Sustainable Heritage City:

An Empirical Study to Address Study Limitations in Previous Studies

Yazid Saleh,[+] Hanifah Mahat,[++] Mohmadisa Hashim,[3] Nasir Nayan,[4] Samsudin Suhaily[5] & Mohamad Khairul Anuar Ghazali[6] (Malaysia)

Abstract

This article reviews the previously published studies on sustainable heritage cities, and to derive lessons for further research. The research method used is document analysis. A total of 30 journal articles from leading databases published in the five (5) years (2016–2020) were selected using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method. The results of the analysis can be broken down into the purpose of the study, methodology, selection of indicators and study area used in previous studies. The purpose of the past studies was to lead towards the development of sustainable heritage cities by using five (5) key measurement indicators: (1) economic, (2) social, (3) environmental, (4) cultural heritage, and (5) institution. The study area is divided into three (3) types: (1) city (urban area), (2) historical site, and (3) heritage building. However, there are still some research gaps in this field, such as methodology, indicator and study areas that need to be filled by future research. The vacancies left in this study will be the focus of future researchers to make the study in this field more impactful and holistic. The implications of this study can help the development of sustainable heritage cities, in keeping with the 2030 Agenda (Agenda, 2030).

Keywords: *Heritage City, Sustainable Development, Cultural, Sustainability Heritage City, 2030 Agenda*

+ Yazid Saleh, Associate professor, Department of Geography and Environment, Faculty of Human Sciences, Universiti Pendidikan Sultan Idris, Malaysia. email: yazid@fsk.upsi.edu.my.

++ Hanifah Mahat, Associate professor, Department of Geography and Environment, Faculty of Human Sciences, Universiti Pendidikan Sultan Idris, Malaysia. email: hanifah.mahat@fsk.upsi.edu.my.

3 Mohmadisa Hashim, Senior Lecturer, Department of Geography and Environment, Faculty of Human Sciences, Universiti Pendidikan Sultan Idris, Malaysia. email: mohmadisa@fsk.upsi.edu.my.

4 Nasir Nayan, Associate professor, Department of Geography and Environment, Faculty of Human Sciences, Universiti Pendidikan Sultan Idris, Malaysia. email: nasir@fsk.upsi.edu.my.

5 Samsudin Suhaily, Associate professor, Department of Geography and Environment, Faculty of Human Sciences, Universiti Pendidikan Sultan Idris, Malaysia. email: samsudin@fsk.upsi.edu.my.

6 Mohamad Khairul Anuar Ghazali, Grad Student, Department of Geography and Environment, Faculty of Human Sciences, Universiti Pendidikan Sultan Idris, Malaysia. email: kaiy22khairul@gmail.com.

Received 7/8/21 – Revised 4/22/22 – Accepted 5/21/22

Introduction

Studies related to sustainable heritage city development have long been conducted. At the global level, there have been various movements and policies that demand sustainable heritage city development efforts. From a global historical perspective, it is triggered through Limit to Growth (1972)(Meadows et al. 1972), followed by the Bruntland Report (1987) (Brundtland, 1987), Rio Summit (1992), Decade of Education for Sustainable Development (2004 - 2014) (DefSD) (UNDP 2017), Millennium Development Goals (United Nation, 2006) and, most recently, the Sustainable Development Goals with 17 key focuses that need to be acted upon by each country (UNESCO, 2017). The United Nations (UN) Member States have agreed to achieving the 17 development goals as outlined in the Sustainable Development Goals (SDGs) by 2030. In the context of urbanization, sustainable development has brought about various changes in the global urbanization agenda, including the Healthy Cities Movement, Local Agenda 21, and the New Urban Agenda (NUA). NUA has goals for a better and more sustainable future (Habitat III, 2016; Satterthwaite, 2016). This NUA was accepted at the UN Conference on Housing and Sustainable Urban Development (Habitat III) in Quito, the capital of Ecuador, on 20 October 2016. One of the aspirations in the NUA is to create a sustainable city.

The concept of a sustainable city includes all types of cities, such as a large city (capital or state capital), small towns, and heritage cities. The terms of heritage cities mentioned in the NUA have led to the development efforts of sustainable heritage cities. This effort has been driven by the United Nations Educational, Scientific and Cultural Organization (UNESCO), and since the 1972 Word Heritage Convention, various policies and governing bodies have been formed for sustainable development in the context of cultural heritage (UNESCO 2019). The main bodies that have joined UNESCO in ensuring sustainable development efforts are achieved by 2030 are the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM), International Council on Monument and Sites (ICOMOS), International Union for Conservation of Nature (IUCN), and International Charter for the Conservation and Restoration of Monuments and Sites (Venice Charter). This commitment has been demonstrated and is being implemented with a common goal of making the city and cultural heritage sustainable and continuously competitive over time(UNESCO, 2016; Guzman, Pereira Roders, & Colenbrander, 2017; Phuc & Felix, 2020; Manh, 2020).

The intensity shown by the international body with the formation of various policies, committees, and guidelines has attracted the interest of many researchers in areas related to sustainable urban development and cultural heritage. However, there is lack of clarity on the main objectives, methodology, indicators, and study areas used in the development of sustainable heritage cities. Therefore, this article highlights the empirical studies that have been conducted to examine the research gaps in the development of sustainable heritage cities.

Sustainable Heritage City

The debate over the definition of a sustainable heritage city is ongoing. There is a lack of clarity about what is meant by a sustainable heritage city. According to Micelli and Pellegrini (2017) and UNESCO (2016), sustainable heritage city devel-

opment is able to follow the dynamics of the heritage city environment for the benefit of current and future generations. Determining the sustainability of heritage cities is more critical compared to the other types of cities because there are elements of heritage that need to be preserved and maintained for originality. All sustainable urban development efforts in the context of heritage cities must follow the heritage mould of an area. Former UN secretary-general Ban Ki-Moon said that in order to achieve sustainable development heritage city status, it is necessary to make heritage an important agenda in development.

