

CLIMATE FRIENDLY URBAN TOURISM, CASE OF HUNGARY

Rodgers Isaac Kisiangani¹ 
Éva Erdélyi² 

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Abstract: *With the current level of urbanization in the developed economies, it is not surprising that most of destinations are urban areas. Tourism on addition to population growth and immigration is increasing pressure on city natural and manmade resources. In the city, environment comprises of human, social-cultural, economic, technological, legal, nature and climate. All these dimensions of city environment are affected by tourism. This study uses content analysis technique to evaluate urban tourism sustainability so as to shed light on environmental integrity for tourism in urban areas. The selected cities are Budapest, Győr, Debrecen, Pécs and Szeged. Analysis of the city and tourism related development strategies reveal: increasing cities' green belt, intelligent mobility and tourism product diversity. Ranking based on these factors could be compared with other rankings. In-depth interviews were conducted which confirm the tourism environmental assessment of tourism strategies and projects, as well as restructuring and redefining tour packages.*

Keywords: *Strategy, Adaptation, Mitigation, Urban tourism.*

1. INTRODUCTION

Due to the multiplier effect of tourism, feasibly, it can influence directly or indirectly several Sustainable Development Goals (SDG), like SDG 11 and SDG 13. SDG 11 aim sat making cities and human settlements inclusive, safe, resilient and sustainable. United Nations World Tourism Organization (UNWTO, 2015) points out that tourism can advance urban infrastructure and accessibility, promote regeneration and preserve cultural and natural heritage, assets on which tourism depends. Investment in green infrastructure (more efficient transport, reduced air pollution) can result in smarter and greener cities for not only residents but also tourists. SDG 13, urgent action to combat climate change and its impacts are required. Tourism contributes to and is affected by climate change (UNWTO, 2015). It is, therefore, a destination and its sectors to take its roles in the global response to climate change, which is as a result of global warming. Urban tourism has the possibility to influence resource use, energy consumption and technological advancements to reduce its share GHG emissions. With the annual growth of international tourism, if nothing is done, life will be compromised.

In the year 2018, there was a global tourism growth rate of 5% in terms international tourist arrivals to 1.4 billion (UNWTO, 2019). This growth can be attributed to (Pololikashvili, Z., 2019) the technological advances, growing middle class in emerging economies, new business models, affordable travel and visa facilitation. The main growth of tourism is occurring in the urban areas and cities (Rogerson & Rogerson, 2014), this is as a result of urbanization. There is a growing commercial beautification of formerly public spaces into consumable tourist attractions, the intention among the city entrepreneurs and the local authorities, in many cases, has been to satisfy the attracted tourists and travellers. Urbanization is one of the most important global change pro-

¹ African Population and Health Research Center: APHRC Campus Manga Close Parklands, Nairobi, Kenya

² Budapest Business School - University of Applied Sciences, H- 1054 Budapest, Alkotmány utca 9-11, Hungary

cesses (UNWTO, 2019), among its results is urban tourism. Therefore, cities are receiving more city break tourists and business travellers. These tourists on addition to the local inhabitants of the cities result to multiples pressure on available resources in the environment. These resources include and are not limited to human, social-cultural, economic, technological, legal, nature and climate; human beings as urban tourism resource act as service providers and as they strive to maintain or improve service quality, they can be constrained by high turnovers at peak hours or peak seasons. Social-cultural factors such as traditions, art, history and heritage of the city are also influenced by tourism. City economic resources such as infrastructure, transport, accommodation and other industries can be enhanced by tourism or be constrained as well. When it comes to technological resources, innovation has favoured them due to competition among city tourism service providers and the changing tourist needs as well as the growing availability of information to travellers that significantly affects their satisfaction, hence the need to technological innovations for product and service developments. Nature and climate are the vital resources that tourism thrive on, nevertheless, there are considerable impacts on of tourism on nature and climate, they include and not limited to carrying capacity of the city, water and air quality and contribution to greenhouse gas emission. The pressure of tourism on destinations environment has been an issue over history. Immediately after discovery or exploration of a natural attraction, tourism compromises its authenticity, even so, its aesthetic value can be maintained or be improved if sustainability is embraced. For the case of tourism, according to UNWTO, sustainability is when travellers' needs are addressed without compromising the ability of the current and future generations to meet their needs. Therefore, it implies conservation and resource efficiency in destinations such as urban realm. Sustainability cuts across all the city resources for tourism mentioned earlier. Given the vitality of the environment and climate, this research has focused only on the environmental dimension of sustainability in urban tourism and new possibilities in Hungary, and therefore seeks to evaluate tourism-environmental agenda in the urban development.

This purpose was simplified into three objectives;

- To determine climate change mitigation measure for urban tourism by city management,
- To find out urban tourism adaptation to climate change,
- To illustrate the process of urban tourism mitigation and adaptation to climate change.

