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## Sustainability Criteria and Measurement tool towards Heritage Sites Development in India

Randhir\*<sup>1</sup>

Ph.d, Research Scholar

Institute of Hotel and Tourism Management

Maharishi Dayanand University, Rohtak (Haryana)

Email [id-pensiarandhir@gmail.com](mailto:id-pensiarandhir@gmail.com)

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### Abstract

**Keywords:** Heritage Sites, Sustainability, Maintenance, Measurement Tool, Criteria

India has an extraordinarily rich and explored cultural heritage sites but most of the heritage sites have been seen in critical and ruined condition that facing of major challenges related to its operation, conservation and maintenance. There is a need to take immediate steps towards the provision of basic amenities and advanced amenities for a long time period. The aim of this paper is to focus on the criteria and measurement tool of heritage sites in India. To keep into account it, this paper has try to give a detailed analysis about their maintenance and measurement tool that how the historical value of heritage sites can be maintained for the future. Besides it, the evolution of sustainability indicators has been also seen slow in heritage sector and tried to give a theoretical analysis about it.

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### Introduction

Today heritage sites are known as integral part of the society which contains the historical and cultural value (Di Giovine, 2018). Its integrity, context and significance refer that it is categorized or not as heritage (UNESCO, 2018). Heritage buildings and cultural heritage both are the terms are interconnected. In 1972, UNESCO has examined about these terms by discussing the buildings, structure and artworks that having of an important artistic or scientific value (Ahmad, 2006). India is known famed for its huge cultural and heritage integrity which attracts a lot of visitors coming each year at tourist destinations. Heritage sites of India are abundant in terms of temples, monuments, palaces which need

to more development of effective protection and improvement. India has diversified historical and multicultural experiences with a huge heritage attraction which make it popular tourist destination worldwide and gives the country a distinct geographical entity.

Presently, India has 40 world heritage properties in 2022 which recognized by UNSECO that makes India as one of the top countries worldwide in terms of a lot of world heritage sites. World heritage convention, 1972 concerned the preservation of cultural and natural historical places which adopted in 17 Nov. 1997. Agra Fort and Ajanta Caves were the first two sites of India inscribed by Seventh Session of world heritage in 1983. There is following a state wise Indian Heritage Sites List:

***The list show the number of heritage sites state wise:***

	<i>Community State</i>	<i>Exclusive Sites</i>
1	<i>Maharashtra</i>	5
2	<i>Uttar Pradesh</i>	3
3	<i>Madhya Pradesh</i>	3
4	<i>Delhi</i>	3
5	<i>Rajasthan</i>	4
6	<i>Gujarat</i>	4
7	<i>Bihar</i>	2
8	<i>Tamil Nadu</i>	2
9	<i>Karnataka</i>	2
10	<i>Odisha</i>	1
11	<i>Himachal Pradesh</i>	1
12	<i>Uttrakhand</i>	1
13	<i>West Bengal</i>	1
14	<i>Goa</i>	1
15	<i>Assam</i>	2
16	<i>Sikkim</i>	1
17	<i>Chandigarh</i>	1
18	<i>Telangana</i>	3
		40

Apart from these sites, India have a tentative list of 49 heritage properties among which newly three sites listed having cultural importance namely Maharashtra's Geoglyphs of Konkan Region, Andhra Pradesh's Sri Veerbhadra Temple and Meghalaya's JingKieng Jri, and Monolithic Bull (Nandi). The responsibility of evaluation and acceptance of these tentative heritage sites has given for recognition to UNESCO Committee.

There is a difference between Tentative List and World Heritage Sites: a world heritage site is a place which listing comes under the UNESCO as its physical or cultural significance. Once heritage sites considered for inscription on world heritage list then the country makes an inventory of important heritage sites and this inventory is called as tentative list. Thus making heritage site at tentative list is the first step for any site which seeks for final nomination for being a world heritage site.

***A Tentative List is an inventory of those heritage properties upon which each State Party plan to consider for nomination.***

States Parties contributed to prepare a tentative list including various stakeholders such as local communities, site managers and regional and local governments and NGO with other interested party. These nominated world heritage list accepted only when heritage sites was previously listed on tentative list. India has the 49 heritage properties on its tentative list in 2022. Getting the tag of heritage sites can give a lot of benefits. From preservation to tourism opportunities, these sites leads various economic benefits like as creating new employments and developing of local business etc. With the help of these tags, heritage sites can be preserved and get the cultural value of the place which deserves them.

