



**Hungarian University of Agriculture and Life Sciences**

**Institute of Landscape Architecture, Urban Planning and Garden Art**

**Ph.D. Dissertation**

**Historic Urban Landscapes adaptability to urban  
transformation issues:  
Tunis Medina and Pest historic centre**

By

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2021

Budapest, Hungary

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# **1. BACKGROUND OF THE WORK AND ITS AIMS**

Since the nineteenth century, cities have persistently endured major transformations caused by the transitional phenomenon of the industrial revolution, changes in the economic structure, and the exponential increase number of populations. These facts have led to radical transformations in the concentration of land use and urban pressure in the centre of urban agglomerations.

Non-managed changes in urban growth have involved historical sites which have become affected by the pressure of urbanization and globalization. Therefore, physical and social features of inherited areas are being affected, and those cities started to lose their identity. On the other hand, although immersed politics and schools of thought have been stimulated to develop the intervention methods on the living heritage, its management in practice is still nowadays problematic. Market exploitation of the inheritance, massive tourism, social marginalization and unmanaged exploitation of the habitat buildings, climate change, and urban pollution is affecting the tangible heritage and causing vulnerability to its urban and architectural components. Conservation practices depend on whether to consider our human patrimony as a hindrance to development and progress or to emphasize its role in sustainable urban development. In addition to that, the living heritage embodies various functions and hosts many inhabitants and users; therefore, it is essential to adapt it to the up-to-date needs of the present and future generations. On the other hand, the defies that we are facing in our era are constantly and rapidly varying and evolving, from the climate change problems and increased atmospheric pollution to the radical socio-economic changes due to the epidemic that appeared in 2020 worldwide. Therefore, our task is to adapt the urban existing elements to the actual century's challenges and make our human heritage more liveable, more pleasant, and significantly more impactful on the planetary issues, instead of considering it an inanimate museum.

This study concentrates on historical sites located in the centre of congested urban agglomerations and undertaken by uncontrollable urban transformation where conservation and urban interventions mainly target tourism attraction and consumption. The study's main aim is to sort out the emerging and frequent problems in heritage sites prototypes we refer to in general and in the chosen case studies. Then, to decorticate these issues and propose a resolution to resolve or mitigate them. The encompassed problems are mainly related to living conditions in public spaces of the urban landscape and its integration in its regional context.

The study explores the notion of heritage from various angles, its physical form, its social and socio-economic construct, and its relation to the urban habits and life circle. Our objective is to

analyse how the urban transformation shapes and transforms urban heritage through different study cases. Moreover, to discuss and emphasize the possibilities and means by which we can integrate these sites in their immediate environment and approach sustainable development in their urban climate. We intend to provide an empirical analysis, which demonstrates the extent to which the heritage can respond to the evolving social needs, from the one hand, and the possibilities to involve it in the environmental issues from the other hand. The research seeks to illustrate urban revitalization strategies that associate traditional and innovative methods as well.

Based on the above dilemmas and queries, the study puts two main research questions:

- To what extent can the city's historical structure be adapted to the tangible and intangible values and social aspects?
- To what extent can heritage play a role in the environmental challenges?

The study focuses on two historic city cores, Tunis and Budapest, which raises a further question:

- Are there any proven methods or practices that are transferable from one city to the other?

This research is based on Case studies analysis and a Comparative approach. The two UNESCO heritage studied cities in this research belong to different continents (Africa and Europe), and each city has a unique historic character and particular and different cultural background. The two studied cities belong to the Medieval urban heritage; however, the two case studies have not kept their original urban forms and components in the same way. The difference in position and historic consequences on both cities should help us explore how different nations adapted their towns to the social and climatic conditions, and the standard adaptation features could be highlighted.