Having mentioned human, social-cultural, economic, technological, nature and climate resources, legal resources are also important for providing framework upon which urban tourism is managed and governed. Tourism legal resources comprise of, (according to Gregorić, M., 2014), legal structure, tourism legislation and laws relating to the regulation of relations that can affect the development of tourism, however, despite the popularity and magnitude of urban tourism, most cities do not have specific urban tourism policies and blueprint, instead there are sometimes conceptualised in the overall urban policy, strategic plan and blueprints. Due to the complex nature of urban tourism, ranging from the supply side to demand side, there is need to address it as a distinct industry so as to address it with specific strategic plan or blueprints. On the contrary, some cities don't have urban tourism strategic plan thereby addressing tourism agenda in the urban development strategic plans, and even some doesn't acknowledge it at all yet tourism business goes on in such cities. Urban tourism is not only neglected in management but also in academia; Ashworth in 1989, for example, emphasised on urban tourism as Double Neglect; "those interested in the study of tourism ...tended to neglect the urban contexts [and] those interested in urban studies [had] been equally neglectful of the importance of the tourist functions in cities" (Ashworth, 1989: 33, quoted in Page and Hall). Despite this neglect of urban

tourism in management, policies and in research, it remains the fastest growing form of tourism. As a result, UNWTO have had 8 summits on urban tourism where participants agreed on declarations to guide urban tourism developments.

Table 1. UNWTO Summits on City Tourism

Date	Theme
15-16 November 2012	Catalysing economic development and social progress
19-20 September 2013	Implementing Innovative Strategies to enhance Competitiveness and Business Development
9-10 December 2014	New Paradigms in City Tourism Development
14-15 December 2015	Re-inventing city tourism
1-2 November 2016	Local culture for global traveller
4-6 December 2017	Sustainable and Competitive Tourism on the New Urban Agenda
19 September 2018	A 2030 Vision for Urban Tourism
9-12 October 2019	Smart Cities, Smart Destinations

2. URBAN TOURISM

Tourism is the fastest growing industry in the world. This growth has led to development of several types of tourism: in terms of tourist motivation, geographic characteristics of the destination, type of mobility and distance. The emerging type of tourism in cities is referred to as Urban Tourism, its definition stems from tourism phenomenon. Ashworth, G and Page, S. J (2010), agrees with Edward et al (2008) that the major difficulty that accounts in part for the academic neglect of urban tourism has been the lack of a simple definition of a complex phenomenon and a clear demarcation of its diverse and vaguely formulated set of activities. Perhaps the definition of urban tourism can be traced from tourism and putting into consideration the space in which it is taking place. United Nations World Tourism Organization (UNWTO) summarizes tourism as collection of activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes.

Dumbrovska, V. and Fialova, D. (2014) defined urban tourism as tourism activities embodied in urban area. Therefore, it is the city and its environment that distinguishes urban tourism from other types of tourism. Cities, towns or urban areas offer an array of possibilities for tourists from theatres to museums, from parks to palaces. They are an ideal centre for the provision of entertainment and dining, and the presentation of culture, (Metro-Roland, 2011). From tourist motivation point of view, urban tourism can be narrowed down to several forms of tourism such as Art & History, wine & gastronomy, sightseeing and cultural tourism among others. Meeting such motivation requires input from different stakeholders, therefore urban tourism as an activity as Lickorish, J. L. and Jenkins, C. L. (2007) puts it, cuts across conventional sectors of the economy and that it requires inputs of an economic, social, cultural and environmental nature.

This research adopts the definition by Edwards, et al (2008, p. 1038) that urban tourism is one among many social and economic forces in the urban environment. It encompasses an industry that manages and markets a variety of products and experiences to people who have a wide range of motivation, preferences and cultural perspectives and are involved in a dialectic engagement with the host community. And therefore climate-friendly urban tourism is one that is implemented in such a manner/model that minimizes and preserves the natural resources used thereby reducing its contribution to environmental degradation and pollution. This can be characterized by sound urban tourism planning, tourism-environmental assessments, sustainable

resource use as well as environmental and social behaviour by tourists as well as the suppliers. To understand the behaviour of the consumers (tourists) it is also important to define urban tourists. Two broad categories of urban tourists are business visitors and city break tourists. Ashworth & Page (2011) postulates that the largest fraction of urban tourists is business visitors, they visit cities for meeting, incentives, conventions and conferences. Those who visit urban areas for other motivations are referred to as city break tourists.

3. THE CLIMATE, ENVIRONMENT AND URBAN TOURISM

The ever-growing global population has influenced urbanization. According to the United Nations, in 2015, 54% of the world's population lived in urban areas and that by 2030 this share is expected to grow to 60%. Residents move to urban areas in search for jobs, business opportunities and easy access to infrastructure such as social amenities like hospitals, schools and transport among others. On addition to the residents, tourists and immigrants are also frequenting cities for social, economic and cultural opportunities. Other than these opportunities, there are factors that are influencing the growth of tourism and they include transport and communication infrastructural development, low cost transport options, increased middle class people, information technology and globalization.

This growth is increasingly impacting on the environment thereby influencing the climatic changes together with other industrial and natural factors. Urban areas cover only 2% of the earth (IPCC, 2-14) and this coverage will increase with the growing demographic demands. Surprisingly, with only 2% coverage of the earth, 70% (IPCC, 2014) of the global warming causing gases are emitted from urban area. This could be attributed to industrialization, transport and tourism among other causing agents. Lee et al (2007) confirmed that emissions are responsible for 4.9-14% of global warming. Traffic and transportation alone emit 22% of the CO₂ emission of the world. To understand the overall role of tourism phenomenon to emissions IPCC examined and concluded the contribution of tourism sector is 5% of the total CO₂ and contributing to global warming by 4.6%. Furthermore, according to IPCC, transport sector is responsible for 75% of tourism's emission, accommodation 20% and Museum, theme parks, events, shopping centres contributing to 3.5% of it. This is only but what is known, the responsibility of tourism could be more. Measuring and quantifying tourism use of natural resources and pollution is difficult because of the complex nature of tourism.