The efforts made by UNESCO, NUA, and other responsible bodies are the right step towards the 2030 Agenda, as outlined in the SDGs. The SDGs include 17 goals, and the 11th goal outlines the development of sustainable cities and communities. Under this 11th goal, Target 11.4 mentions the need for all countries to mobilise efforts for the management and development of sustainable cities in the context of cultural heritage. In short, a safe, livable, and inclusive safe heritage city needs to be formed for the general public United Nation, “Sustainable Development Goals (SDGs)." Hence, how far does the studies have full fill the needed of the sustainable development as request by SDGs?.

Materials and Methods

The research method employed is a qualitative study using secondary data from previous studies. The analysis used is document analysis. The research method is based on indexed journal databases. The indexed journal databases are also among the comprehensive search engines by selecting only quality research. The databases include Scopus, Science Direct, Elsevier, SpringerLink, ResearchGate, Routledge, and MDPI. The use of multiple search engines is one way to reduce bias that focuses only on one source.

The search strategy to select the articles was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). The guidelines provided by PRISMA assist in the effort to check and evaluate the quality of the study. In addition, the PRISMA method can help to provide minimum requirements as a prerequisite for the study protocol. Through this PRISMA protocol, the article criteria are identified that can be selected or removed, so that the study highlighted coincides with the title of the study that has been set, and the analysis will be more organized.

A total of 30 articles published in leading journals from 2016 to 2020 were selected (details are presented in Figure 1's table). These articles were analyzed based on three levels. The first stage is to conduct an analysis based on the sustainability indicators. This indicator is the largest scope used in the development of sustainability and covers all sub-indicators. The discussion focuses on the frequency value of an indicator. The second stage is analysis based on the sub-indicators. The discussion in this second stage is the same as in the first stage, which is based on the frequency value of the sub-indicator used. Finally, the third stage is the analysis based on the purpose, study area, and research approach used in the previous studies. This discussion focuses on the gaps that future studies need to fill.

No.	Name/Tile of Journal	Article Number
1.	International Journal of Heritage Studies	7
2.	Cities	4
3.	Sustainability	4
4.	The Historic Environment: Policy & Practice	3
5.	Journal of Cultural Heritage	2
6.	Resources, Conservation & Recycling	1
7.	Quality Innovation Prosperity	1
8.	Buildings	1
9.	Applied Geography	1
10.	International Journal of Heritage and Sustainable Development	1
11.	Place Branding and Public Diplomacy	1
12.	Annals of Tourism Research	1
13.	Third World Quarterly	1
14.	Journal Of Heritage Tourism	1
15.	Sustainable Cities and Society	1
16.	Tourism Management	1
Total		30

Figure 1. Table showing the names and titles of selected journals.

Purpose of Sustainable Heritage City Development

The main purpose of the research in the field of sustainable development is to meet the development needs as suggested in the SDGs for the benefit of the local community. However, in small-scale research, this purpose is broken down into various types and requirements because it is based on limited capabilities. But the original purpose is the same: the development of a sustainable heritage city. The literature review in this section examines the purpose of previous studies, the level of study, and the methodology used (Figure 2's table).

The result of the highlights made on 30 articles, trends or the purpose of many research is the initial research or first stage (refer to Figure 2's table) for the development of a sustainable heritage city. Most research is still at the stage of exploring and identifying what is needed in this field. Martinez (2017); Micelli and Pellegrini (2017); Perez and Martinez (2017); Seduikyte, Grazuleviciute-Vileniske, Kvasova, and Strasinskaite (2018); Tan, Tan, Kok, and Choon (2018); Ginzarly, Houbart, and Teller (2018); Ginzarly, Roders, and Teller (2018); Khalaf (2018); Leus and Verhelst (2018); Wiktor-Mach (2019); and dan Wang and Gu (2020) focus more on early stage research in the field of sustainable development in the context of a heritage city. These studies were conducted to examine what indicators, theoretical frameworks, methods, and assessments are appropriate to achieve cultural heritage sustainability status. These studies are also more qualitative because the data used are from secondary sources, including annual reports, previous studies, and official websites. The results of this initial study can be used as a guide in formulating future research. In addition, this preliminary study also aims to develop guidelines based on past research. Such a study can be a catalyst for future research.

As a sequence from first stage, the emergence of further research related to the development of sustainable heritage cities. This second stage research is more about testing, practice and actual implementation of the theoretical framework, guidelines and indicators proposed in the field as in the studies conducted by Martinez (2016); Ripp and Rodwell (2016); Gravagnuolo and Girard (2017); Nocca (2017);