The first case study we refer to is a historic medieval city in Tunisia named the Medina of Tunis. The choice of this study example is twofold. Firstly, the Medina of Tunis presents a pragmatic model to explore the urban transformation impacts on a historic site because it was subject to different historical events and changes. The city has been listed as a UNESCO protected site since 1979. It also represents one of the most valuable inherited patrimonies of the Muslim culture in North Africa and is listed in several highly valued books and journals. Secondly, I have visited this city very often and studied it on many occasions during my architectural studies in Tunis, and I embrace a particular appreciation for the Medina.

The second case study is located in the inner city (in the fifth district) of Budapest. The site belongs to the historical part of the city listed in the UNESCO world heritage sites in 1987. It contains ruins of the walls that used to delimitate the town in the medieval period. We have selected this

site because it represents a layering of numerous historical phases and is one of the world's most outstanding urban landscapes that attract tourists from all over the world.

The research is then structured according to two main chapters, the first is about the Medina of Tunis, and the second is about the Pest Historical centre. Each chapter contains a diachronic description of the urban transformation and cities development. Then an overview of the Tangible and Intangible values and the cities' social activities and social life. In this latest subchapter, a social survey and site analysis is given to each case study. The final subchapter is about green infrastructure in each city as an element of liveability. This part is not represented in the same way in the two cities because each one has a different cultural background regarding the green used vocabulary. After that, for each part of the study, there are conclusions. Finally, there are conclusions at the end of the study that were reflected on after studying each city separately and comparing their main aspects in terms of urban characteristics and development.

## **2. MATERIALS AND METHODS**

The concern in this study targets the urban climate and atmosphere in the public spaces of the urban heritage. The study refers to literature reviews that expound on the notions related to the urban heritage and urban transformation and the social dimensions of the urban spaces to later refer to the studied theories while analysing the liveability in the public areas of the historical centres.

In this study, the authors follow a cyclic study method in the investigation by observing, analysing, and assessing the potentialities and deficiencies of case studies, and deducing reasonable conclusions and vice versa. After providing a contextual definition of the study's two main horizons, *urban transformation* and *urban heritage*, we analyse and deduct from the UHL model the heritage dimensions considered as references in our research. Our research method is also based on case studies analysis. We apprehend these examples based on a diachronic approach by analysing the urban dynamics, spatial mutations and transformations, and the social impact on these chosen historic environments' evolution.