The department of National Adaptation in Hungary (NAKFO, 2019) claimed that the increasing number of extreme weather events often remind us that climate change is not one of the threats of the future, but a current and accelerating process. Such extreme weather events include but not limited to extreme temperatures in winter and summer, heavy rainfalls and heatwaves. Consequently, urban tourism is suffering in ways such as; critical conditions of urban public traffic and transportation, very hot weather contributes to deformation of the road pavements, large and very intensive rainfall deteriorates the road structures and pavements. Intensive snowfall and frost make winter traffic very difficult and increase the operation and maintenance tasks (removal of snow, spreading de-icing agents, repair of frost damages of pavements, protective barriers against snow drift). The risk of road accidents is amplified by pavement damages, also hindering the uniform flow of traffic and increase the frequency of traffic jams. Extreme weather events, windstorms and high temperature fluctuations occurring within short periods of time cause large damages to highways and railways.

In air traffic the increasing frequency of extreme weather situations increases congestion and cancellation of flights and decreases the security of landings and take-offs. The shifting of the hydraulic regime of rivers towards the extremes hinders navigation and contributes to the increase of ship accidents. The frequent traffic jams of urban traffic peak hours increase the risk of town dwellers to get asthmatic illnesses, especially in conjunction with unfavourable weather conditions.

3.1. Urban Tourism in Hungary

Hungary is getting popular among travellers. Its tourism industry grew by 5% from 2017 to 2018 according to Central Statistics office (2019). Total tourists in 2018 was 12.5 million (KSH, 2019), perhaps in 2019 tourists' records will be higher because Hungary's capital was voted the top European destination 2019. This declaration alone, without mentioning what Hungary offers can attract more travellers. Budapest and Lake Balaton are the most frequented destinations in Hungary. Other cities also attract and host tourists; just to mention major cities, Pécs, Miskolc, Debrecen, Győr, and Szeged play a significant role in Hungary's tourist traffic. Even though tourists' nights are not balance among cities, the spread of tourists across the country is notable. These selected cities have much in common that attract tourists; the spa culture that is the foundation of health tourism; art and history is the treasure of these cities which some travellers would love to see, hear and touch; tourism natural resources such as the climate and season, rivers for the case of Győr, Szeged and Budapest, hills, islands for the case of Budapest, fauna and flora in zoos and green parks. On addition, build environments and traditional culture make these cities more appealing, they include Museums and monuments, events, wine and gastronomy among others. With this shared feature, there is a possibility of the selected cities to improve their role in optimizing tourist traffic to reduce tourism density in the capital, in other words tourists from the capital can be dispersed to other cities. Figure 1 shows the share of guest nights by Budapest, Győr, Szeged, Debrecen and Pécs.

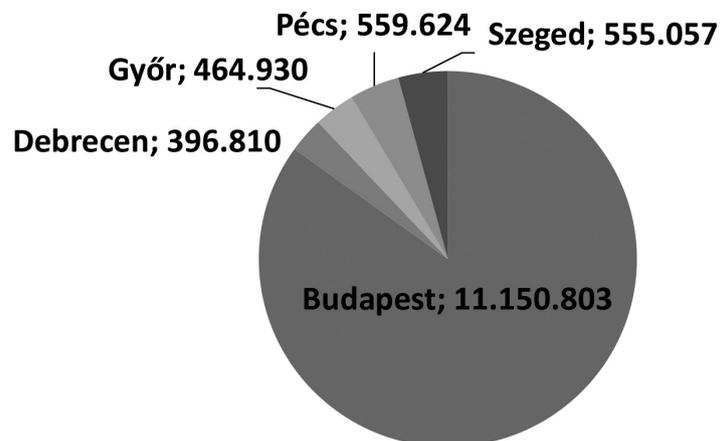


Figure 1.: Cities' Share of Guest nights in Hungary (2017)

Source: Central Statistical Office (2019)

As shown in the Figure 2, Budapest receives most of the international tourists, of course it's because it is the economic, political, social-cultural and technological capital of the country. In Győr there was a good balance between domestic and international tourists, this can be attributed to its comparative advantage which its location; central meeting point between Budapest and Vienna, as well as the meeting point of three rivers; Danube River, River Rába and River Rábca.

This is so encouraging for a stopover among domestic and international travellers. Contrary to Budapest, Pécs has the least percentage of international tourists and highest percentage of domestic tourists, arguably, Pécs can be an ideal case study of the role of tourism for realizing the SDG 11 which is to *make cities and human settlements inclusive, safe, resilient and sustainable*. Its low tourism density is manageable to contribute to a healthy city environment, economic wellbeing of the residents and adaptations to economic and climate changes. City populations need economic resilience for instance, in the wake of economic crisis in the world, domestic tourism in the city can be the saviour as tourist source countries recover.

