



Preservation and Maintenance Trends of Historic Sites and the Present Condition of the Utilization of Historical and Cultural Resources

- Focusing on historic sites in Seoul and Gyeonggi Province

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ABSTRACT

Purpose: The readjustment of historic sites protected and preserved as cultural heritage zones is also directly related to the protection of individual property rights, and political intentions, values, and international trends cannot be ignored. It is hoped that it will be used as a basic data to prepare for the rapidly changing post-corona era by organizing the characteristics of types according to the current status of historical site use and organizing the preparation and improvement measures for the changing demand groups. **Method:** This study examined the current status of the utilization and preservation management of historic sites, focusing on data from 137 historic sites in Seoul and Gyeonggi Province. To this end, the government analyzed the actual state of public awareness of cultural assets through analysis of regular survey records and statistical indicators. In addition, it is intended to suggest measures to improve the development and utilization of historical site in the future by classifying the status of historical site use. **Result:** First, it is necessary to utilize realistic content that can provide new opportunities for experience in historical sites through various augmented reality experiences. Second, it is required to expand the number of cultural commentators and establish an integrated experience program for historic sites without specialized operating facilities. Third, the use of culture park of historic sites should be applied with a management method that minimizes human input by expanding environmental maintenance and convenience facilities considering the use of historic sites, and establishing remote management systems such as CCTV, disaster prevention, and crime prevention in cultural heritage zones.

KEYWORDState-designated cultural assets
historic site
utilization of cultural assets**ACCEPTANCE INFO**

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1. Introduction

1.1. Background and Purpose of Research

The Cultural Heritage Future Vision¹⁾ and the Establishment of a New Conservation System, declared by the Cultural Heritage Administration, call for a paradigm shift in cultural heritage conservation policies so far, it includes a policy to introduce a "list-caution" that records and manages through a complete enumeration survey, away from the "designation principle" that protects the cultural assets of a unit.

This can be interpreted as a preview of a major change in the policy system for preserving cultural heritage, which has focused on the protection of state-designated cultural assets.

It is meaningful in that through voluntary participation by the region and the private sector, the original maintenance of existing cultural heritage and regulation-oriented policies have shifted from value preservation and creation to promotion.

In particular, historic sites are not only visible facilities among

state-designated cultural properties but are cultural heritage in a "plane" unit that recognizes the meaning of the place where historical events took place, and they are characterized by responding to the needs of users in various forms according to the method of use, unlike the "point" unit cultural assets.

In other words, historic sites are very intimate cultural heritages that have formed close interrelationships not only with unit cultural assets but also with the influence factors around them and have been sensitive to social changes and the needs of the times in the process.

In addition, various readjustment plans have been applied according to the circumstances in order to preserve and utilize the historic sites, as they are classified into 16 categories according to the characteristics of the historic sites and various types are closely linked to urban areas. Therefore, the study on the utilization of historic sites provides the basis for research on management methods and operation methods that take into account the surrounding environment while preserving the essential meaning of historic sites as a driving force for re-examining the value of hidden utilization and giving new roles to cultural heritage sites in urban spaces. Based on the survey on

the utilization status of historic site, this study was intended to suggest ways to improve the utilization and operation of historic site in the future by classifying the characteristics of each cultural heritage and analyzing the changes of requests and demands of visitors through statistical data.

It is hoped that this will serve as a basic material for research on the preservation and maintenance of historic sites among the rapidly changing ways to operate historical and cultural heritage resources.

1.2. Methods and Scope of Research

State-designated cultural properties have legal grounds to regularly investigate matters concerning the status quo, management, repair, and other environmental preservation under Article 44 (regular survey) of the Cultural Heritage Protection Act.

In addition, regular surveys have been conducted every year to conduct systematic regular surveys on preservation, operation, and management of historic site and to utilize them as basic materials for cultural heritage preservation and management and policy.

For this study, the preservation, maintenance, and management status of historic site in Seoul and Gyeonggi Province were investigated based on the regular survey data conducted in 2008, 2012, and 2018–2020, and the utilization types of historic site were classified based on this research.

In analyzing the characteristics of each type of historic site, the statistical indicators of cultural assets provided by the National Statistical Office and the Cultural Heritage Administration were used, and the changes in trend and changes of visitors to the historical site were analyzed to evaluate the current status of historical site management and suggest improvement plans for future operations.

2. General and Preservation Management Status of Historic Sites

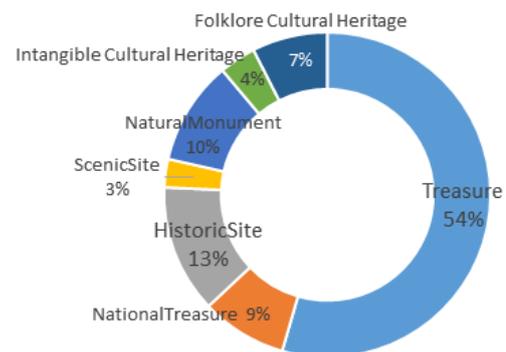
2.1. Distribution and Overview of Historic Sites in Seoul and Gyeonggi Province

Korea's state-designated cultural assets are divided into seven types: national treasures, treasures, historic sites, scenic sites, natural monuments, national intangible cultural assets, and national folklore. Among them, historic site mean valuable places, including historic sites such as temple sites, old tombs, shell tombs, sacred sites, palace sites, and kiln sites, and include

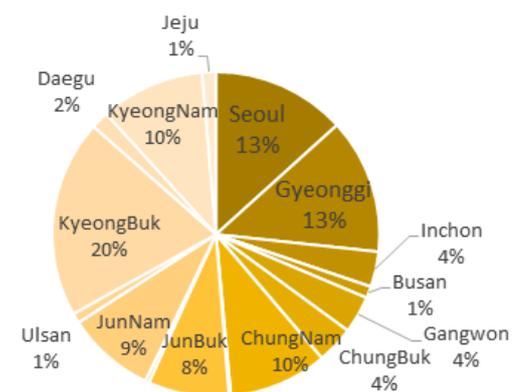
facilities that are particularly worthy of commemoration and represent places of great historical and academic value.

