called normative legal performance analysis. The large number of the different environmental, procedural and content regulations and very limited capability of local interest to bargain on them against the public interest constituted a relevant contradiction to achieve one of the main and fundamental cultural policy meaning: the social good and the equity approach. The relationship and contradictions identified between community development policies and the statutory and policy framework defined the selection criteria to inform the third important research step, the stakeholder analysis. Based on the literature and its practical applications, the list formulated by Sherry R. Arnstein on the level of citizen participation has been compared with the Jerash case policy tool and has brought to light the mentioned contradictions.

The central theme of this thesis is the study of the relationship and contradictions, formal and informal, between the municipal physical planning in heritage areas and, on the other side, the community living and welfare issues. The thesis started with the concept of a common cultural heritage and the challenges that a heritage place faces in the globalizing world, especially due to the tourist development policies undertaken with UNESCO recognitions. The most important and significant reflections of these policies is the Concepts of the Historic Urban Landscape (HUL), which focused mainly on the conservation within a broader sustainable development perspective. Within this framework, Jerash, one of the best-preserved Roman city planning in the world, has been chosen for the empirical research, which was carried out by a multidisciplinary team of researchers from the University of Florence and the University of Jordan during 2014.

2. Future Directions for Research and Practice

Methodological research: There is still limited knowledge about material and construction processes in traditional buildings. Filling the gap between natural sciences, history, and practical construction remains a challenge for researchers, the results of which could help improve conservation practices and possibly even contribute to sustainable construction technologies or materials beyond heritage uses. Such research needs to be inter- or trans-disciplinary. Gathering and translating knowledge from practice to scientific discourse is also a task heritage professionals should acknowledge.

Buildings and traditional materials decay: A long-term perspective is necessary to come to a well-informed decision on the 'heritage status' of a specific building, in order to maintain and protect it. Natural materials are sustainable to some extent in an appropriate context (integration, reciprocity, vertical direction), while industrial materials rarely fulfill this necessity. Heritage approaches, therefore, need to carefully consider material-oriented aspects. Some traditional techniques or materials may not be sustainable in a modern context, while some may be transferred from a heritage context to contemporary uses, e.g. hemp as insulation in modern construction. Contrary to empire-based logic, tradition is the transferring of knowledge and traditions are not sustainable if not constantly re-developed.

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