No.	Reference	Purpose	Stage	Methodology
1.	Foster, (2020)	Eliminate the problem of abandoned heritage buildings (Conservation).	Second	Qualitative
2.	Wang & Gu, (2020)	Incorporate tourism development and management indicators to form a comprehensive framework in the development of sustainable heritage cities.	First	Quantitative
3.	DeSilvey & Harrison, (2020)	Examine the importance of the future in the field of heritage studies.	Second	Qualitative
4.	Kim & Kwon, (2020)	Examine the new perspectives in formulating policies in the context of cultural heritage	First	Qualitative
5.	Pham et al., (2019)	The assessment of land use change in heritage cities.	Second	Quantitative
6.	Karoglou et al., (2019)	Creating a culturally based neighborhood identity, environmentally based heritage development management.	Second	Quantitative
7.	Poon, (2019)	Analyze the influence of cultural heritage in the construction of modern buildings	Second	Quantitative
8.	Zandieh & Seifpour, (2019)	Seeing space changes in influencing the authenticity of heritage sites.	Second	Quantitative
9.	Wiktor-Mach, (2019)	Study the evolution of ideas and concepts that link development and heritage.	First	Qualitative
10.	Gentry & Smith, (2019)	Discuss limitations and biases (weaknesses) in heritage-related studies.	Third	Qualitative
11.	Hossain & Barata, (2019)	Shows how interpretative mapping can combine historical chronological information, landscapes, monuments, and cultures from a historical place.	Second	Quantitative
12.	Rodwell, (2018)	Studies related to commitment to the protection of cultural and environmental heritage.	Second	Quantitative
13.	Leus & Verhelst, (2018)	Creating a framework for sustainable development indicators.	First	Qualitative
14.	Ginzarly, Houbart, & Teller, (2018)	Build a graphical presentation in the process of heritage conservation.	First	Qualitative
15.	Su, Bramwell, & Whalley, (2018)	Study the economic, political, cultural relationship to heritage tourism.	Second	Mix Method
16.	Khalaf, (2018)	Exploring the effectiveness of the Heritage City Landscape (HUL) on the preservation of cultural heritage.	First	Qualitative
17.	Patiwael, Groote, & Vanclay, (2018)	Criticize Heritage Impact Assessment (HIA) guidelines.	Third	Qualitative
18.	Ginzarly, Roders, & Teller, (2018)	Assist people for a better understanding of heritage sites and attributes in the development of a sustainable heritage city.	First	Qualitative
19.	Guzman, Pereira, & Colenbrander, (2018)	Finding the relationship between heritage management and the sustainability dimension.	Second	Quantitative
20.	Tan, Tan, Kok, & Choon, (2018)	Understand how to preserve intangible heritage accurately.	First	Mix Method
21.	Seduikyte, Grazuleviciute-Vileniske, Kvasova, & Strasinskaite, (2018)	Provide an overview and transfer of knowledge related to sustainable heritage development.	First	Qualitative
22.	Nocca, (2017)	To observe the double relationship between the dimensions of sustainability with the tourism sector and climate change.	Second	Qualitative
23.	Guzman, Pereira Roders, & Colenbrander, (2017)	Consolidation of cultural heritage indicators into the development of sustainable city.	First	Qualitative
24.	Gravagnuolo & Girard, (2017)	Focuses on multidimensional needs, multidisciplinary assessment and impact assessment to transfer heritage or landscape into a driver of sustainable development.	Second	Qualitative
25.	Perez & Martinez, (2017)	Identify new opportunities and ideas in maintaining the authenticity and value of local heritage city.	First	Quantitative
26.	Micelli & Pellegrini, (2017)	Determining the right framework and appropriate to the dynamics of the heritage city.	First	Quantitative
27.	Martinez, (2017)	Develop a framework for assessing authenticity of cultural heritage using heritage conservation theory.	First	Quantitative
28.	Ripp & Rodwell, (2016)	Integrated cultural heritage restoration in sustainable development.	Second	Quantitative
29.	Martinez, (2016)	Evaluate the integration of contemporary commercial architecture into a historic environment (adaptation).	Second	Quantitative
30.	Fredheim & Khalaf, (2016)	Know the importance and disadvantages of the topology values of heritage conservation and management.	Third	Qualitative

Figure 2. Table showing the purpose, research level and previous study methodologies.

Guzman, Pereira, and Colenbrander (2018); Su, Bramwell, and Whalley (2018); Rodwell (2018); Hossain and Barata (2019); Zandieh and Seifpour (2019); Poon (2019); Karoglou et al. (2019); Pham, Nghiem, Bui, Pham, and Pham (2019); DeSilvey and Harrison (2020); and Foster (2020), they conducting research in the nature of assessments, communications, and integration into the development of sustainable heritage cities at all around the world. The theoretical framework, models, guidelines examined during the first stage are brought down the space to test the effectiveness and obtain the results as planned. In this stage, the use of methodology also mix which either quantitative, qualitative, or mix method (quantitative and qualitative) based on the needs and questions of the study. The research in this second stage is also more about case study (involving the study area) which is data source collected is the result of field observed by the researcher or the representative. The result of the data analysis in this second stage of study is a reflection of the real situation. An assessment of the level of sustainability of the heritage cities can be obtained from these studies.

Next, the third stage is more to be critical and discussion of the study conducted in the first and second stages. The criticism and discussion seek to find shortcomings and further improve in relation to frameworks, theories, and indicators to achieve more significant and better-quality results. Among the studies involving criticism are those by Fredheim and Khalaf (2016); Patiwael, Groote, and Vanclay (2018); and Gentry and Smith (2019). They criticized the guidelines in the Heritage Impact Assessment (HIA) and the shortcomings in studies related to heritage. However, such critical study is rare because it requires relevant arguments and facts. In addition, studies related to the development of sustainable heritage cities are still lacking. Scholars are just starting to delve into this field. The father of heritage studies, David Lowenthal, introduced many new guidelines and frameworks for studies related to cultural heritage (Gentry & Smith, 2019). This shows that studies in the field of sustainable heritage city development still have gaps that need to be filled.

Use of Sustainability Indicators

The study of sustainable urban development will focus on indicators used as the measurement variables. Sustainability indicators should be present from the micro level to the macro level and include all elements in the current environment Mahat et al., (2020). Elements of sustainable development used as an indicator of measurement were first introduced in 1987 through the World Commission on Environment and Development in the "Our Common Future" report, better known as the Brundland Report, as economic, social, and environmental elements (Nocca, 2017). These three key indicators are widely used in sustainable development both globally and locally. Nevertheless, are these three key indicators of sustainability fully utilized by past studies related to the development of sustainable heritage cities? Therefore, this section identifies the types of indicators used in the study of sustainable urban development cities.