### **Sustainability**

Sustainability refers to the ability and support as a continue process and it has three major pillars as economic, environmental and social. It seeks to remove up for the shortfall depletion of natural or physical resources so that they can available for long time. It also supports to economic health of human and presumes that resources are limited and should be used safely on a priorities basis. Ren, W., & Han, F. (2018) identified the sustainability as fundamentally concept which found less well established in built heritage. This study focused on major indicators of sustainability for built heritage and also adopts a holistic sustainability approach that manages to heritage attraction. This study employed a questionnaire based survey that provides the information of concerned sustainability and built heritage sites in China and UK. Study identified the dimensions of sustainability for heritage attraction due to important indicators of sustainability in UK and China. Results

give the direction of how sustainability indicators developed further will provide the method of measurement appraisal in achieving of management sustainability towards built heritage attraction.

Jha-Thakur, U., Khosravi, F., Quattrone, S., Magedera, I., & Garikipati, S. (2020) described the sustainability as critical concept which delivers to the cultural heritage since its foundation of attracting the tourists relies on conservation of cultural and historical offerings of the local community. Cultural heritage tourism found as challenging aspect in urban heritage areas that explores the various issue related its development. This study has adopted interdisciplinary teams which represent the heritage management disciplines, cultural history and architectural values based on sustainability

The case study of Srirangapatana-Mysore region revealed environmental consideration found as the weakest link. Finally study concluded that strategic environment assessment found as major tool which can significantly enhance the environmental sustainability of cultural heritage tourism. Agnoletti (2012) found specific value of cultural landscapes emerging as a larger question, that of sustainable society. Study noticed that Italy found was pioneering as conservation of cultural heritage landscapes. Sustainability concept needs to be understood and concern with all regions of human life. Study found the all aspects such as practices, recreation and heritage integrity as major issues bearing on sustainability.

Winiwarter, V. (2015) clarifies the significant role of rich cultural of Danube countries for development of sustainability in the region. This paper has explored the link between sustainability and culture after identify the meaning and history of cultural heritage with taking brief overview about sustainable development concept. The Danube region has given a special case about unique heritage which has left. Finally paper found the potential benefits of cultural and heritage integrity for sustainability development of the region.

Feng, D., Chiou, S. C., & Wang, F. (2021) conducted a study on historical garden in Qing Yan Yuan, China. Study examined that historical garden should give focus on sustainable development of cultural heritage sites that promote to people's wellbeing. This study used the method of landscapes narrative to identify how local community manages cultural heritage and its sustainability. Through the analysis of this method study found three main strategies as the value of cultural heritage. These strategies have been used by local community such as origin landscapes narrative which expresses the value of past culture, functional landscapes narrative and meaningful landscapes narrative that presents the value of cultural and heritage in future.

These values constitute the conception of local community about the sustainability of cultural heritage. Mustafa, M. H. (2019) tests the influence of using case studies for sustainability of heritage sites as the objective of this paper. This paper has focused on student satisfaction and major measuring agreement which concerned to the stakeholders performance in development of heritage sites. This paper noticed that students had found higher means of variables that was related to their awareness outcomes and low satisfaction level for public sector which were also recorded for some variables in these indices.

### **Maintenance of Heritage Sites**

Heritage sites represent the stories of human and the past what we live in. The protection and maintenance of these heritage sites are very essential for next generations which can be a source of development for their bright future (UNESCO, U 2005 & Leask, A., & Fyall, A., 2006). Heritage have three categories; natural, underwater and cultural heritage. The paper is related to heritage maintenance which divided into two categories: intangible and tangible heritage (Vecco, M., 2010). The buildings and monuments are come under the category of tangible heritage inherited from past and having physical importance whereas traditions and habits are come under of intangible heritage were inherited from ancestors which passed onto future generations (Tomazevic M, Lutman M, 2007).