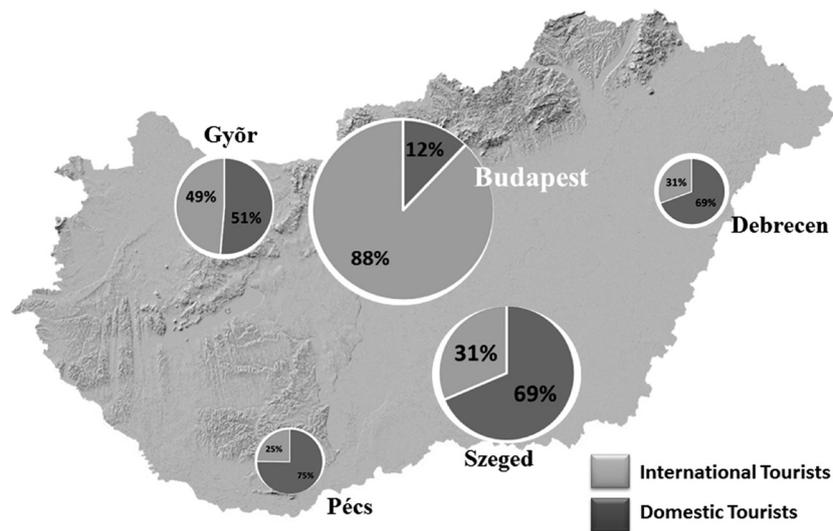


Figure 2: Ratio of International and Domestic Tourists in Cities (2018)

Source: own compilation based on Central Statistical Office (www.ksh.hu, 2019)

3.2. Budapest

Budapest is the capital city of Hungary, and seat of Pest county. It was officially created on the 17th of November 1873 from a merger of the three neighbouring cities of Pest, Buda and Óbuda. As stated in the Budapest vision 2030, Danube River determines the structure of the whole city. Its west and east have contrasting characteristics; the west, for instance is Buda which is hilly whereas the east is the Pest is flat plains. And as shown in the map below, the river influenced both the structural and evolution of the city which according to Budapest municipality (2013), resulted to 5 zones that have different characteristics, functions and burdens for sustainable management.

The inner zone contains all the historic parts of the city (Budapest Municipality, 2013). It is the most densely built and populated area in town, the main central space within the city, with densifications of administrative, cultural, financial and educational functions. The transitional zone is the city's most heterogeneous area. The suburban zone less density populated with unprofitable infrastructural network. The hilly zone, as stated in the vision 2030, has no significant environmental harm and according to statistics has the wealthiest social society and settlements. And the last zone, the Danube zone, crosses all other zones, and has significant effect on reducing the greenhouse effect of the city, it's the main open space of the city hence its cooling effect.

With reference to this river, Budapest for some time (according to László Péter, 2019) was referred to as the queen of Danube, the two beautiful, functional and contrasting sides are connected by iconic bridges. The river being the main natural attraction spices up other natural and built envi-

ronments to attract tourists to the capital. Some Budapest tourism characteristics include the location, architecture, culture, gastronomy, thermal baths, events, nature, art and history. The fame of Budapest is growing, in 2017, for instance, Australian times³ reported and referred to Budapest as the Pearl of Danube and only two years later it was voted the winner of the European Destination 2019⁴ and described as the 'Pearl of Danube.' Such glory will attract more tourists unlike before. This may pose some danger on the city as already in 2018, according statista.com, Budapest was ranked 5th among Overtourism destinations⁵. Overtourism, whether seasonal or zonal, compromises the aesthetic value of place and environmental status, and this calls for attention and action of the municipality to draw and implement urban sustainable tourism standards. In view of this this research examines the urban strategic plans to establish urban tourism environmental actions.

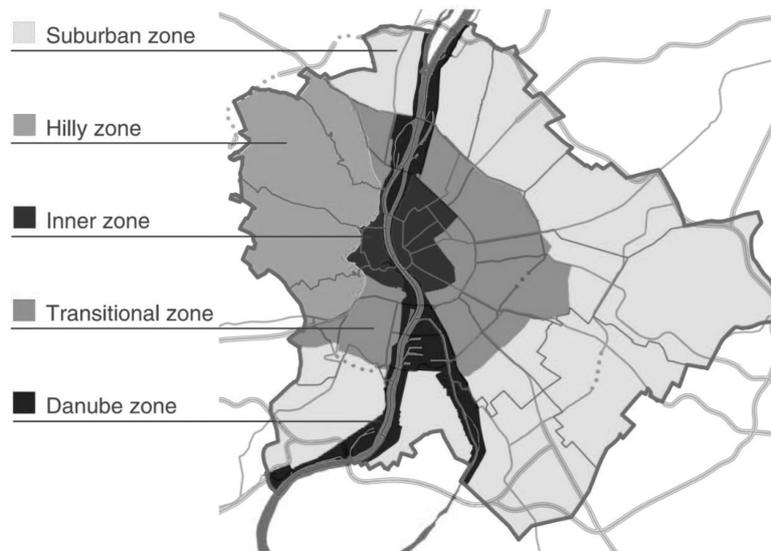


Figure 3: Map of Budapest Zones

Source: Budapest Vision 2030 (2013)

3.3. Győr

Győr, is positioned as “the city of meetings”. This is because it is the meeting point of three significant rivers; Danube River, River Rába and River Rábca, this place is spectacular and picturesque, it can even be referred to as Győr-Spot since most of modern travellers are always looking for “instagrammable” photo spots in this realm of social media. “The city of meeting” title is also attributed to fact that Győr is located just halfway between Vienna and Budapest. This gives Győr another characteristic as the transit city, where nature and cultural heritage lovers can stop over during their trip between these two capital cities. Another justification of the city of meeting is the that Győr is the centre of north-western Hungary. On the other hand, it’s just about halfway between Budapest and Vienna and it’s the centre of North-western Hungary.

