

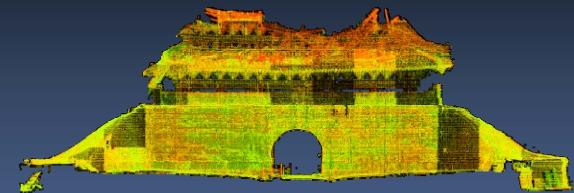
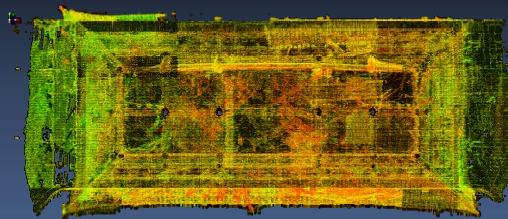
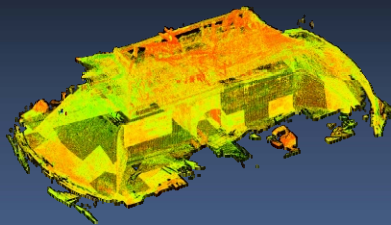
A STUDY ON

THE ROOF STRUCTURE &

ITS CONSERVATION OF

THE WOODEN CULTURAL PROPERTY

BUILDINGS IN KOREA



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Do you remember this terrible
fire?

Sungnyemun gate

- Construction date : 1479 (Reconstruction)
- Partly Damaged during Korea War (1950-1953)
- Designated **National Treasure No.1** in 1962
- Restoration during 1961~1963
- Located in **Seoul**

20 : 47, 10th Feb. 2008

Lessons from 2008 Sungnyemun Fire

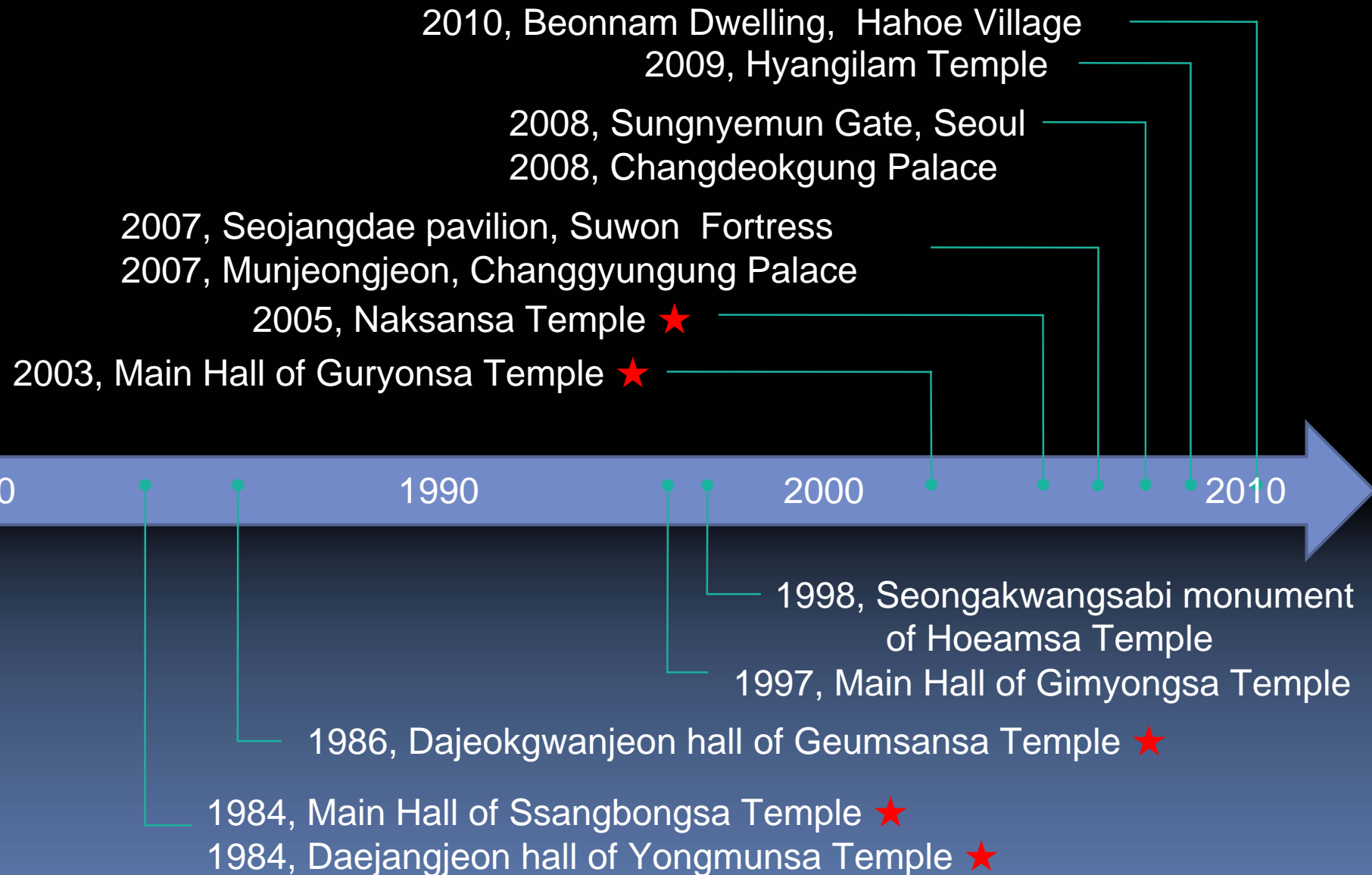
- Lack of the Firefighters' understanding on the structure of the historic wooden buildings
- Lack of the communication between Firefighters and Cultural Heritage Experts
- To keep the value of cultural properties on-going Fire fighting and/or recovery works