Figure 4's table shows the distribution of indicators used in the development of sustainable heritage cities. Based on the literature review, 13 studies used economic indicators in sustainability measurement. Among the issues related to the economic indicators are the economic cycle, market size, type of business, capital size, labour, and wage rates. Social indicators are found in 16 studies, such as

those by Gentry and Smith (2019); Wiktor-Mach (2019); and Foster (2020). Micro issues related to the social indicators used in these studies are housing, basic facilities, systematic building layout, and transportation. The third indicator is the environment. Fourteen studies used natural indicators as one of the main indicators for measuring the development of sustainable heritage cities. The fourth indicator is cultural heritage, which is an important core in sustainable development in the context of a heritage city (Watanasin 2020). Indicators of cultural heritage are rarely used by mainstream urban development studies. Out of 30 studies, 24 used cultural heritage indicators. This shows that many scholars have responded to the SDGs, UNESCO, and NUA to place cultural heritage indicators as one of the main pillars of sustainability measurement. Lastly are institutional indicators. These indicators are rarely used on their own, as most studies combined institutional indicators with economic and social indicators. The institutions are governments, politics, policy, social acceptance, government efforts and knowledge, as well as the behavior of all parties. The role of institutions is very important in ensuring the survival of cultural heritage in a city is preserved (Manh, 2020; Ghazali, Saleh, and Mahat, 2021; Saleh et al., 2021; Purwantiasning, 2021). This makes institutional indicators eligible to stand alone from other sustainability indicators.

After highlighting the five indicators of the sustainability of heritage cities, it can be concluded that all the dimensions found in the heritage city should be taken into account. These five indicators include all the elements found in a heritage city. Graphically, the sustainability indicators of the heritage city are shown in Figure 3.

Each indicator is related to each other; that is, they need each other. Each indicator needs to work well to form a sustainable heritage city. If there is a defect in one of the indicators, then there will be problems in the heritage urban environment.

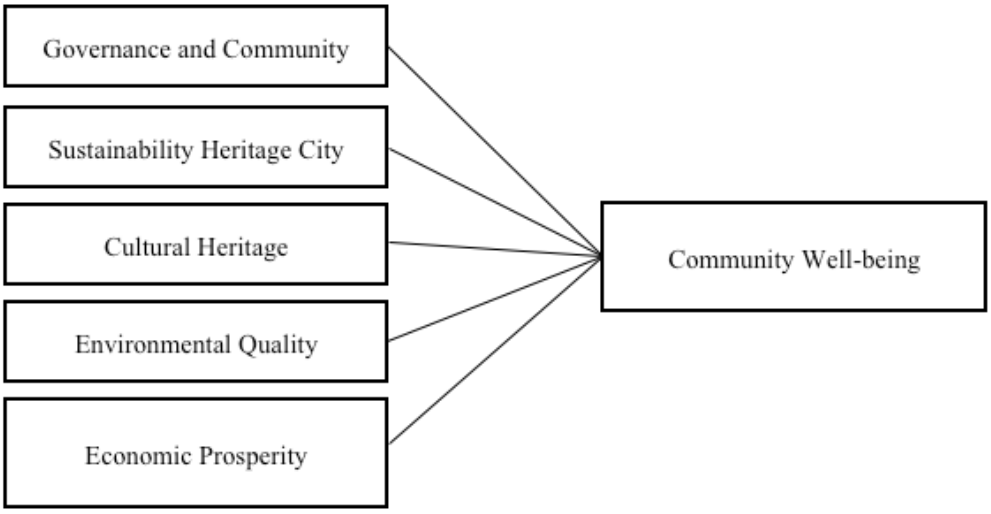

Figure 3. Graphic of heritage sustainability indicators.

Reference		Sustainability Indicators				
		Economic	Social	Environmental	Cultural Heritage	Institution
1.	Foster, (2020)	√	√	√	√	
2.	Wang & Gu, (2020)		√		√	
3.	DeSilvey & Harrison, (2020)	√		√		√
4.	Kim & Kwon, (2020)			√		√
5.	Pham et al., (2019)			√	√	
6.	Karoglou et al., (2019)			√	√	
7.	Poon, (2019)		√		√	
8.	Zandieh & Seifpour, (2019)	√	√		√	
9.	Wiktor-Mach, (2019)	√	√	√	√	
10.	Gentry & Smith, (2019)		√		√	√
11.	Hossain & Barata, (2019)				√	
12.	Rodwell, (2018)			√	√	
13.	Leus & Verhelst, (2018)	√	√	√	√	√
14.	Ginzarly, Houbart, & Teller, (2018)		√		√	√
15.	Su, Bramwell, & Whalley, (2018)	√			√	√
16.	Khalaf, (2018)				√	
17.	Patiwael, Groote, & Vanclay, (2018)				√	
18.	Ginzarly, Roders, & Teller, (2018)				√	
19.	Guzman, Pereira, & Colenbrander, (2018)	√	√	√		
20.	Tan, Tan, Kok, & Choon, (2018)		√	√		
21.	Seduikyte, Grazuleviciute-Vileniske, Kvasova, & Strasinskaite, (2018)	√	√	√	√	
22.	Nocca, (2017)	√	√	√		
23.	Guzman, Pereira Roders, & Colenbrander, (2017)	√	√		√	
24.	Gravagnuolo & Girard, (2017)	√	√		√	
25.	Perez & Martinez, (2017)				√	
26.	Micelli & Pellegrini, (2017)	√	√	√		√
27.	Martinez, (2017)				√	√
28.	Ripp & Rodwell, (2016)	√	√	√	√	√
29.	Martinez, (2016)				√	
30.	Fredheim & Khalaf, (2016)				√	
Total		13	16	14	24	9

Figure 4. Table of the heritage city sustainability indicators.