Apart from natural treasures, Győr has architectural and historical treasures. Architectural treasures include and not limited to; Baroque architecture such as Altabak-House, Apátúr-House, Vastuskós-House, Esterházy Palace, Fejérváry-House, Rozália-House, Torkos Palace, Zichy Palace and Old Town Hall.

³ <https://www.australiantimes.co.uk/travel/budapest-city-travel-danube-romantic/>

⁴ <https://www.europeanbestdestinations.com/european-best-destinations-2019/>

⁵ <https://dailynewshungary.com/budapest-is-the-fifth-worst-city-for-over-tourism/>

Győr's historical treasure dates back the Roman times when it was named Arrabona. In 500 Slavs settled here, in 547 by the Lombards, 800 by the Avars; during this time, it was called Rabba and later Raab. Between 880 and 894, it was part of Great Moravia, and then briefly under East Frankish dominance before Hungarians settled in 900 and named the city Győr. Later Celtic tribes, Mongols and Turks occupied it. These occupations and settlements including religious dominions led to building of schools, royal houses and churches, and all in baroque designs. This gives the city a cultural dimension of urban tourism in Győr.

3.4. Debrecen

located on the Great Hungarian Plain, Debrecen is 220 km east of Budapest. It happens to be the Hungary's second-largest city (in terms of population) after Budapest. Debrecen is spectacular, Lonely Planet describes it as a doorstep to great plains. There is much it offers to the locals and the visitors; these includes but not limited to the golden Calvinist Great Church and the historic Aranybika hotel, Mediterranean Aqua Park, romantic forest, zoo, central square, Kossuth tér, frequent street festivals in summer, Old Town bars and nightclubs, museums and thermal baths. More interestingly, cafes, bistros, and street food are becoming more popular, green piazzas and water fountains are making the city more refreshing, architecture, streets and alleys sets up a spectacular atmosphere. On addition the developed public transport in Debrecen such as bus and tram lines make easy for tourists to get around.

Civitas, whose slogan is 'cleaner and better transport in cities' in conjunction with the European Union has implemented sustainable transport solutions in partnership with Debrecen City Council. Just to mention three of them are access and parking management in the city centre in order to decongest cars in the city. Creating conditions for alternative fuel us in public transport, through this initiative Debrecen supported use of biofuel which has less emissions as compared with the generic fuel. Conference centre accessibility scheme and pedestrian zone and Integrated and extended cycling network (CITAS 2020). Moreover, Debrecen has a Smart city concept which is to establish an intelligent, innovative, liveable, effective, sustainable, smart, healthy and rich city ⁶. The concept targets transport, digital literacy, and energetics i.e. to reduce the amount of water and energy consumption.

There is also Integrated Urban Development Strategy of the City of Debrecen 2014-2020 that is being implemented to foster a modern, innovative, health, education, research, development, economically strong regional centre with an impact on areas close to Slovakia, Ukraine, Romania. Even though this development plan is based on values of sustainable development, urban tourism is not given the weight that is proportional to its economic contribution and environmental pressure from it.

3.5. Pécs

Located in the southern part of Hungary, the city of Pécs, in the seat of Baranya County, is approximately 200 km from Budapest, close to the Croatian border. It serves the region for the administrative, cultural, religious and economic functions. The city is a true case for cultural tourism, or rather cultural-led urban economic development (European Capital of Culture program, 2010). Its multicultural dimension makes it worthwhile to visit, the city embraces even the minority cultures and traditions because it is significant to its history. Perhaps Pécs is an award-winning cultural city,

⁶ <http://smartcity.debrecen.hu/en/smart-city/about/>

and all its interesting titles playing a key role in positioning the city thus promoting the tourism. In 1998, for example, it was awarded the UNESCO prize 'Cities for Peace', reason being the maintenance of the minority cultures and also attributed to the attitude towards refugee of the Yugoslav wars. In 2007 and 2008 Pécs was third and second 'Liveable City' respectively for the LivCom Award. This was a positive publicity for the city. A significant cultural milestone for Pécs was when it received the title and award 'European Capital of Culture' in 2010. This (with the associated funding) led to renewal of public places, streets, squares and neighbourhoods, new cultural centres, a concert hall, a new library and centres and a cultural quarter. This transformation together with its culture, history and nature has been promoting tourism. Just to mention its nature, the location is important; the city is on the slopes of Mecsek mountains, Jakab and Masina Hills rise to 596m and 535m respectively above the city, to the south, it's bordered by plains. Mecsek hills also have valleys which are good for improving the climate of the city, and the water coming from the Mecsek Hill flow into the Pécsi River that then flows into Danube. The future of such nature and cultural characteristics of the city needs sustainable development. Feasibly, Pécs management has a Pécs MJV városfejlesztési koncepció 2014-2030 (Pécs MJV urban development concept) which is necessary for sustainable urban development. This Concept captures sustainability in a complex way; natural environment, the built environment, society and the economy. And in this research, it is examined to enlighten its weight on sustainable urban tourism.