## Historic Urban Landscape assessment

OBSERVE ⇔ ANALYSE (assess, evaluate) ⇔ DEDUCT

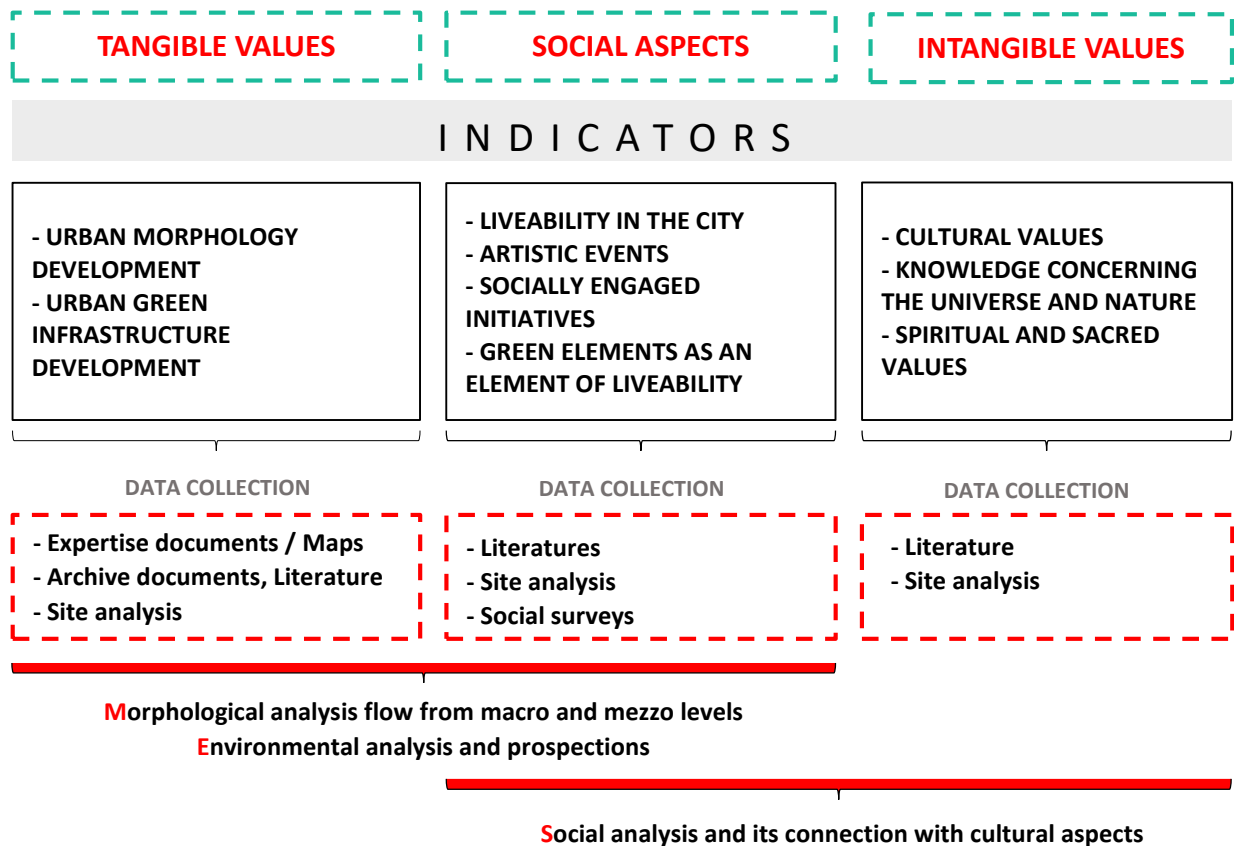


FIGURE 1. GRAPH SHOWING THE METHODOLOGY OF THE STUDY;  
SOURCE: AUTHOR

The study methodology is based on the Historic Urban Landscape concept. Three central values were distinguished to be emphasized in the case studies: the Tangible or physical, social, and Intangible. These values and aspects are detectable through different retrospective and prospective indicators. The Tangible values are apprehended in our case through the analysis of the urban morphology and green infrastructure development. The social values are explored through the liveability in the city, the artistic events, the socially engaged initiatives, and the study of the green elements as an element of liveability. On the other hand, the Intangible values are represented in the cultural values, knowledge and perception of the older civilization of the universe and nature, and spiritual and sacred values. The used materials for this study are historical data, such as literature and maps, and the investigation is based on on-site analysis and observation.

## 4. CONCLUSION AND RECOMMENDATIONS

The two studied cities have been through different scenarios of urban development all around the former Medieval walls. They are connected to various facts, such as social and socio-political facts, changes related to our environment and its constant mutations, and other aspects. The changing circumstances in the inherited built forms and living heritages are continuously happening.

The two studied cities have witnessed radical urban transformations; for the case of the Medina of Tunis, the changes happened in the city but especially in its surroundings after the beginning of the installation of the modern city. The tangible and intangible values of the Medina represent an authentic heritage because they carry the different historical scenarios that the city has gone through. For the case of the Pest historical centre, the changes happened around the urban core, but especially in the city itself, the tangible heritage has undergone several mutations. However, the structure of the city has been kept. Therefore, the urban morphology and structure of the city is a unique monumental value. Moreover, each city is affected by the negative impacts of urban pressure. The Medina of Tunis is no longer an environment that offers ecological values and a pleasant atmosphere. The urban spaces in the Medina are becoming disagreeable in many cases, and they need to be healthier and safe for the inhabitants and visitors. The Pest historic centre is becoming a place that relies on tourism activities, and if this sector is no longer possible, many places are no longer liveable.