As of 2019, there are 516 "Historic Site" that are currently designated and managed by the Cultural Heritage Protection Act. The historic site are classified as those in the prehistoric ages, those regarding politics and national defense, those regarding industries, transportation, and residential life, those regarding education, medicine, and religion, those regarding sacrifices and funerals, and those regarding historic events or commemorations of people (Fig. 2.). Looking at the number of historic sites²⁾ by region, Gyeongsangbuk-do has the highest number of cases with 101 cases, followed by 69 cases in Gyeonggi-do and 68 cases in Seoul. The number of historic sites located in Seoul and Gyeonggi Province makes up 25.7 percent (137 sites) of the total which is about one-fourth of the number in the whole nation. (Fig. 1.)

Among the 516 historic sites in the nation, the largest portion of fortresses (109 sites, 21.1 percent) and tombs (137 sites, 26.5 percent) consist of 47.6 percent, which is nearly half of the total. Also, there are 67 sites for historic sites and relics, which includes the Kiln Site, which takes up 12.9%. (Fig. 1.)



(a) State-designated Cultural Properties



(b) The ratio of historic sites in Seoul & Gyeonggi

Fig. 1. Status of State-designated Cultural Assets and the Distribution of Historic Site in Seoul and Gyeonggi Province



Fig. 2. Status of Classification by Species of Historic Sites Nationwide (as of 2020)

Table 1. Current Status* of Historic Sites in Seoul / Gyeonggi Province

area	tomb	dwelling site	palace	fortress	fortress	government office	affair	education	hospital	historic site	hospital	religion	total
Gwangmyeong	1												1
Gwangju			1	1	1								3
Guri	2												2
Gunpo					1								1
Gimpo	1			2									3
Namyangju	9												9
Suwon			3										3
Siheung					1					1			2
Anseong				1									1
Anseong	1			1								1	3
Anseong	1			1								1	3
Yeoncheon	1			3						1		1	6
Osan				1									1
Yongin	1				1			1					3
Icheon				1									1
Icheon	6			3		1				2			12
Pocheon				1									1
Pocheon				1						1		1	3
Hwaseong	2			1						1			4
Gangnam-gu	1												1
Gangdong-gu		1											1
Gangdong-gu				1									1
Gangdong-gu					1	1							2
Gangdong-gu				2									2
Gangdong-gu				1									1
Nowon-gu	1									1			2
Nowon-gu	1												1
Dongdaemun	1									1			2
Mapo-gu											1		1
Seodaemun						1	2	3					6
Seocho-gu	1												1
Seongbuk-gu	2			1				2		1			6
Songpa-gu	2			2						1			5
Yongsan-gu						1	1					1	3
Jongno-gu		1	8	1		1		6	1	5		2	25
Jung-gu			1			2				1	1	3	8
total	37	2	14	27	5	7	3	13	1	16	2	10	131

*counting Total by type in the region

According to Table 1., the distribution of historic sites types in Seoul and Gyeonggi Province also accounts for 58.4 percent (80 locations), which is more than half of the total number of fortresses, tombs, and historic sites.

Their regional distribution is overwhelmingly located in Jongno-gu in Seoul, and areas with high accessibility to Seoul such as Paju, Namyangju, and Goyang in Gyeonggi-do. This can be inferred by the fact that downtown Seoul is the center where the palace is located and the area where the educational facilities

Table 2. Classifying the Regiment of Historic site in Seoul and Gyeonggi Province

area	Prehis-toric age	Three Kingdo ms Period	Korean dynasty	Joseon Dynasty	korean empire	Japanese colonial era	unknown	total
seoul	1	9	-	26	10	13	9	72
Gye-onggi	5	19	4	26	-	-	15	54

and the sites of historical events caused by the influx of modern culture are located. Most of the remains in the Gyeonggi area are artifacts related to the royal family, such as royal tombs and fortresses.

On the other hand, the historical classification of these historic site throughout the target area is based on the remains of the Joseon Dynasty, which is the most numerous. Gyeonggi Province has a high distribution ratio of ancient relics ranging from prehistoric times to Joseon era, whereas Seoul area covers the majority of modern historic site stretching from Japanese colonial era to the Korean Empire since the Joseon Dynasty (Table 2.).

2.2. Legal and institutional management of private property

After 1962³⁾ when the first basic law regarding the protection and management of cultural heritage in Korea was enforced, the term "historic site" replaced "historical records" in accordance with the definition of cultural heritage designated by the Cultural Heritage Protection Act.

After entering the 1960s and 1970s, an organization for cultural heritage preservation and management and a fundamental financial and legal framework were each established, and through the nationwide project to restructure historic sites, policy developments were initiated to utilize tourism resources by the reconstruction of space. However, the establishment constructing a new area as a cultural space through the repairing and restoring of historic sites was limited under the designation and development restrictions since there was a lack of professional manpower and lack of policies and social systems during the era.

In the 1980s, the government shifted its policy from mainly preserving cultural heritage units to preserving cultural heritage sites with the environments. In the 1990s, a system to protect cultural heritage from development (revision of the Cultural Heritage Protection Act enlisted in 1996) was established and various attempts to invest a large portion of the budget were made regarding aggressive environment maintenance and usage based on the nation's expanded economic power in the 1980s and 1990s[1].

2.3. Preservation Management by Private Type

The Cultural Heritage Administration has been carrying out restorations and reparations of ancient, damaged, or altered cultural assets after a duration of a long time.

As seen in Fig. 3., in order to preserve and manage historic sites over the past five years, a total of 1.3568 trillion won (942.2 billion won in national expenses and 414.6 billion won in local expenses) were invested in 1,718 maintenance projects to purchase, refurbish, excavate, and restore the original form of lost or damaged cultural assets[2].

Regarding the restoration project for the purpose of maintaining and inheriting the original form of cultural assets, the size of the budget has gradually increased and the period has gradually shortened as the number of designated cultural assets increased and the general environment improved. Especially, the historical site's category is the most expensive category that takes up the most expenses for repairing and maintaining cultural assets (Table. 3).