3.6. Szeged

Szeged is rich in heritage, architecture and history. Undoubtedly, the beauty of Szeged is because of a historical disaster and recovery; in 1879, the city was brought down by heavy floods, a flood that only 265 houses out of 5723 remained and 165 people died. After this dark time, the city was rebuilt on ruins, this time round with greater architecture and wider streets and avenues. It is located near the southern border of Hungary where the Tisza and Maros rivers meet. Szeged being the warmest city in Hungary, these two rivers bring about a cooling effect in the city. They are also a hub for riverine biodiversity. The rivers, their biodiversity and heritage attractions promote tourism in the city.

Szeged like other cities have an Integrated Urban development strategy for the city's economic development. Its SWOT analysis, states that the service sector (tourism and hospitality) is strong, even though tourism is recognized in the document one of the functions of the city, it has not been given a specific goal in the realization of the strategy. This document has also been analysed to answer the research questions.

4. RESEARCH METHODOLOGY

The main aim of this research is to evaluate environmental dimension of urban tourism sustainability, to shed light on environmental integrity for tourism industry in urban areas. In order to determine the management efforts towards urban tourism environmental actions, the qualitative research design was employed; qualitative content analysis was used to identify how tourism-environmental agenda is demonstrated the urban development strategies and visions of the selected cities in Hungary. Content analysis is whereby valid inferences are systematically and objectively made from verbal, visual or written data (Downe-Wambolt, 1992). In this analysis, the purpose is to organize and elicit meaning from the data collected and draw realistic conclusions, (Polit & Beck, 2006.). This method is adopted for this research because it looks directly at texts and media and can be used to interpret them for purposes such as the development of expert systems as

pointed out by Busch, c., *et al* (2012). The interpretation is not limited to any criteria like number and size of the units and themes to be analysed. Units and theme considered for this study are the tourism-environmental elements of the selected city strategies. Four themes; physical integrity, biodiversity conservation, resource efficiency and environmental purity were deduced from the 12 aims of sustainable tourism development. As demonstrated by researchers, sustainable tourism has three dimensions of sustainability, namely, economic, social-cultural and environmental sustainability. Since this study focuses only on the environmental dimension of urban tourism sustainability, four elements which address the environment of urban areas were used to code the information. Coding themes and categorization have been illustrated below.

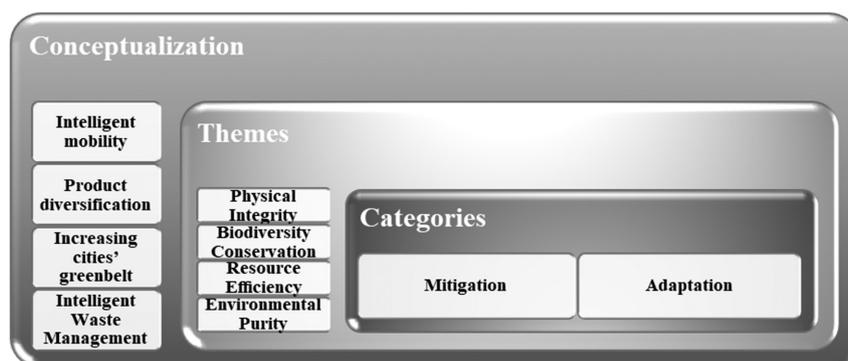


Figure 4: Coding system

Source: own research, 2019

This figure postulates that, tourism-environmental factors sited from the strategic documents were coded into, physical integrity, biodiversity conservation, resource efficiency and environmental purity themes and then summarized into mitigation and adaptation measure. Mitigation measures are the strategies aimed at reducing emissions whereas the adaptation measures are the strategies for adapting the changes in the environment and climate. Therefore, latent content analysis which is extended to an interpretive level in which the researcher seeks to find the underlying meaning of the text: what the text is talking about (Berg, 2001) was used.

Purposive sampling was used to select Budapest, Győr, Debrecen, Pécs and Szeged. The intention was to select cities that were the top old economic centres of Hungary and well distributed in the country. Apart from Budapest, the other four cities changed their economic ranking in the country in 2012. It is believed that due to earlier acquisition of the municipality statuses, there is noticeable policy strategic development over time and evaluating their urban and tourism related strategies would give better insights on development and sustainability. Therefore, these 5 cities were considered for this study basing on the economic power ranking in 1992, (Csomós, 2015).