This paper used the techniques of heritage maintenance and major approaches that played a role in conservation of tangible heritage sites. Presently UNESCO has 1154 world heritage properties which need to keep their protection and regular maintenance. Regular maintenance is required and can be possible by practically, by effective cost and sustainable approach (Dann, N., & Cantell, T. (2007) & Kerr, J. S. (2013). Proper conservation and maintenance of these heritage sites may increase the lighthouse more of human history with major techniques. Poullos, I. (2010) divided the maintenance acts into below following activities:

***“Partial substitution of existing material with same material***

***Partial renewal of existing material with other material***

***Physical renewal***

***Immersion of physical material***

***Renewal of entire structure”***

Forster, A. M., & Kayan, B. (2009) recognized that best way to protect the heritage sites is systematic maintenance approach and this approach should be implemented in proper

way. Study suggested that proper maintenance and financed is the best way to preserve the heritage sites. Research examined that review of maintenance is critical which carried out to survive the historical buildings in Future. Study found some barriers that has undertaken with the collaboration of National Trust for Scotland and Edinburg Council that has evaluated the maintenance work, strategic goals and preservation activities. It is hoped that developing of new technology for maintenance of heritage sites have to be done for the future.

Rahman, M. A. A., Akasah, Z. A., & Zuraidi, S. F. (2012) addressed that maintenance of heritage building not only important to ensure the physical condition of old building but it is the need to determine the lifelong of the building so that they have to be preserved for the next generation. Maintenance of heritage sites should be on regular basis by which upcoming problems to be controlled in future. Therefore study concluded that there is an urgent need of planning on priority basis to maintain these heritage sites. Time to time implantation by management authority is must for protection of these sites. Study suggested that important strategy and management plan put forward in order to stimulate the regular maintenance help to increase the quality process in a more effective maintenance management.

Lucian, C. (2019) mentioned that proper maintenance and good conservation of heritage integrity is most significant. Besides the repair and maintenance of heritage buildings, there is not giving any attention upon them to which they are entitled. Study also mentioned that maintenance of heritage sites found as a low-status and suggested that there is the need of focus on maintenance of their values, history, ownership, and condition of the historical building of Old Boma in Bagamoyo in Tanzania. Hashim, N. B. I., & Mydin, M. A. O. (2012) observed to ensure the function of heritage building is going effectively or not at all time. Maintenance of the heritage buildings is a regular activity and being the responsibility of every heritage management authority to protect them. The work of heritage building maintenance has played a significant role to maintain the quality and safety of visitors at heritage buildings. Study concluded that effective maintenance is required to increase the status of heritage sites in our society. Study focuses on heritage administration building located at Georgetown, Penang which identifies the practice of the care of historical places.

Sandbhor, S., & Botre, R. (2013) examined the heritage building as a significant role in India's heritage culture and history. The restoration and maintenance of heritage structure is most important for next generation to gain knowledge that how peoples lived in the past.

Study identifies various problems and issues which employed to tackle them and focus on the major tool which handles them while respecting heritage integrity. Study seeks to highlight the preventive measures of the long-term management issues of heritage buildings.

Rani, W. N. M., Tamjes, M. S., & Wahab, M. H. (2018) found that conservation of heritage sites refers to conserve and restore the heritage building in adequate manner. Study identifies that heritage sites in Malaysia facing a lot of great threat from urban development area because of the need of population growth and improper infrastructure development. Study further identifies that preservation found as great debate between stakeholders, policymakers and academicians and also found the gap in various related documents concerned to heritage conservation policy that facilitates the conservation activities in Malaysia. Thus, study focuses on to take the review and gap found among governance and legislations that demolished and destroyed.

Halim, I. A., Kayan, B. A., & Mahmud, N. S. (2018) explored that heritage maintenance is accepted as a significant aspects for survival of heritage buildings. The purpose of the study is to give key insight on how green maintenance evaluate low carbon repair for Melaka's laterite heritage structure in Malaysia that is the case study of Bastion Middleburg and St Paul's Church of Heritage Site of Melaka, Malaysia. Green Maintenance model shows their ability as measuring tool for maintenance of heritage building which enables sustainability repairness approach

Jwaid, R. F. (2017) concluded that heritage conservation is recognized as essential process for its historical and maintenance work. Study found that maintenance work are being carried out on regular basis which give guaranteed that function of heritage building maintenance successfully done at all times. Preservation of these sites is must to keep the originality in a good condition without change the structure and design. Study accomplished the method of systematic maintenance of heritage building as addition which contributes to the high maintenance cost in Iraq.