Although a certain direction of private maintenance exists, various repairs and management are required based on the method and size of maintenance per type, and environmental maintenance of protected areas and surrounding areas should be considered besides designated areas. The reason why maintenance procedures should vary depending on the characteristics and circumstances of historical sites is that there

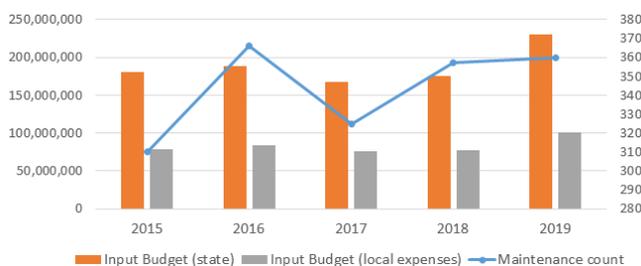


Fig. 3. Status of Historical Site Maintenance Budget Reflection (Left - state / Unit - 1,000 KRW) (Right - Local Expense / Unit - cases)

Table 3. Current Status of Repair and Maintenance of Cultural Assets and Budget Reflection

Section	Maintenance count*	Input Budget**
NationalTreasure	51	96,747,603
Treasure	403	
HistoricSite	344	271,369,174
NaturalMonument	297	42,732,463
ScenicSite	54	
Folklore Cultural Heritage	157	18,877,965
Intangible Cultural Heritage	108	17,357,673

* maintenance count Average value between 2015 and 2019

** Budget the sum of state and local expenses

are distinct differences between historical sites centered on "point" unit historic sites and those centered on "plane" historical sites[3].

2.4. The regulation criteria for the area surrounding culture

Under Article 35 of the Cultural Heritage Security Act, the change of current status, which takes up the largest part of the regulation regarding cultural assets, requires permission from the Cultural Heritage Administration in order to perform particular acts on designated cultural properties.

The cultural heritage status change protects the private property of the people within the cultural heritage protection zone and provides an acceptable standard for systematic preservation and management from a mid-term to long-term perspective. After the introduction of the "History, Cultural and Environment Conservation Area" system, the historic site and architectural culture was institutionalized through the division of "cultural heritage areas" and "historical-cultural environment preservation areas." Comparing to the number of changes in cultural heritage status over the past five years, the cumulative number of historic sites was the highest.

In particular, in order to implement reasonable conservation and readjustment of historic sites, a law that supports and indirectly compensates residents that live within the historical culture environment preservation area has been taken under consideration.

As a result, only practical alternatives that reflect practical policy introduction and social changes can create a reasonable environment in which cultural assets and residents can coexist. Based on this context and the social interest in historic sites, the standards for conservation and development sharply collide with one another.

2.5. Preservation status of historic sites

The establishment of the Cultural Heritage Care Project and the Comprehensive Maintenance Plan, which are representative examples of government-led cultural asset management activities, consist of regular and active conservation activities of

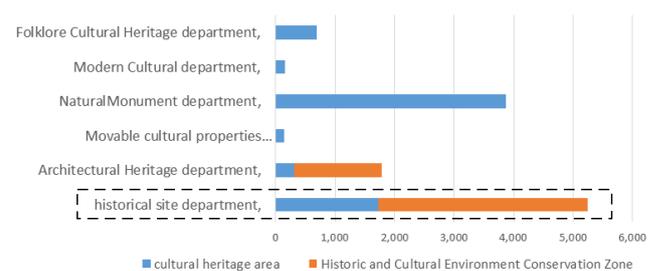


Fig. 4. Number of Cultural Heritage Change the Present Condition Processing Cases

historic sites through "managing" and "recording."

First of all, the "Cultural Heritage Caretaking Project" was introduced as a pilot project in five cities and provinces in 2010 and was initiated by the Cultural Heritage Administration, and consisted of main activities such as periodic monitoring, minor repairing, and improving the viewing environment.

The caretaking project can be seen as a preventive management project since damage to cultural assets can be prevented and social costs such as the budget for maintenance can be reduced.

Among the historical sites in the pertinent area, 24 places in Seoul and 38 places in Gyeonggi Province are managed under the caretaking projects; this ratio represents the lowest ratio compared to the national caretaking status ratio. Cultural assets in Seoul and Gyeonggi Province, such as fortresses and palaces, have limited caretaking management or the percentage of assets that have a separate operating office⁴⁾ is 41% (Table 4.) of the total.

Meanwhile, the comprehensive readjustment plan of historic sites seeks to efficiently preserve, manage and utilize cultural assets. To achieve this purpose, fundamental scholarly data of the historical site is researched and is analyzed in order to build a foundation to set up the reasons for establishing the direction of restoring and repairing cultural heritage.

At the same time, more realistic and active ways to "utilize" historical education and tourism resource are under planning.

In particular, the direction stated in the basic principles of the establishment of an improvement plan comprehensively take into account the characteristics of the cultural heritage, the relevant statutes, and the overall environment to ensure that the preservation and utilization of the cultural heritage can be reasonably harmonized, and the implementation of the

Table 4. Status of Historic Site Subject to Cultural Property Care Project Management

	Seoul	Gyeonggi	Incheon	Busan	Gangwon	Chungbuk	Chungnam	Daejeon
historical site	68	69	18	6	19	19	50	1
Care Project	24 (35.3%)	38 (55.1%)	13 (72.2%)	3 (50%)	16 (84.2%)	15 (78.9%)	39 (78%)	1 (100%)
	Jeonbuk	Gwangju	Jeonnam	Ulsan	Gyeongbuk	Daegu	Gyeongnam	Jeju
historical site	41	2	45	5	101	9	53	7
Care Project	33 (80.5%)	2 (100%)	17 (37.8%)	5 (100%)	40 (39.6%)	8 (88.9%)	26 (49.1%)	7 (100%)

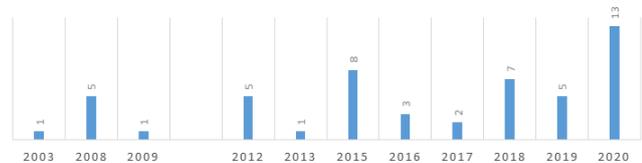


Fig. 5. Year of Establishment of Comprehensive Readjustment Plan for Historic Sites in Seoul and Gyeonggi Province* (Units-cases by)
*Aggregated Based on Last Year of Completion of Establishment

maintenance project on a mid-term to long-term basis can be initiated⁵⁾. The guidelines of focusing on the original form of cultural assets reflects the social needs that underscore the concept of utilization and maintenance, and the concept of conservation based on observation and protection is gradually changing into active activities such as experience and utilization.

As shown in Fig. 5., including the basic plan for comprehensive maintenance plans for historic sites and academic research services, 37.2% (51 locations) of the total are located in Seoul and Gyeonggi Province, 38 sites (74.5%) prepared maintenance plans as of 2015, and 13 sites are currently in progress or have been completed as of 2020.

The comprehensive readjustment plan is like a guideline for the operation of historic sites, so it is not only necessary to consider the procedures, methods, and scale of maintenance form in advance but also necessary to capture the details of the simulation.