Sustainable Heritage City Development Study Areas

This study area is the same study area used by the 30 selected studies. It was divided into three areas: heritage city areas, heritage sites or historical sites, and heritage buildings (Figure 5's table). The largest context is the heritage city itself, which includes the whole element, including heritage sites and heritage buildings. All elements found in the heritage city are used as the subject of the study, and this study is the most accurate study to measure the level of sustainability of the heritage city. However, there are also studies that only take a particular part or certain elements in a city, such as the studies by Pham et al. (2019) and

Foster (2020), as well as other studies that only involve the historical areas and heritage buildings. The historical areas and heritage buildings studied are within the heritage city, but the study only focuses on those elements alone, which do not involve the entire city. Taking certain parts or elements in a heritage city for the purpose of sustainable development is less effective because the impact is not holistic. However, there are still micro-implications for sustainable development efforts. Thus, the most effective study in measuring the level of sustainability of heritage cities uses all the elements found in heritage cities as the subject of measurement.

A heritage city refers to a city that has been built for centuries, has a unique architectural design and identity, and is inhabited by a distinctive community, as mentioned in the 1972 World Heritage Conference. It also has a complete and functional urban ecosystem as most other cities with its dynamic elements. Therefore, the assessment of sustainability in the context of a heritage city is quite difficult to implement, as there are many elements that need to be taken into account, and those elements are constantly changing Ross (2020). However, efforts related to sustainability measurement should always be made so that the assessment is always relevant. The results of the literature review also show that sustainable development in the context of heritage is the main subject of 21 studies. Among the areas selected for sustainable development studies are Northern Italy (Italy) (Micelli & Pellegrini, 2017), Cuenca (Ecuador) and Ballarat (Australia) (Perez & Martinez, 2017), Nanjing (China) (Su et al., 2018), Georgetown and Melaka City (Malaysia) (Tan et al., 2018), and Khalifatabad and Barobazar (Bangladesh) (Hossain & Barata, 2019). Other studies (first-stage studies) were conducted in general for the use of all types of areas in the study of heritage city development.

The second study area is a heritage site or historical site. These heritage sites only focus on protected sites that have aesthetic value, such as forts, ancient settlement areas, mining sites, caves, and other areas that have historical discoveries or remains, such as artifacts and monument fragments. Among the heritage sites that have been studied by previous researchers are Guozijian protected areas (Beijing, China) (Martinez, 2016), the Shanghai Music Valley (Shanghai, China) (Martinez, 2017), and the Complex of Hu Monuments (Vietnam) (Pham et al., 2019). Often, studies related to these heritage sites are focused towards preservation, conservation, and management. These three elements are among the sub-indicators in the development of a sustainable heritage city. Preservation, conservation, and management of heritage sites are essential for survival. The preservation of heritage sites will ensure that the legacy of previous generations is not destroyed for the benefit of present and future generations (Purwantiasning and Kurniawan, 2020). Relics of heritage sites can be a source of education for the next generation to get to know each identity and the identity of the nation. Moreover, they can be an exclusive tourism asset as well as a valuable national treasure. However, only four studies use heritage sites as a study area because studies related to heritage sites are more often conducted in the context of history and archeology than sustainable development. Even so, sustainable development in the context of heritage sites is also important to implement.

Furthermore, studies in the field of sustainable development are also conducted by making heritage buildings as the main study area. Studies that use heritage buildings as study areas or key subjects have less impact on sustainable development. This is because the impact of the study is only focused on the building. Such studies are also more focused on the process of preservation, conservation, and management of the design, architectural elements, age, durability, and originality of the building (Ancho and Mark, 2021). Among the types of buildings used in previous studies are market buildings (markets) and traditional bazaars (Zandieh & Seifpour, 2019), flat houses (Karoglou et al., 2019), and street buildings (shophouses, etc.) (Foster, 2020; Poon, 2019). The studies on heritage buildings also contribute to micro-sustainable development. Therefore, these studies should also be carried out regularly to meet the requirements of Target 11.4 in the 11th goal of the SDGs, which is the effort to preserve the elements of local cultural heritage.

	Reference	Study Areas		
		City	Site	Building
1.	Foster, (2020)			√
2.	Wang & Gu, (2020)	√		
3.	DeSilvey & Harrison, (2020)	√		
4.	Kim & Kwon, (2020)	√		
5.	Pham et al., (2019)		√	
6.	Karoglou et al., (2019)			√
7.	Poon, (2019)			√
8.	Zandieh & Seifpour, (2019)			√
9.	Wiktor-Mach, (2019)	√		
10.	Gentry & Smith, (2019)		√	
11.	Hossain & Barata, (2019)	√		
12.	Rodwell, (2018)	√		
13.	Leus & Verhelst, (2018)	√		
14.	Ginzarly, Houbart, & Teller, (2018)	√		
15.	Su, Bramwell, & Whalley, (2018)	√		
16.	Khalaf, (2018)	√		
17.	Patiwael, Groote, & Vanclay, (2018)	√		
18.	Ginzarly, Roders, & Teller, (2018)	√		
19.	Guzman, Pereira, & Colenbrander, (2018)	√		
20.	Tan, Tan, Kok, & Choon, (2018)	√		
21.	Seduikyte, Grazuleviciute-Vileniske, Kvasova, & Strasinskaite, (2018)			√
22.	Nocca, (2017)	√		
23.	Guzman, Pereira Roders, & Colenbrander, (2017)	√		
24.	Gravagnuolo & Girard, (2017)	√		
25.	Perez & Martinez, (2017)	√		
26.	Micelli & Pellegrini, (2017)	√		
27.	Martinez, (2017)		√	
28.	Ripp & Rodwell, (2016)	√		
29.	Martinez, (2016)		√	
30.	Fredheim & Khalaf, (2016)	√		
Total		21	4	5

Figure 5. Table of sustainable heritage city development study areas.