Table 2: City Ranking in 1992 in Hungary

City	Population	Total tourist night (2017)	Economic Power (1990)	Area
Budapest	1,759,407	11,150,803	46.68	525.2
Debrecen	203,059	396,810	1.9	461.7
Győr	129,568	464,930	2.2	174.62
Pécs	145,347	559,624	1.79	162.61
Szeged	162,621	555,057	1.61	281
Total	2,400,002	12,351,5658	64.18	1605.13

Source: Csomós, 2015

5. FINDINGS

In this section, results of evaluation of urban development strategies are presented. There was no urban tourism or generic tourism specific long-term development strategy for the selected cities. In 1989 Ashworth noted the 'the double neglect' of urban tourism in academia. This research further confirms the neglect of urban tourism in municipality management strategies in Hungary, municipality strategists focused on urban development and whenever there was a focus on tourism, urban tourism is not mentioned. Therefore, the examination opened up to look for generic tourism themes manifested in the strategy. As shown in the figure below manifestation of tourism was almost not mentioned in Szeged Integrated Urban Strategy, and of course there exist tourism initiatives in the document and, therefore, feature in terms of activities and resources directly related to tourism were considered in the initial stage of coding. The strategies are all about development hence the study was keen on tourism development in the documents. The analysed strategic documents include:

- Budapest Integrated Urban Development Strategy 2013-2030,
- Győr Integrated Urban Development Strategy 2014-2020,
- Integrated Urban Development Strategy of the City of Debrecen 2014-2020,
- Pécs MJV urban development concept 2014-2030,
- Szeged Integrated Urban Development Strategy 2014-2020.

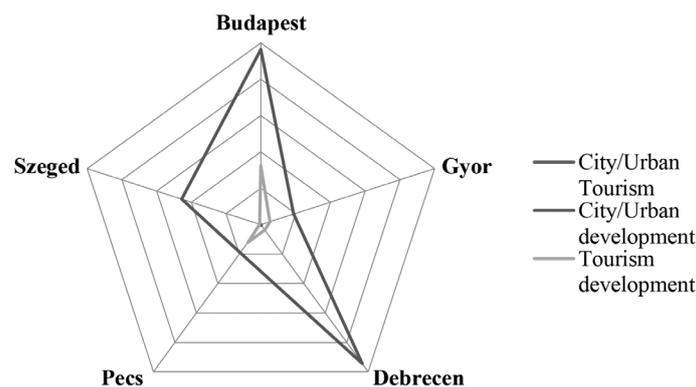


Figure 5: Popularity of Urban Tourism in Urban Development Plans

Source: own research, 2019

In this chart Urban Tourism was hardly recognized directly, only once by Debrecen, yet urban tourism system and its resources is more complex as compared to the generic tourism in other regions. Sustainable development of such a complex form of tourism requires smart policies and institutional coordination, and the genesis of this happening is distinguishing it from other kinds of tourism.

Of course, neglect of urban tourism doesn't mean absence of tourism, tourism in this city is thriving. These cities have tourism agenda as well as other agendas for other dimensions of the city. In this strategic document, in some instance, tourism development was mentioned and for most cases urban development was mentioned, but urban tourism development or rather Sustainable Urban Tourism concept was hardly recognized in the analysed Integrated Urban Development Strategies. Despite this, tourism initiatives were in the city were identified and categorised in four categories, the four categories are the environmental thematic action. This is because the sustainability in question is the environmental dimension. Therefore, dimensions of environmental sustainability include:

1. Physical integrity: initiatives that entailed enhancing the natural physical aesthetic value in the urban area,
2. Resource efficiency: plans that minimizes wastage and optimized conservation of resources,
3. Biodiversity conservation: actions aimed at conserving wildlife both fauna and flora in both terrestrial and aquatic environment,
4. Environmental purity: strategies focusing on reduction emission hence improving the quality of air.

As shown in figure 6 below, 49% of the tourism related plans implied enhancing physical integrity in the cities, 24% aimed at purifying the air, 12% biodiversity conservation and 15% of them were geared towards achieving resource efficiency.

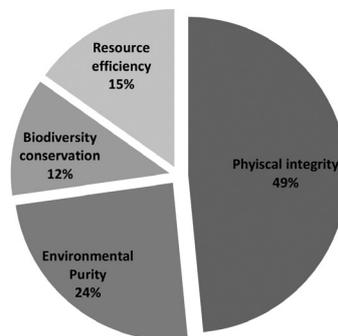


Figure 6: Dimensions of Environmental Sustainability

Source: Own research, 2019

Furthermore, these urban tourism related factors were summarized in two approaches to environmental sustainability: mitigation and adaptation. Mitigation approach comprises initiatives for reducing GHG emissions to ameliorate air purity while adaptation approach is made up of initiative for enhancing climate resilience, plans for city to adjust to irreversible changes in the climate and nature. It turns out that 65% of urban tourism initiatives are adaptation measures and 35% were mitigation initiatives.

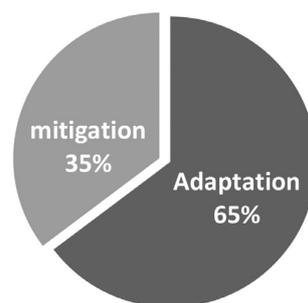


Figure 7: Approaches of Environmental & Climate Strategies

Source: Own research, 2019

Mitigation and adaptation approaches entail several processes that can be planned and be implemented simultaneously or separately. The planning detailed in the urban strategies are for the processes such as infrastructure and asset development, technological resource optimization, natural resource management and institutional and behavioural change. The table below outlines this processes and cited examples for Hungary.