3. Current Status and Utilization of Historic Site Types

As of 2020, there are a total of 137 historical sites distributed in Seoul and Gyeonggi Province, and the number of fortresses, tombs, and historical sites consists of the majority of the ratio. The Palace Museum displays and integrated management of the Royal tombs, including palaces. Regarding other historic sites, the Cultural Heritage Administration and local governments have restored and repaired of old or damaged or altered historical sites in order to preserve and manage cultural assets. Additionally, from a mid-term to long-term perspective, measures regarding the preparation of acceptance standards for systematic preservation and management and the protection of the private property of people through changes in the cultural heritage current status were considered[4].

On the other hand, the government-led management of historic sites is delivered through cultural property care projects

Table 5. Classifying the Types of Private Land Utilization

Type	Characteristics
Exhibition and Museum Establishment	Activities such as exhibition and promotion of related artifacts are carried out at the center of the museum.
exploration and experience programs	Types of educational activities, such as exploration activities, experience, and with cultural commentators.
Used as a park and view space	Use it as a resting place for residents by making it public as it is in the natural environment.
circular preservation	A type that places more importance on conservation than on the purpose of utilizing historic land.
the others	exception case

and comprehensive readjustment plans and based on this fact, realistic and active measures have been planned for "utilization" as a historical education and tourism resource.

Based on the field survey data collected for the study, the utilization status of historical sites can be classified into four representative types.

First, there is a type of establishing museums and displaying relevant cultural assets and to display pertinent artifacts and promote cultural assets. The museum was constructed in a number of historic sites along with the Palace Museum in order to continue its activities regarding the utilization of cultural assets.

Second, there is a type of cultural heritage education activities utilizes cultural heritage guiders and exploration activities such as on-site visits and experience through environmental maintenance. These activities are initiated regardless of the existence of the exhibition and museum, and the program is operated by the manager through controlling access to designated areas in some historical sites.

Third, there is a type of creating parks and viewing sites or disclosing the natural environment to utilize them as resting places for residents. A number of historical sites such as Toyoji and Ancient Tombs fall into this type, and compared to the types of exploration and experience utilization, they are free to open up historical sites. Finally, there is a type of using private land since they are limited to outsiders by putting more emphasis on preservation rather utilization, or by having a high proportion of privately owned areas.

3.1. Exhibition and museum operation using realistic contents

The establishment of exhibitions and museums, which is the most representative type of historic site, aims to attract related facilities in historic sites and educate and promote related facilities. In particular, for historic sites that require excavation, such as fortresses, cemeteries, and pottery sites, it is very important to prepare facilities in order to preserve and manage

Table 6. Container Box Dimension for ISO

	number	historical site	Museum		number	historical site	Museum	
				opening Year				opening Year
Seoul	No.117	Gyeongbok Palace		National Palace Museum 2005	Gyeonggi-do Province	No.3	Suwon Hwaseong	 Suwon Hwaseong Museum 2009
	No.10	Fortress Wall of Seoul		Seoul City Wall Museum 2014		No.57	Namhan mountain Fortress	- Namhan M-fortress Museum Plan for 2022
	No.11	Pungnap-dong earthen ramparts		Hansung BAEKJE Museum 2012		No.128	Yangju Hoeamsa Temple Site	 Hoeamsa Temple Site Museum 2012
	No.83	Seoul Sunjam		Sunjam Museum 2018		No.217	Hwa-seong Dang Fortress	 Visitor Center 2019
	No.213	Seoul Post Office		Postal Memorial Hall 1987		No.268	Historic Site of Jeongok-ri,	 Jeongok-ri Prehistory Museum 2011
	No.248	Korean Medical Center		Institute of Medical History and Culture 2007		No.299	Jeam-ri Historic Site of the 3.1 Movement	 Jeam-ri March 1 Independence Movement Memorial Hall 2001
	No.254	Former Belgian Consulate		Seoul Museum of art 2004		No.314	Gwangju Joseon White Porcelain Kiln	 Gyeonggi Ceramic Museum 2001 No.441
	No.267	Amsadong Prehistoric Dwelling		Amsadong Pre-history Settlement Sight 1988		No.464	Paju Hyesumwonji	- Visitor Center Plan for 2022
	No.284	Old Seoul Station		Culture station, seoul 2011		No.525	Paju Yi Ruins	 Yulgok Memorial Hall 2012 2011
	No.297	Mongchon earthen ramparts		Hansung Baekje Museum 2012				
	No.324	Sodaemun Prison		Seodaemun Prison History Museum 1988				
	No.461	Historic Site of Cheonggye-Stream in Seoul		Cheong Gye Cheon Museum 2005				

the continued research of historical sites besides the storing of relics that have been identified or recovered through excavation sites. However, since the establishment of exhibitions and museums has a high cost and there are high concerns regarding long-term management, operation, maintenance, and repair of facilities, the promotion of the establishment is limited.

As of 2020, among the historical sites that are distributed in Seoul and Gyeonggi Province, 16% (22 places) are operating separate museums and exhibition halls with the exception of palace (Seoul Palace Museum) and ancient tomb (Seoul Museum of History). The date of their construction is from the early 2000s to the late 2010s, and most of them maintain and manage the condition at the time of their opening because there is limited renovation nature in the relics exhibition hall. Most of the buildings are newly constructed and operated, and there are 5⁶⁾ buildings that utilize designated historical objects as exhibitions and museums. (Table 6.)

Recently, the establishment of museums has a trend of considering both academic performance and efficiency as a complex culture space that can host various cultural events as well as exhibiting excavated artifacts, educating and experiencing cultural assets based on past research and research activities.

Nevertheless, the culture and arts viewing rate, which is a basic indicator of the enjoyment of culture and arts of people⁷⁾, has been on the decline since 2015, and this shows a big difference in contrast to the strength of popular culture through the media (Table 7.). To address this trend, there have been changes in the exhibition format and there has been active introduction of new ways of experiencing and appreciating exhibits that break away from the traditional viewing method centered on relics. For example, the application of realistic content is expanding due to the increased need for a reproduction method to reduce the sense of alienation between restored cultural assets and reality, which are mainly represented by augmented reality (AR) and virtual reality (VR) technologies. Based on these technologies, the

museum introduced the story-oriented exhibition method, which enables the implementation of low-cost, high-efficiency creative contents.