Purpose of this Research

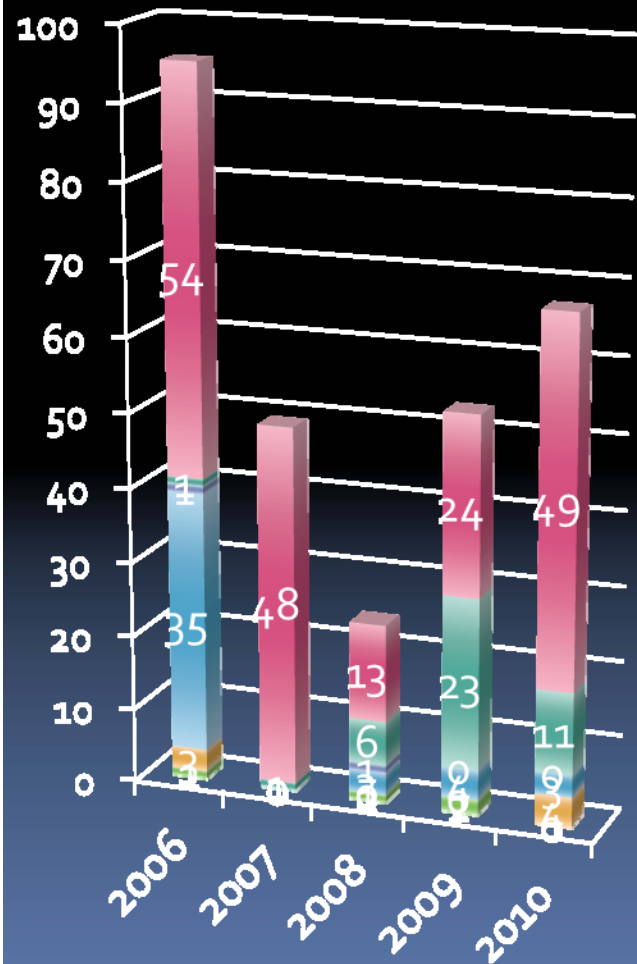
- To make the database of past disasters' history in Korean Cultural Property buildings & To investigate the assessment of the value of Disaster-affected Cultural Properties
- To examine how to keep the value of Cultural Properties
- To clarify vulnerability of roof structure (frequently repaired and/or replaced), such as materials, originality, etc.