On the other hand, the two cities have several constraints because they have historical values that should be protected. Therefore, any urban interventions to enhance the quality of life in the cities should respect the original stamp of these cities. Making cities more liveable and adapted to environmental conditions is more and more brought to the fore. In cities with solid historical identities, city enhancement is very challenging for many reasons, such as keeping the authenticity of the inherited patrimony and the vulnerability of the heritage while intervening in its immediate environment. In this case, I noticed that the Medina of Tunis was preserved not to alter its physical structure because it embodies a uniform organic urban organization that hasn't been changed since its formation. After analysing the urban landscape of the Medina, I noticed that the city's urban character was in the image of the inhabitants' beliefs and culture. Functions are organized according to religious, social, and economic hierarchies.



On the other hand, several modern solutions can be implemented in the city. Such as Urban Green Infrastructure elements to enhance the urban health in the macro and mezzo climate of the streets and alleys, and reuse the public spaces that have been left for no use and abandoned, because of the changes in the social habits urban usage of the city. I emphasized that we need to find the best instruments to improve urban design in a specific way by detecting the spaces where there is more need for green areas to absorb urban pollution and offer other ecological and social services.

For the case of Pest historic centre, it should also be integrated through social connections. If it is not visited or appreciated and especially lived by the inhabitants, it will be degraded and abandoned. Through my analysis delivered in the Pest Inner City's Southern part, I proved that we might keep the liveability of a historic district by offering cultural and educational functions in a pleasant environment. The district's liveability also relies on the existing open spaces and parks and the urban green infrastructure. Also, as it has been noticed in the case of the Medina, community-based projects are attracting people to be more attached to their city. Such approaches should be enhanced and endorsed by scientific researches and investigations, particularly in a traditional historical site.

Finally, to protect the wealthy heritage and stir up its values, we need an official awareness of social requirements and environmental dilemmas. Identifying these social aspects and human and ecological health requirements will provide possibilities to intervene in the historic city and respect its originality at the same time. The city is represented as an urban palimpsest witnessing and transferring the images and values of the past and present. The historic city shouldn't be a fragment of the urban complex, mainly that, in most cases, it represents the origin and first urban core of urban development and expense. Instead, it should be considered a basis for urban identity and a fundamental parameter that ensures city development.

### 3. NEW SCIENTIFIC RESULTS

**Thesis\_1** The medieval Medina was a special place, concerning its spiritual and ecological aspects (narrow streets, patios, surrounding green fields, liveability etc.). In the medieval Muslim era, the Islamic green heritage system was developed mainly outside the cities' urban cores. The surrounding green areas functioned as agricultural farms or appeared in more extensive private palace gardens. The city and its surroundings lived in ecological harmony.

I proved in the study that the green system in Medina is different from a modern urban tissue. It relies on a historic landscape full of vocation and meaning. The Medina has a dense urban core which forms a cohesive, consistent, and uniform unity.

**Thesis\_2** Based on the site analysis, I discovered that problems are still not well managed in Medina. Security issues emerged in the small and distorted streets and alleys. Caused by the intensive motorization, there is considerable traffic congestion around the inner city, which results in the intrusion of many cars in the core of the Medina.

We realized that the politics of preservation could not take care of all the buildings relevant for protection in Medina, which led to the deterioration of many aspects of the city's tangible heritage.

**Thesis\_3** The activities in Medina are not just about tourists, but they are concerned more with the wellbeing of the inhabitants of the city. They provide activities and artistic occasions that involve the locals, too.

I demonstrated that the socially engaged initiatives, bottom-up urban design approaches, and particularly the artistic events significantly impact the city. They affect inhabitants' social wellbeing and help revive Medina's intangible heritage. We deduced that these events attract many national and international people to raise their heritage awareness. For example, in the case of the Medina of Tunis, the artistic manifestations of 'Dream City' and 'Interference' bring artists, volunteers, and participants to express their ideas, and they provide an interactive environment where people can discuss, share, and implement ideas about the revitalization of the heritage.