Study Limitations

This study gap is formed for future researchers' reference in the field of sustainable heritage city development. There are some vacancies and shortcomings that need to be addressed in this field in the methodology, indicators and study area.

First, research gap is the lack of studies on sustainable heritage city development conducted using quantitative methods and mixed methods. As shown in Table 1, many studies were conducted using quantitative methods. According to Guzman et al. (2017), studies in the field of sustainable heritage city development need a diversified methodology due to the inconsistent and dynamic urban nature, which requires various research methods to obtain relevant results. In addition, studies in this field are still in the early stages, so there is still no practical method to use. The use of various methodologies in the same field allows a comparison of the effectiveness of the selected methods. One of the most practical methods can be issued for official use in the future.

Secondly, all key indicators in sustainability have been used by scholars in previous studies. However, there are still a few additions that can be made by combining all the indicators in the same framework. In the trends shown in Table 3, only certain indicators are used for a single study, and all five indicators are not combined at once. Only Ripp and Rodwell (2016) and Leus and Verhelst (2018) combined the five indicators namely, economic, social, environmental, cultural, and institutional heritage in a single study. Using all five indicators in one study will lead to more comprehensive and integrated results in the measurement of sustainable development. This is because the dynamics of a heritage city require a comprehensive indicator. Therefore, a large enough space is still left for future research in sustainable development to use all sustainability indicators in one study.

Lastly, using heritage cities holistically (heritage cities, heritage sites, and heritage buildings) as study areas is the most appropriate choice because assessment can be done comprehensively. This is because in a heritage city, there must be historical sites, heritage buildings, and intangible culture. Using only one study has overshadowed all types of study areas, as shown in Table 4. However, the assessment of sustainable development first can be done at a micro scale and move towards the macro scale. Start with a small area first and then with a larger area until a heritage city is complete. The selection of some of the historic sites and heritage buildings found in the heritage city is a practical step, especially in small-scale research that has financial, time, and manpower constraints. However, it cannot be used as an indicator for the overall sustainability of the city. But if the study uses only certain parts of the historic site or heritage building combined with other sustainability studies in the same city, it can have a big impact on the city. In addition, the selection of historical sites and specific heritage buildings can provide more in-depth results than conducting general research. The assessment can be done more carefully and systematically. Therefore, it is recommended for researchers who have future constraints to select only specific heritage sites and heritage buildings because they can make an in-depth assessment. However, to study the level of sustainability as a whole, it is recommended to do a macro study that involves all the elements in a heritage city.

Conclusion

In conclusion, the development of a sustainable heritage city still has a lot of empty space that needs to be filled. The results of this literature review clearly show the space left by previous researchers. In terms of the purpose and objec-

tives of the study found in the previous study still needs to be enhanced and enlarged to overshadow the sustainability of the heritage city holistically not only involves certain issues only. The construction of guidelines and frameworks needs to be diversified to ensure that no issues are left out in the development efforts of sustainable heritage cities around the world. Elements of cultural heritage need to be highlighted in the measurement of sustainable urban development. Indicators of sustainable urban measurement should involve the heritage elements that underlie a city equivalent to the economic, social and environmental elements. Next an urban sustainability index that includes all indicators of urban dynamics can be created. Many people are unaware that cultural heritage is one of the drivers of sustainable development in the Agenda 2030 especially in the context of urban development. Cultural heritage supports sustainable economic development, the formation of prosperous communities, the formation of a conducive environment and so on. Cultural heritage is able to generate an economy based on heritage tourism, form a harmonious society by cultivating a sense of belonging as a result of the identification of origins, save the use of natural resources by reusing existing heritage elements and so on. The values brought by cultural heritage cross borders and complement every existing dimension in sustainable urban development. These studies should also be multiplied throughout cities and heritage areas around the world. Therefore, efforts towards sustainable development must be intensified from time to time until they reach the real purpose as required in the 2030 Agenda. With this effort, the heritage city will become an inclusive, safe, and livable city for all communities. Sustainable urban development efforts involve not only planning on paper but also physical endeavours that encompass all aspects, starting with holistic objectives, the construction of various indicators, and application throughout areas that are categorized as local and world heritage. With such efforts, the 2030 Agenda can definitely be realized.

References

Ancho, I., and P. S. J. Mark. "Preservation of Heritage School Buildings in the Philippines: A Case Study of the Gabaldon Buildings." *Journal of Urban Culture Research* 22 (2021):104-116. https://doi.org/https://doi.org/10.14456/jucr.2021.8.

Brundtland, G. H. "Report of the World Commission on Environment and Development: Our Common Future," 1987. https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf. (accessed April 20, 2021).

DeSilvey, C., and R. Harrison. "Anticipating Loss: Rethinking Endangerment in Heritage Futures." *International Journal of Heritage Studies* 26, no. 1 (2020):1–7. https://doi.org/https://doi.org/10.1080/13527258.2019.1644530.

Foster, G. "Circular Economy Strategies for Adaptive Reuse of Cultural Heritage Buildings to Reduce Environmental Impacts." *Resources, Conservation & Recycling* 152 (2020). https://doi.org/https://doi.org/10.1016/j.resconrec.2019.104507.