### **Criteria and Measurement Tool**

Kumari, S., Tewari, R., & Inbakaran, R. (2006) conducted study on cumulative ecotourism impacts that need to practical measurements which monitor to the sustainability of ecotourism destinations. Study reviewed the significance criteria of sustainability, principles and indicators in terms of social, economic, environmental, and cultural heritage. This article also attempted to develop the framework of ecotourism sustainability that evaluates the local people's impacts towards ecotourism destination in Kanchandzonga



Biosphere Reserve in India. The principles of sustainability using the literature, a set of sustainability criteria was taken from earlier studies.

Sangchumnong and Kozak (2018) identified the sustainability criteria to examine the principal of sustainability in cultural heritage tourism. Through the review of literature, a large criterion has been used in sustainable tourism development.

Oeverman, H., & Mieg, H. (2015) examined that maximum heritage sites were found as innovation and most of sites found related to urban and regional development which is innovation oriented. Industrial heritage sites need an explicit management that continually checked and require a team which can help to focus on such task. Study addressed that heritage sites require proper management and conservation plan that can reduce the adverse effects of heritage sites.

Morina, A., Shoshi, S., & Binakaj, N. (2018) conducted a study on Kosovo which is a country having ancient rich cultural heritage sites. It is found that maximum heritage site were in degraded state due to lack of proper maintenance, improper management and awareness. Besides it, some important heritage sites found in risky condition and completely ruined. This study discussed on to focus on heritage management tool and legal protection towards heritage sites in Kosovo. Study described the mapping process of major assets with the results of heritage sites at risk. Study examined that results have given direct recommendation to owners and important institutions of heritage sites to adopt some major tool towards these heritage sites so that these sites can be source of development in future.

Rajangam, K., Modi, P., & Architects, C. (2013) demonstrated the Heritage Information and Management Package (HIMP) as a measurement tool. Study develop a customize package and adopt the need of cultural heritage agency and site management structure. Study suggested that use of some appropriate software technology will makes cultural heritage sites practical. Cordemans, K. (2011) concluded that adequate fund and endorsed heritage stewardship as measurement tool can give a significant instrument for rural heritage management projects like land consolidation, use of land planning and nature development. Study addressed that stewardship as a main responsibility can ensure as well guided towards heritage sites.

Liusman, E., Ho, D. C. W., & Ge, J. X. (2013) developed various indicators for sustainability assessment of heritage sites adopting three sustainability pillars as measurement tool which are applied in this study and under ongoing research. Study examined that heritage sites in Hong Kong has been selected as case study to test the



framework of sustainability level towards heritage building. Results served as constructive aspects to the stakeholders of heritage building.

Al-Sakkaf, A., Zayed, T., Bagchi, A., Mahmoud, S., & Pickup, D. (2020) considered that heritage building is important as historical and architectural value. This paper adopts the validation process for heritage sites assessment tool and give the reviews of research at a large scale related to heritage building sustainability. Paper discussed that important variability have been observed as major tool that assessing of various criteria, indicators and important factors. Sustainability gives the authenticity to promote the heritage building at a large scale. However, study found some systems failed to analyze the factor of energy which is mentioned significant factor with respect to heritage building assessment tool.

### **Criteria for Listing of Heritage Building**

There is need to understand and determine the heritage property is worthy of listing or not on a criteria basis as three basic concepts of historic significance, historic integrity and historic context.

The historical significance refers to history, archaeology and culture of a community and nation. Choosing of heritage building, an appropriate attention should be given to the following:

*Attachment with activities, pattern and events*

*Attachment with crucial persons*

*Specific design and physical construction features represents the work of a master*

Capability to achieve significant information that represents the social and economic history such as town, clubs, railway stations, markets etc.

*Use of high technique for dams, bridges etc.*

*Specific planning for developing the cities, street, squares and avenues*

Historic integrity is the identity of having of evidences about physical characteristics of historic period. It makes capable a property to give various example of the past. A property must shall retained their historical, design and physical aspects.

Historic context is the essential information of historical buildings which grouped by important characteristics in a region's history and nations with the particular time of period. It represents the knowledge to understand the historic significance of a property.

## Conclusion

Heritage sites are considered backbone to represents the stories and past history of every country. There is need to keep cherish them as their regular maintenance, preservation and conservation. This paper has examined the sustainability and heritage criteria for heritage sites of India. Measuring of heritage sites at national level can be a powerful tool and estimated source for the development of future.

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