**Thesis\_4** I presented that the European Urban Green Infrastructure concept can be adapted to the area's historic character and bring various benefits for society and the environment.

The suggested Urban Green Infrastructure in the Medina can be adapted to the area's historic character and bring various benefits for society and the environment. Therefore, the landscape architecture tools suggested for the study area in the Medina of Tunis are possible and beneficial for the other Medinas. Despite the different climate zone, the UGI tools may help effectively in climate change mitigation and adaptation.

**Thesis\_5** Budapest's historical centre, the Belváros, has barely preserved buildings from the medieval and only a few from the new-age period. However, the majority of the buildings are under different levels of monument protection.

I presented that although the city centre witnessed many changes, it has kept its original street structure. It proves that the street structure of the city represents a unique monument value.

**Thesis\_6** Against the changes in its building stock and the town's radical extension, the historic centre kept its core position as a city. The state socialist urban development neither intended to change it, but they also included tourism as a critical function.

I presented that only the hotels and one office building remained of the many infill projects built in the state socialist period.

**Thesis\_7** The highway created during the state socialist period cut the Inner City into two pieces. Already the urban plan of 1966 intended to strengthen the educational and cultural character of the Southern part. The New Main Street project made several pedestrian crossings between the two territories. Within this vast project was realized another one concentrating on the Southern part's revitalization. The goal was to create a cultural and creative district on the spot.

Based on my on-site observations, a thorough analysis and interviews, I discovered that the South part of the Inner City could keep its urban liveability even after the epidemic. The liveability of the district relies on its excellent position within the city, the low level of traffic, the improved urban environment, the educational and cultural institutions, the cafeterias, the parks and the urban green infrastructure.

**Thesis\_8** The Pest Inner City belongs to a dense built-in urban structure; however, the existing green infrastructure significantly impacts liveability.

I discovered that the green parks and linear greens at the territory played a role in the active use of the streets. Unfortunately, the Danube promenade – planned within the Main Street Project – is still missing. The Spring investigation presented this deficit perfectly; the bank was almost empty. No shops, no seats, hardly any coffees and restaurants were open against the beautiful view.

**Thesis\_9** The Historic Urban Recommendation (HUL) states that the historic quarter should be physically integrated into the whole city. This aspect implicates other horizons as well. The historic site should also be integrated through social connections. If it is not visited or appreciated and especially lived by the inhabitants, it will be degraded and abandoned.

Through my analysis delivered in the Pest Inner City's Southern part I proved, that we may keep the liveability of a historic district by offering cultural and educational functions in a pleasant environment, with places and services for daily meetings. The Medina model was a bit different, where the inhabitants were involved in improving the environment, and the city also organized artistic events. Cultural clusters and temporary creative events may attract visitors, but the consistency between tourism and inhabitants' wellbeing should be balanced.

## 5. PUBLICATIONS CONNECTED TO THE RESEARCH TOPIC

### Published papers in International journals with Impact Factor:

BEN SALEM, S.; LAHMAR, C.; SIMON M.; SZILÁGYI, K. (2021): Green System Development in the Medinas of Tunis and Marrakesh—Green Heritage and Urban Livability. *Earth* 2(4): 809-825. p.

<https://doi.org/10.3390/earth2040048> , ISSN: 2673-4834.

### Published papers in International journals:

SIMON, M.; B.SALEM, S. (2020): The Beauty of the New Modern Life and Technology The Survival of Socialist Architecture in the Budapest City Centre. In: *A&U Architecture and Urbanism, JOURNAL OF ARCHITECTURAL AND TOWN-PLANNING THEORY LIV* (3–4): 196–207. p.

ISSN: 0044-8680.

BEN SALEM, S.; MSEDDEI, A.; SIMON, M. (2021): URBAN LIFE IS NOTHING IF NOT THEATRICAL: THE ROLE OF ART IN THE REGENERATION OF THE MEDINA OF TUNIS CITY. In: *JRAP, Journal of Research in Architecture & Planning* 30(1), 1–9. p.