Fredheim, L. H., and M. Khalaf. "The Significance of Values: Heritage Value Typologies Re-Examined." *International Journal of Heritage Studies* 22, no. 6 (2016):466–81. https://doi.org/http://dx.doi.org/10.1080/13527258.2016.1171247.

Gentry, K., and L. Smith. "Critical Heritage Studies and the Legacies of the Late-Twentieth Century Heritage Canon." *International Journal of Heritage Studies* 2019. https://doi.org/https://www.tandfonline.com/action/showCitFormats?doi=10.1080/13527258.2019.1570964.

Ghazali, M. K. A., Y. Saleh, and H. Mahat. "Pembinaan Kerangka Konstruk Kelestarian Bandar Warisan Di Malaysia." *Geografia-Malaysian Journal of Society and Space* 17, no. 1 (2021):211–26. https://doi.org/https://doi.org/10.17576/geo-2021-1701-16. [in Malay]

Ginzarly, M., C. Houbart, and J. Teller. "The Historic Urban Landscape Approach to Urban Management: A Systematic Review." *International Journal of Heritage Studies* 25, no. 16 (2018):1–21. https://doi.org/http://dx.doi.org/10.1080/13527258.2018.1552615.

Ginzarly, M., A. P. Roders, and J. Teller. "Mapping Historic Urban Landscape Values through Social Media." *Journal of Cultural Heritage* 2018. https://doi.org/https://doi.org/10.1016/j.culher.2018.10.002.

Gravagnuolo, A., and L. F. Girard. "Multicriteria Tools for the Implementation of Historic Urban Landscape." *Quality Innovation Prosperity* 21, no. 1 (2017). https://doi.org/https://doi.org/10.12776/qip.v21i1.792.

Guzman, P. C., A. R. Pereira Roders, and B. J. F. Colenbrander. "Measuring Links between Cultural Heritage Management and Sustainable Urban Development: An Overview of Global Monitoring Tools." *Cities* 60 (2017):192–201. https://doi.org/http://dx.doi.org/10.1016/j.cities.2016.09.005.

Guzman, P., A. R. Pereira, and B. Colenbrander. "Impacts of Common Urban Development Factors on Cultural Conservation in World Heritage Cities: An Indicators-Based Analysis." *Sustainability* 10, no. 835 (2018). https://doi.org/http://dx.doi.org/10.3390/su10030853.

Habitat III. "New Urban Agenda," 2016. http://habitat3.org/the-new-urban-agenda/. (accessed April 20, 2021).

Hossain, S., and F. T. Barata. "Interpretative Mapping in Cultural Heritage Context: Looking at the Historic Settlement of Khan Jahan in Bangladesh." *Journal of Cultural Heritage* 39 (2019): 297–304. https://doi.org/https://doi.org/10.1016/j.culher.2018.09.011.

Karoglou, M., S. S. Kyvelou, C. Boukouvalas, C. Theofani, A. Bakolas, M. Krokida, and A. Moropoulou. "Towards a Preservation-Sustainability Nexus: Applying LCA to Reduce the Environmental Footprint of Modern Built Heritage." *Sustainability* 11, no. 21 (2019):6167. https://doi.org/http://dx.doi.org/10.3390/su11216147.

Khalaf, R. W. "A Proposal to Apply the Historic Urban Landscape Approach to Reconstruction in the World Heritage Context." *The Historic Environment: Policy & Practice* 9, no. 1 (2018):39–52. https://doi.org/https://doi.org/10.1080/17567505.2018.1424615.

Kim, S., and H. Kwon. "Sustainable Regeneration through the Cultural Conversion of Urban Heritage." *Sustainability* 12, no. 7 (2020):2932. https://doi.org/http://dx.doi.org/10.3390/su12072932.

Leus, M., and W. Verhelst. "Sustainability Assessment of Urban Heritage Sites." *Buildings* 8, no. 8 (2018):107. https://doi.org/doi:10.3390/buildings8080107.

Mahat, H., M. Hashim, Y. Saleh, N. Nayan, S. Suhaili, and S. B. Norkhaidi. "Determination of Physical Geographical Components in the Construction of Environmental Sustainability Awareness Index of the Malaysian Society." *Asia-Pacific Social Science Review 2020* no. 3 (2020):142-52.

Manh, D. N. "The Cultural Development of Vietnam: Updating Policy for 2020." *Journal of Urban Culture Research* 21 (2020):54–66. https://doi.org/DOI:10.14456/jucr.2020.12.

Martinez, P. G. "Authenticity as a Challenge in the Transformation of Beijing's Urban Heritage: The Commercial Gentrification of the Guozijian Historic Area." *Cities* 59 (2016):48-56. https://doi.org/http://dx.doi.org/10.1016/j.cities.2016.05.026.

Martinez, P. G. "Urban Authenticity at Stake: A New Framework for Its Definition from the Perspective of Heritage at the Shanghai Music Valley." *Cities* 70 (2017):55-64. https://doi.org/http://dx.doi.org/10.1016/j.cities.2017.06.017.

Meadows, D. H., D. L. Meadows, J. Randers, and W. W. Behrens III. *The Limit to Growth*. New York: Universe Books, 1972.

Micelli, E., and P. Pellegrini. "Wasting Heritage. The Slow Abandonment of the Italian Historic Centers." *Journal of Cultural Heritage* 31 (2017):180-88. https://doi.org/https://doi.org/10.1016/j.culher.2017.11.011.

Nocca, F. "The Role of Cultural Heritage in Sustainable Development: Multidimensional Indicators as Decision-Making Tool." *Sustainability* 9, no. 10 (2017):1882. https://doi.org/http://dx.doi.org/10.3390/su9101882.