Table 3: Mitigation and Adaptation Process

Process	Initiatives
Infrastructure and Asset Development	Development of bicycle and walkable pathway network
	Intelligent public transport network
	Memorial points and
Technological process optimization	Tourist information systems
	Intelligent mobility (electric and hybrid vehicles)
Integrated natural resources management	Water management
	Wildlife management
	Green parks management
Institutional and behavioural change	Destination regulations and policies
	Tourism management organization

Source: Mimura, N. *et al* (2014) & own research

6. CONCLUSION AND DISCUSSION

In this chapter, results are evaluated to discussed mitigation and adaptation plans in cities and to illustrate mitigation and adaptation process for urban tourism.

6.1. Adaptations

Adaptation plans are popular compared to mitigation plans. Arguably, urban tourism is a new concept therefore most of its plans focusing on its resilience to possible environmental and climate risks. Adaptation plans are meant to deal with the impacts that already occurred such as urban floods like the case of Szeged and Győr. This impact destroys the appeal of the city and the quickest response is to act to prevent future occurrence and to diversify recreation option in order to recover quickly. Environmental integrity, resource efficiency and biodiversity conservation can be discussed under adaptation, this is because these three elements give the city a higher adaptive capacity, it gives the city tourism the capacity to remain thriving even in the wake of environmental tragedy or changes.

To begin with, environmental integrity was the most favoured in the strategy development. This is made up of plans to improve the appeal of the city, for instance, renovation and restoration of monuments, the monument materials are questionable however the area surrounding the monuments are kept clean and green. Tourism product development strategies aimed at creating memorial points and thematic routes help to decongest major natural resource areas thus the management can control tourist densities in the city enhancing environmental values. Greening the city and increasing open spaces make the city more appealing, open spaces giving it a spectacular look and the green vegetation acting like carbon sinks and beautifying the city as well. Zoos and animal parks in the city widen the range of tourist attractions, therefore they play a significant role of dispersing tourists, and this reduce the magnitude of their impacts on a single area or major spots of the city. Lastly for environmental integrity, information technology can enhance adaptation significantly, like the case of Debrecen smart city initiative is taking good course, especially the QR codes for the tourist information at the attractions is informative and helping, using smart phones they get the information of the attraction quickly and move on, thus reducing the duration of a tourist at an attraction hence reducing congestions.

Moreover, urban tourism management can enhance resource efficiency; land, water and energy are the major supporter of the tourism industry, therefore initiatives to conserve them can go a long way to sustain urban tourism. For the case land, greening any possible free space can improve the

aesthetic value of the city as a destination, renovation of all the idle buildings can be advantageous; the abandoned old ruins and monuments were constructed with some materials that harmful to the environment and therefore renovating them to keep them economically and culturally active is better, thereby neutralizing their impact. As for water management, conservation measures can be put in place. Proper management of riverbanks can prevent future floods especially for Budapest, Győr and Szeged among other cities with water bodies in their municipality or close to them. Energy is vital, energy efficiency is needed. Through incentives and regulations, the municipality management can create an enabling environment for use of energy alternatives such as solar energy, wind energy, electricity and minimize the use of oil products while encouraging bio-oil.

Biodiversity forms an important tourism natural resource. Supporting the protected areas is crucial. Such areas include Zoos, parks, rivers and aqua parks. Having conservation replicas in place and aiding by them can help. National parks play a role in the ecosystem balance but as for the zoo's animal do need feed naturally and freely, their behaviour is also compromised therefore their role in ecosystem balance is compromised. However, conservation of these zoos is important for threatened animal species and tourist attraction.

6.2. Mitigation

Other than adaptation there is mitigation. In this research mitigation grouped plans that implied reducing GHG emissions in the atmosphere. There it was mainly made of initiative aimed at enhancing environmental purity. Environmental purity is feasible only on a scale but not 100% because of other industries and natural processes. Urban tourism industry still has to act. Such actions revolve around type of energy, energy efficiency and behaviour (tourists, residents and management).

Mitigation scored less as compared to adaptation in this research, this can be attributed to the time and resources required for mitigation. Cutting down the emissions is costly, for instance, it means transformations in the city. The research found out that such transformations include replacement of vehicles to use biofuel engines, hybrid or electric ones. It also means developing parking for vehicles so that public transport is used to minimise emission even though it will cause pressure on public transport. Use of the biking systems in the city and encouraging walkable tours in the city.

6.3. Urban Tourism Mitigation and Adaptation Process

The processes considered in this research are:

- (1) Infrastructure and Asset Development; increasing the green tourism infrastructure, this includes eco-recreational spaces in the city such as the green parks, squares and gardens. Infrastructure development process should foster transport inter-modal intelligence, this is whereby modes of transport like train, metro, tram and buses are linked up with cycling systems as well as promenades of the city. Asset development includes renovation and maintaining cultural and natural structures.
- (2) Technological process optimization; as pointed out earlier tourist information systems can play a role in influencing the flow of tourists, using QR codes can also be used to inform the tourists about the environmental code at attractions. Technology can also be embraced in the transport sector such as use of biofuel engines, solar and electric vehicles.
- (3) Integrated natural resource management; there should be an audit of the natural tourism

resources in the city, then urban tourism packages should be made in a manner adhering to the conservation policies and rule of law. (4) Institutional and behaviour change process; developing regulations for the city tourists, strict regulations for vehicles used for sightseeing's as well as regulations governing the use of public spaces. These will institute a discipline culture for the city that can reduce minor damages in the environment and promote adaptive capacity.

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