Especially the method of realizing augmented reality (VR)⁸⁾ is relatively simple compared to the virtual reality program and has recently created a high level of satisfaction and consensus among users by using a markerless method that displays virtual images on top of the actual background and by utilizing BEACON, which is a near distance communication technology. Realistic content such as AR and VR can be an alternative content that can deliver realistic information while minimizing the cost of investment in facilities under limited space and economic conditions. Representative examples of applications include augmented reality experiences using QR codes at the Hansung Baekje Museum and the time machine experience that allows historical events and scenes to be seen using smartphones at Changdeokkung Injeongjeon Hall. (Fig. 6.)

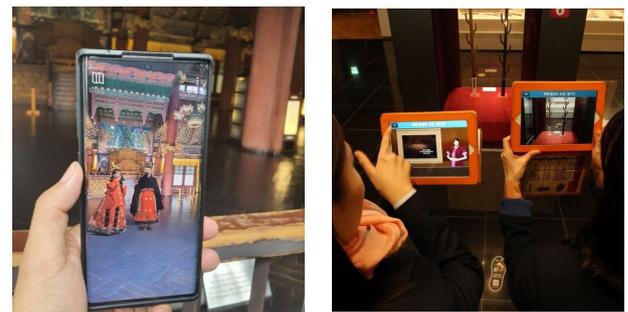
Consequently, the application of these technologies has the advantage of providing detailed information on exhibits and delivering historical events more vividly regardless of time and space. Additionally, the experience of a safe and free private viewing of non-face-to-face methods beyond the constraints of location and time is getting attention.

In the future, the expanded exhibition method and the introduction of the time-slip viewing method into VR technology that can recognize and experience the artificial virtual world are expected to be applied soon; therefore, a new method of space design and operation should be prepared.

Table 7. Percentage of audience viewing by culture and arts

section	2009	2011	2013	2015	2017	2019*
music concert	12.9	14.8 (▲1.9)	13.7 (▽1.1)	13.8 (▲0.1)	13.8 (-)	16.5 (▲2.7)
theatrical musical	12.9	14.7 (▲1.8)	15.3 (▲0.6)	14.9 (▽0.4)	15.0 (▲0.1)	13.7 (▽1.3)
Dance	1.1	1.5 (▲0.4)	1.5 (-)	1.2 (▽0.3)	1.3 (▲0.1)	1.0 (▽0.3)
Film	44.8	47.9 (▲3.1)	54.4 (▲6.5)	58.8 (▲4.4)	58.8 (-)	58.4 (▽0.4)
Museum	13.8	15.5 (▲1.7)	16.4 (▲0.9)	17.8 (▲1.4)	16.7 (▽1.1)	15.7 (▽1.0)
Art Museum	10.1	12.1 (▲2.0)	12.3 (▲0.2)	12.8 (▲0.5)	13.5 (▲0.7)	13.0 (▽0.5)

*Includes music, concerts and concerts for 2019



Augmented Reality (AR) inside Injeongjeon Hall of Changdeokkung Palace - The image of King Yeongjo and Empress Jeong-Seong

Augmented Reality (AR) using tablet PC and display app - Watch 'Chiljido'

Fig. 6. Example of viewing cultural assets using augmented reality

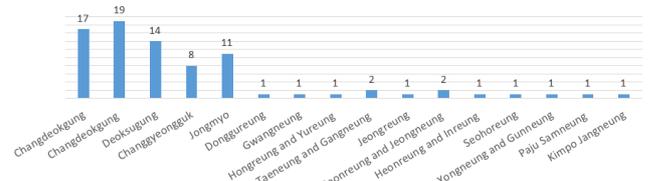


Fig. 7. Status of Cultural Heritage Commentator to the Palace and Rung Cultural Heritage (Units - Number of people)

As such, the integration of historical feed and technologies such as AR, VR, and artificial intelligence (AI) in historical sites is predicted to will lead the growth of future cultural assets.

3.2. Experience and Learning Space

Experiencing and exploring historic sites is the most effective way to experience and understand historical and cultural spaces. According to the "National Culture and Arts Activity Survey-Statistics Information Report" provided by the Ministry of Culture, Sports and Tourism, the number of annual cultural and artistic events collected from the national leisure activity survey was 2.4 as of 2017, and it ranked fourth among 10 categories. This is higher than 1.8 times of the traditional arts (Korean traditional music, pungmul, folk plays), and is slightly lower than 2.7 times of the third-place 'Dance', following the 5.1 times in the first place category 'movies' and 3.7 times in the second-place category 'popular music/entertainment'. Due to this interest and participation, most local governments have recently expanded their project to utilize the historical sites by operating exploration programs by region, historical period, and cultural heritage type.

A representative example includes storytelling and stamp tours,



Siheung Oido Historic Site Experience Class



Explanation of Cultural Heritage in Gyeongsun Royal Tomb of Yeoncheon

Fig. 8. Participation in the Field through Cultural Commentators



Historic Site of Oido, Siheung



Historic Site of Jeongok-ri, Yeoncheon

Fig. 9. Restoration bronze sculpture exhibition status



Seokchon-dong Ancient Tombs



Punngnam-dong earthen ramparts

Fig. 10. Examples of Utilization as Cultural Heritage Parks

such as the historical sites of the Seodaemun-gu Seoul Independence Movement, the tour of UNESCO Cultural Heritage Chosun Royal Tombs, and the Catholic pilgrimage route to Seoul. The tour is divided into a program that allows all citizens to participate freely by free viewing accompanied by cultural commentators and experts.

When cultural commentators residing in historic sites can deliver more systematic and professional experience and exploration activities, and various programs that take into account the age and level of the participants will be operated to form an effective cultural heritage learning environment.

A total of 75 guides are assigned to guide the cultural assets of the palace including Gyeongbokgung Palace and Jongmyo Shrine, and a separate program is operated by allotting guide guides who are hired and managed by each city, province, and museum.

Other historical sites can be assisted by cultural commentators who reside in the operation of local governments through individual museum programs or can be experienced through hands-on classes. (Fig. 8.)

There are 84 historical sites that include royal tombs (61.3%) that are used as places of education through experience and exploration. 15 of the sites that have been set up through individual museums operate educational programs through hands-on activities. However, there is a large number of cases that do not provide support for an explanation of cultural assets, so it is necessary to expand support for historical sites that have not been assigned cultural heritage commentators or provide other supporting information, and to establish a unified program for integrated experience and management.