Patiwael, P. R., P. Groote, and F. Vanclay. "Improving Heritage Impact Assessment: An Analytical Critique of the ICOMOS Guidelines." *International Journal of Heritage Studies* 25, no. 4 (2018):333–47. https://doi.org/https://doi.org/10.1080/13527258.2018.1477057.

Perez, J. R., and P. G. Martinez. "Lights and Shadows over the Recommendation on the Historic Urban Landscape: 'Managing Change' in Ballarat and Cuenca through a Radical Approach Focused on Values and Authenticity." *International Journal of Heritage Studies* 24, no. 1 (2017):101-16. https://doi.org/doi=10.1080/13527258.2017.1362572.

Pham, V. M., S. V. Nghiem, Q. T. Bui, T. M. Pham, and C. V. Pham. "Quantitative Assessment of Urbanization and Impact in the Complex of Hue Monuments, Vietnam." *Applied Geography* 112, no. 40 (2019). https://doi.org/https://agris.fao.org/agris-search/search.do?recordID=US202000023546.

Phuc, L. T. N., and M. S. Felix. "Scoping Review: An Anthropological Analysis of the Beliefs of the Elderly That Influence the Use of Traditional/Complementary and Alternative Medicine." *Asia-Pacific Social Science Review* 20, no. 4 (2020):136-49.

Poon, S. T. F. "Reimagining the Place and Placelessness: Heritage Symbolism and Hospitality Architectural Designs." *Place Branding and Public Diplomacy* 15, no. 4 (2019):96. https://doi.org/https://doi.org/10.1057/s41254-019-00133-7.

Purwantiasning, A. W. "Revealing the Paradox of a Heritage City Through Community Perception Approach: A Case Study of Parakan, Temanggung, Central Java, Indonesia." *Journal of Urban Culture Research* 23 (2021):123-35. https://doi.org/DOI:10.14456/jucr.2021.23.

Purwantiasning, A. W., and K. R. Kurniawan. "Revealing the History of Parakan Through the Architectural Heritage of Kauman Parakan, Central Java, Indonesia." *Journal of Urban Culture Research* 20 (2020):85-96. https://doi.org/DOI:10.14456/jucr.2020.6.

Ripp, M., and D. Rodwell. "The Governance of Urban Heritage." *The Historic Environment: Policy & Practice* 7, no. 1 (2016):81-108. https://doi.org/DOI: 10.1080/17567505.2016.1142699.

Rodwell, D. "The Historic Urban Landscape and the Geography of Urban Heritage." *The Historic Environment: Policy & Practice* 9, no. 3–4 (2018):180-206. https://doi.org/DOI: 10.1080/17567505.2018.1517140.

Ross, L. "The Rong Ngeng of the Andaman Coast: History, Ecology, and the Preservation of a Traditional Performing Art." *MANUSYA Journal of Humanities* 23, no. 3 (2020):389-406.

Saleh, Y., H. Mahat, M. Hashim, N. Nayan, S. Suhaili, M. K. A. Ghazali, R. Hayati, and R. K. Sri Utami. "A Systematic Literature Review (SLR) on the Development of Sustainable Heritage Cities in Malaysia." *Journal of Regional and City Planning* 32, no. 3 (2021):290-310.

Satterthwaite, D. "A New Urban Agenda?" *Environment and Urbanization* 28, no. 1 (2016):3-12.

Seduikyte, L., I. Grazuleviciute-Vileniske, O. Kvasova, and E. Strasinskaite. "Knowledge Transfer in Sustainable Management of Heritage Buildings. Case of Lithuania and Cyprus." *Sustainable Cities and Society* 40 (2018):66-74. https://doi.org/https://doi.org/10.1016/j.scs.2018.03.013.

Su, R., B. Bramwell, and P. A. Whalley. "Cultural Political Economy and Urban Heritage Tourism." *Annals of Tourism Research* 68 (2018):30-40. https://doi.org/https://doi.org/10.1016/j.annals.2017.11.004.

Tan, S. K., S. H. Tan, Y. S. Kok, and S. W. Choon. "Sense of Place and Sustainability of Intangible Cultural Heritage – The Case of George Town and Melaka." *Tourism Management* 67 (2018):376-87. https://doi.org/https://doi.org/10.1016/j.tourman.2018.02.012.

UNDP. "Sustainable Development Goal," 2017. http://www.un.org/sustainabledevelopment/. (accessed April 20, 2021).

UNESCO. *Culture: Urban Future - Global Report on Culture for Sustainable Urban Development*. Paris: UNESCO, 2016.

UNESCO. "World Heritage Convention." UNESCO, 2019. https://whc.unesco.org/en/about/. (accessed April 20, 2021).

United Nations. "Sustainable Development Goals (SDGs)." United Nations, 2019. https://www.un.org/sustainabledevelopment/. (accessed April 20, 2021).

United Nations. *The Millennium Development Goals Report 2006*. New York: United Nation, 2006.

Wang, S., and K. Gu. "Pingyao: The Historic Urban Landscape and Planning for Heritage-Led Urban Changes." *Cities* 97 (2020). https://doi.org/10.1016/j.cities.2019.102489.

Watanasin, R. "Central Thai Food Culture and Acculturation during Word War II and the Vietnam War." *MANUSYA Journal of Humanities* 23, no. 2 (2020):205-23.

Wiktor-Mach, D. "Cultural Heritage and Development: UNESCO's New Paradigm in a Changing Geopolitical Context." *Third World Quarterly* (2019):1593-1612. https://doi.org/https://doi.org/10.1080/01436597.2019.1604131.

Zandieh, M., and Z. Seifpour. "Preserving Traditional Marketplaces as Places of Intangible Heritage for Tourism." *Journal Of Heritage Tourism* 15, no. 1 (2019):111-21. https://doi.org/DOI: 10.1080/1743873X.2019.1604714.