ISSN: 2519-5050

### Conference participations and published papers in proceedings:

BEN SALEM, S. (2018): The Medina of Tunis Facing the Modern City, Tangible, Intangible and Social Values in an Arabic Old City. In: *TANGIBLE – INTANGIBLE HERITAGE(S) – DESIGN, SOCIAL AND CULTURAL CRITIQUES ON THE PAST, PRESENT AND THE FUTURE AMPS, Architecture\_MPS; University of East London: AMPS Proceedings Series 15 (2). p. 23–30.*

ISSN 2398-9467

BEN SALEM, S.; SIMON, M. (2019). SURVIVAL OF SOCIALIST LEGACY IN BUDAPEST CITY CENTER. In: *INTERNATIONAL CONFERENCE ON CITIES AND CHANGE THREE DECADES OF POST-SOCIALIST TRANSITION* (1). p. 383–394.

ANDRADE, J.; BEN SALEM, S.; CLARO, L.; ENRIQUEZ DIAZ, C.; LACKMAN, M.; MSEDDEI, A.; ZUREIGAT, A. (2020) Recovering the city, citizen empowerment towards a tactical urbanism. In: *International Conference: Architecture and urbanism in the age of planetary crisis,*

*Architecture & Urbanism in the Age of Planetary Crisis: AU2020 International Conference Proceedings, ECODEMIA, LONDON 2020.* p. 33–39.

ISBN: 978-1-304-56797-0

LI, H.; BEN SALEM, S.; WANG, G. (2020): A bibliometric review and illustration in urban heat island research from 1975 to 2020. In: *SZIENTIFIC Meeting for Young Researchers 2020: ITT Ifjú Tehetségek Találkozója 2020.* p. 256–261.

ISBN: 978-963-269-937-0

**Conference participations and published abstracts:**

BEN SALEM, S.; SIMON, M. (2018): The Medina of Tunis facing the modern city. Tangible, intangible and social values in an Arabic old city. In: *RESILIENT CULTURAL HERITAGE AND COMMUNITIES IN EUROPE, Reach Budapest conference.*

BEN SALEM, S.; SIMON, M. (2019): Post socialist urban transformation in Budapest. In: *Conference of The Paradigmatic city conference, transforming cities, Istanbul.*

BEN SALEM, S.; MSEDDEI, A.; SIMON, M. (2019): ARTISTIC PRACTICES SHAPING THE CITY : THE CASE OF THE MEDINA OF TUNIS. In: *SZIENTIFIC Meeting for Young Researchers 2020: ITT Ifjú Tehetségek Találkozója 2020.* p. 200–202.

ISBN: 9789632698861

BEN SALEM, S.; LAHMAR, C.; SIMON M.; SZILÁGYI, K. (2019): APPROACHING A SUSTAINABLE DEVELOPMENT IN THE MEDINA OF TUNIS, GREEN INFRASTRUCTURE DEVELOPMENT IN THE CITY AND ITS SURROUNDINGS. In: *SZIENTIFIC Meeting for Young Researchers 2019: ITT Ifjú Tehetségek Találkozója 2020.* p. 200–202.

ISBN: 978-963-269-886-1

BEN SALEM, S.; Li, H.; SIMON, M.; Jombach, S. (2020): Urban Green Infrastructure in the historical cores of Budapest and Vienna. In: *SZIENTIFIC Meeting for Young Researchers 2020: ITT Ifjú Tehetségek Találkozója 2020.* p. 331–334.

ISBN: 9789632699370

BEN SALEM, S.; LAHMAR, C. (2021): Urban Parks as an Approach to Face Climate Change Issues and Social Well-Being: The case of Tunisian urban parks from the colonial period. In: *ECLAS 2021 Stop and Think*

**Conference in non-scientific journals:**

BEN SALEM, S. (2020): The Medina as a Historic Urban Landscape. In: *AESOP Young Academics, The blog of the Young Academics of the Association of the European Schools of Planning.*