3.3. Park and View Space

Among the types of management for the operation and management of historic sites, the highest method that allows the highest degree of closeness is designating areas and protected areas that are constructed as parks to form trails. In particular, easier transportation and accessibility near residential areas



Fig. 11. Bangsan-dong Celadon and White Porcelain Kiln Site, Siheung

allows higher utilization, 25 of the target historic sites are used as parks and viewing spaces, and are operated in the form of open spaces without restrictions on exploration and utilization.

They are mainly concentrated in historical sites, pottery sites, and ancient tombs, and are easy to flow outside routes and install viewing facilities since they are mainly flat.

By displaying restored excavated sculptures on the land, Prehistoric sites such as the remains of Amsa-dong in Seoul and Jeongok-ri in Yeoncheon are representative examples of the formation of the viewing of the park and resting areas.

On the other hand, the historical sites themselves can form trails in the park, such as ancient tombs in Seokchon-dong, Bangi-dong, Mongchon, and Pungnap-dong.

The celadon and white porcelain jaws of Bangsan-dong, Siheung also reflect various efforts to utilize historic sites by preserving the excavation site and to recreate the site as a cultural park. At the same time, the purpose of the cultural heritage park should be underscored by the expansion of information facilities and proper placement of information on cultural assets in private parks. If the entire historic site is constructed as a park or view space, environmental maintenance and convenience facilities are required to be expanded, and remote disaster prevention and crime prevention facilities such as CCTVs need to be expanded to prepare for cultural heritage protection and safety accidents. The establishment of a regional network that minimizes manpower costs and can respond immediately to unusual situations such as fires through an integrated management system is also necessary.

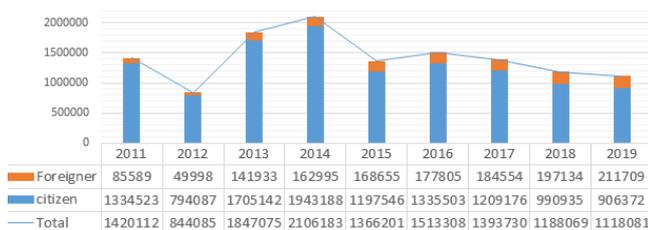


Fig. 12. Statistics of Visitors to the National Palace Museum

Table 8. Percentage of Increase or Decrease of Visitors Compared to the Same Period in the Previous Year

Cumulative number of passengers	total	Seoul Museum of History	Gyeong-hui Palace	Cheong-gyecheon Museum	Fortress Wall Museum	Gyeong-gyo jang
2020 cumulative (1.1.~6.30.)	130,342	80,507	9,613	21,677	13,207	5,338
2019 cumulative (1.1.~6.30.)	670,881	406,797	69,318	85,917	64,289	44,560
year-on-year rate of increase and decrease	-81%	-80%	-86%	-75%	-79%	-88%
year-on-year increase and decrease	-540,539	-326,290	-59,705	-64,240	-51,082	-39,222

4. Suggestions for the utilization of historic sites

4.1. Establishing an online viewing environment

There have not been investigated cases of online viewing other than integrated information search sites besides individual museums that are operating in the target historical sites.

Therefore, since methods for obtaining various information on historical sites are very limited besides on-site visits, there should be an expansion and establishment of online environment in order to expand opportunities for promoting and using cultural assets. The only method to visit historic sites used to be touring the museum is expanding in various ways, so it is necessary to analyze the trends of visitors to prepare for changes in the presentation of cultural property information.

According to the statistics provided by the National Palace Museum of Korea, the number of visitors has been declining since 2014, and the utilization rate of Koreans continues to decrease whereas that of foreign visitors steadily increases. (Fig. 12.)

Since the COVID-19 outbreak in 2020, the number of visitors to the museum has decreased by more than 80% compared to that of 2019, and the number of visitors fell rapidly as it was operated under a reservation system for an indefinite period. (Table 8.)

On the other hand, as shown in Fig. 13., the number of visitors to the Cultural Heritage Administration's website (left) has nearly doubled after April, and the number of page views (right) has also

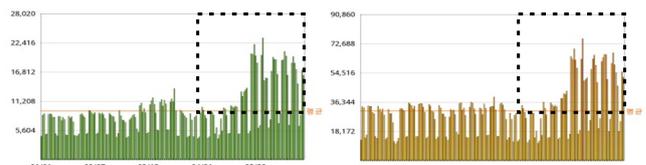


Fig. 13. Number of Visitors to the Cultural Heritage Administration's (Left) Number of Visits, (Right) Page View, 2020.1.1.-2020.6.30

Table 9. Monthly Statistics of Users of Major Sections of the National Palace Museum Homepage in 2020 (January to June 2020/ Unit: View Count)

Connor	Jan	Feb	Mar	Apr	May	June
1. Searching for collections	22,487	22,893	31,528	33,641	29,644	35,420
2. 50 line of major props	2,398	1,969	2,285	2,397	2,617	2,920
3. Permanent Exhibition Guide	5,121	4,406	3,769	2,901	4,536	3,452
3. Special Exhibition Guide	8,770	7,143	3,550	7,074	9,173	4,777
4. Training & event schedule	1,987	1,134	623	579	771	897
5. event guidance & application	1,015	342	161	258	237	159
6. Academic Information - Owners, Exhibit	5,289	8,041	8,585	6,533	7,758	6,751
7. User guide	2,792	1,787	879	746	1,450	772
8. New news and events	2,369	3,237	2,050	1,892	3,176	2,034

risen sharply, which indicates an increase in online information collection and the expansion of online visitors. Additionally, according to the monthly statistics of users on the website of the Palace Museum, there is a sharp drop in the utilization of education and events whereas the number of collection-related sections increased by 63.4%. (Table 9.)

Comparing with the 2018 data (Fig. 14.) based on monthly average user statistics, the use of online viewing and searching for information in collections sections and academic information sections is significant.

It is expected that there will be a turning point in the method of delivering information on the Internet that reflects the recent changes in the way cultural assets are viewed therefore, it is urgent

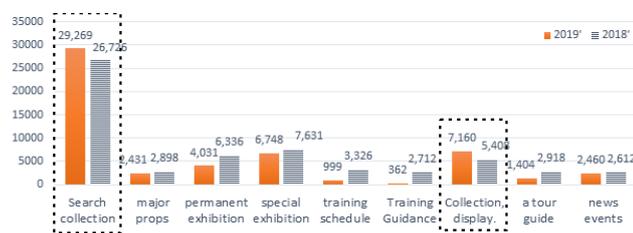


Fig. 14. A Comparison of User Average of Major Corner Users on the 2020 and 2018 Homepage

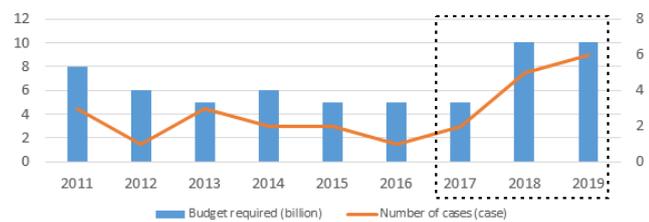


Fig. 15. Status of Digital Cultural Heritage Content Production (Left - cost / Unit - 100 million won) (Right - number/ Unit - cases)

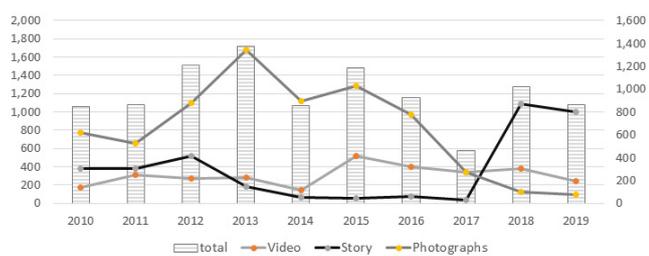


Fig. 16. Production status by cultural heritage channel content type (Left -total / Unit - cases) (Right - Videos, Story, Photo/ Unit - cases)



Fig. 17. Current Status of Users by Cultural Heritage Channel Contents

to establish an online viewing environment to prepare for this.

Therefore, improving the accessibility and search methods of cultural heritage information is necessary, and methods that provide cultural property information services that can feel the sense of reality should be established. Additionally, expanding technical support for VR services other than various digital multimedia contents is necessary.

4.2. Development of Media Contents

The Cultural Heritage Administration has established the "Cultural Heritage Channel" in order to expand the utilization and distribution of cultural heritage with more friendly images, and as part of its policy project operates cultural heritage channel contents through its website (www.k-heritage.tv) and 32 external platforms. The number of visitors to cultural assets through the media has been rising since the COVID-19 outbreak, and areas that will be the mainstay of cultural heritage projects in the post-COVID-19 era is getting attention. Among the various methods of encountering cultural assets, the development of media content is also suggested as an alternative that can vividly deliver content to on-site visitors.

Looking at the status of digital cultural heritage content production according to the cultural heritage management status, the number of digital cultural heritage contents has tripled in 2018 and in 2019 compared to that of 2015 and that of 2017. Selected by the Cultural Heritage Administration, support for the national content industry as an innovation strategy will be greatly expanded to prepare for the fourth industrial revolution era.

The current status of contents on cultural heritage channels is marked by 197 videos, 802 stories, and 80 photographs as of last year, and the number of photos that had been produced had gradually decreased since reaching the pinnacle in 2010, and it failed to exceed the number of videos in 2017 and became the lowest type of production as of 2019.⁹⁾

Conversely, story-related types have expanded greatly in 2017 and an extensive amount of videos have been produced. These results need to be analyzed along with the current status of users of cultural heritage channels. The number of VOD and IPTV users has steadily increased over the past four years, reaching 24,092,120 as of 2019. Specifically, the volume of Google (YouTube) channel increased by 5.5 times.¹⁰⁾

The reason Google (YouTube) channels stand out from knowledge-based or general VOD and IPTV is due to the characteristics of video services that allow users to upload, watch, and share videos, and regardless of the 'story' video concept and qualifications, they do not have any special viewing restrictions since production is free. In other words, the capacity of sympathetic story-style content and a free shared platform can

lead to autonomous and sound promotion.

4.3. Expanding cultural heritage protection activities with private participation

Cultural heritage conservation activities can also be delivered through voluntary public participation. Specifically, the operation of the "Protector of Cultural Heritage" shows the awareness of history and interest in the cultural assets of the citizens.

Cultural heritage protection refers to the activities of regular and continuous monitoring of the preservation status of cultural assets along with cultural assets located in the region by individuals, families, and organizations. Since its appointment in April 2005, a total of 84,744, including 59,644 individuals, family and group guardians, 25,000 youth cultural heritage guardians, and 100 youth UNESCO World Heritage guardians have been active members as of 2019. (Table 10.)

However, the range of activities may vary greatly depending on social changes and phenomena because it is a voluntary activity based on private participation, and depending on external factors, the number of commissioned people each year also shows a significant extent sharp declines and rises.

Most notably, in 2014, due to the nationwide contraction of volunteer activities after the Ferry Sewol Incident, the total number of commissioned youth guards decreased compared to the previous year (14.4), and due to the MERS outbreak in 2015, there has been a reduction in the number in 2016. (Fig. 18.)

In the case of the general protection team, the number increased until 2016 and dropped sharply in 2017 because the preparation of procedures for selecting commissioners was only granted to those who completed cultural heritage protection education¹¹⁾. Due to the COVID-19 outbreak in 2020, new

appointment plans are expected to be affected since there are many restrictions on cultural asset protection activities¹²⁾.

In order to protect cultural assets with stable private participation, the expansion of the area of activities of cultural heritage guardians into online spaces and the utilization of the Internet to expand and promote activities, and provision of various support such as rewards to encourage activities are necessary.

5. Conclusion

The maintenance of historic sites that are protected and preserved as cultural heritage zones is also directly related to the protection of individual property rights, and cannot be ignored by political intentions, values, and international trends. Moreover, considering the productive aspects of the urban economy as cultural contents of areas where the historic site is located is necessary.

Before preparing for an era when non-face-to-face experience culture has become the norm in the cultural and artistic fields, appropriate measures should be taken in order to accommodate changes in demand for visitors and advanced technologies through the examination of the current status of historic sites utilization and enhancement methods.

The suggestions for the utilization of historic site types are as follows.

First, introducing technical elements away from the existing static viewing of exhibits in order to induce smooth communication and active participation by museum users is necessary. Realistic content that can provide new opportunities for experience in historic sites should be implemented through various augmented reality experiences.

Second, expanding the number of resident members of cultural commentators and establishing an integrated experience program for historic sites without separate specialized operating facilities are required in order to deliver a more systematic and professional experience and exploration activities.

Third, the utilization of the Public Park of historic sites has great affinity and publicity effects for cultural heritage areas but has a high possibility of damage due to external factors. Therefore, in order to minimize human input, environmental maintenance and convenience facilities should be initiated that considers the expansion of the use of historical sites and the establishment of remote management systems such as CCTV, disaster prevention, and crime prevention in the cultural property area.

Fourth, social distance and non-face-to-face education methods need to be reflected in the operation of historic sites, and

Table 10. Current Status of Operation of Cultural Heritage Guardians (As of 2019, Units: name)

Sotation	a regular guard				Youth Cultural Heritage Preservation Group			Young UNESCO World Heritage Guardians	Total
	individual	Family	Group	Subtotal	Instruct	Student	Subtotal		
no.	6,696	1,939	50,736	59,644	671	24,329	25,000	100	84,744

* Total number of appointments aggregated as of 2019

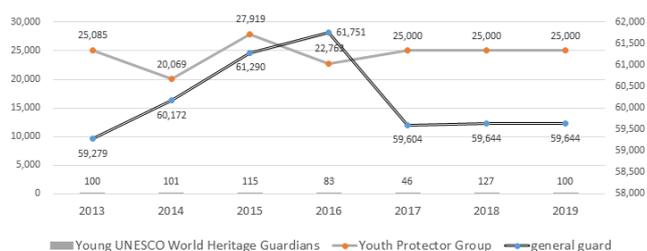


Fig. 18. Comparison of Monthly Electricity Use

the supply expansion of VR services besides various multimedia contents should be considered through the establishment of online viewing.

Fifth, creating a user-centered video-sharing environment in a variety of themes and production methods in order to address the current storytelling format in media content is necessary.

Finally, providing diverse support through the expansion of environment activities to promote participation in history education and preservation of cultural assets and the reduction of the difference of the scope of activities according to social changes and phenomena is necessary.

This study aims to consider more aggressive ways of changing social and cultural leisure phenomena and of changing perceptions of cultural heritage viewing by organizing the characteristics of types based on the status of historic site use and by organizing preparation and improvement measures for the changing demand groups.

Hopefully, this study will be used as a prior work for continuous research and will be a foundation for deep analysis for follow-up research in the future.

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- 1) 2019.6.11 The Cultural Heritage Administration announced the six core strategies of the Future Vision on the occasion of the 20th anniversary of its opening. The six key strategies and major policy tasks for the vision of "our heritage that creates future value" declared by the Cultural Heritage Administration are as follows. 1. Establishing a new conservation system (paradigm) 2. Services and conservation with high-tech science 3. The foundation of national economic vitality 4. Cultural heritage that empathizes and communicates with each other 5. Realize a cultural and national territory covering land and sea 6. Go beyond the Korean Peninsula to the world.
 - 2) Look at the number of historic sites by region, Gyeongsangbuk-do has the largest number of cases, followed by Seoul with 68, Gyeongsangnam-do with 53, Gyeonggi-do with 64, Chungcheongnam-do with 48 and Jeollanam-do with 44 cases, and Daejeon, Gwangju, Ulsan and Busan with a small number(1~4 cases) of cases.
 - 3) Korea was liberated from Japanese colonial rule on August 15, 1945, but until the enactment of the Act on the Conservation of Cultural Heritage, the Japanese colonial government maintained its effect under Article 100 of the Constitution. On December 19, 1952, the Provisional Preservation Committee of Natural Monuments and Sites was formed for the first time by the Minister of Education and Education of the Republic of Korea. Later, on November 10, 1960, the Regulation of the Cultural Heritage Preservation Committee was promulgated as the State Council Decree No. 92 and the Cultural Heritage Protection Act was promulgated as the Act No. 961 on January 10, 1962, becoming the first basic law to protect and manage cultural heritage in Korea.
 - 4) Royal tombs distributed in Seoul and Gyeonggi Province are managed and supervised by the Joseon Royal Tombs Management Office of the Cultural Heritage Administration, and the palace is also managed and observed by the palace management office under the Cultural Heritage Administration.
 - 5) Article 3 of the Guidelines for the Establishment and Implementation of Comprehensive Maintenance Plans for Historic Sites, as specified in Article 185 of the Cultural Heritage Administration's Yegyū, outlines the basic principles for the establishment of three readjustment plans.
 1. The focus should be on the preservation of the archetypes of cultural assets.
 2. Repair and maintenance shall be carried out to maintain the authenticity and value of cultural assets through academic research and historical research, and indiscriminate restoration shall be avoided.
 3. The preservation and utilization of cultural heritage shall be reasonably harmonized by comprehensively considering the characteristics of cultural heritage, related statutes, surrounding conditions, and financial conditions, and shall endeavor to enable the implementation of maintenance projects in the mid- to long-term.
 - 6) The following are examples of buildings designated as historic sites being used in the form of exhibitions and museums. [Historic Site No. 248 Korean Medical Center, No. 213 Seoul Post Office, No. 254 former Belgian Embassy, No. 324 Seoul Seodaemun Prison, No. 284 Seoul History]
 - 7) The culture and arts viewing rate is a basic indicator of the people's enjoyment of culture and arts. Through the culture and arts viewing rate, the level of people's interest and participation in culture and arts can be known, and the scale of culture and arts consumption can be understood. The table summarizes the percentage of people who have been to cultural and artistic facilities to watch cultural and artistic events by the year, and the types of cultural and artistic events include music, theater, dance, movies, museums, and art galleries. calculated from the data of the National Statistical Office's Social Survey
 - 8) Compared to virtual reality programs that require peripheral devices, including special headset, augmented reality (VR) is relatively simple to implement, and methods of realization are divided into GPS, BEACON, QR code or Marker, and Marker.
 - 9) It was prepared based on statistics from the Cultural Heritage Administration, the Cultural Heritage Administration (Cultural Heritage Administration), on the production status of contents of cultural heritage channels, and the statistical ID is DT_150002_A038.
 - 10) It is based on statistics of users of cultural heritage channel contents (VOD and IPTV) of the Cultural Heritage Administration and the Cultural Heritage Management Status, and the statistical ID is DT_150002_A039.
 - 11) It is based on the statistics of "Cultural Heritage Guardians' Operation Status" of the Cultural Heritage Administration, and the statistical ID is DT_15002_A080.
 - 12) The period of appointment of cultural asset guardians is equivalent to two years, and they are expected to be reappointed after their new appointment last year.