Historic Buildings damaged by Fire

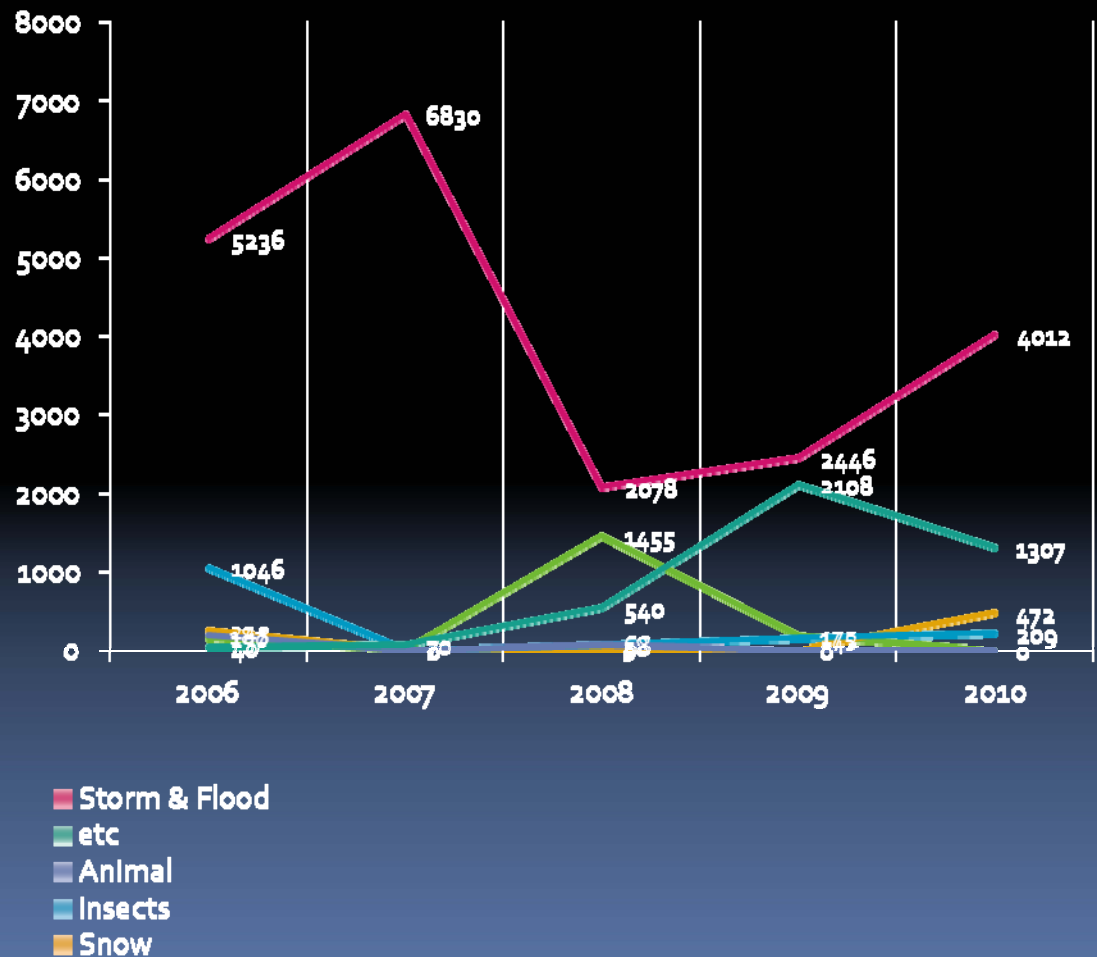
★ Annulment of Korean Cultural Properties Designation



Urgent Repair Works for Cultural Properties



Costs



What's the value of cultural property buildings?

List of Annulment of Cultural Property Buildings designation damaged by disasters

Table 2. All properties annulled Korean Cultural Properties designation

No.	Classification	Name of Cultural Properties	Designated Date	Annulled Date	Annulment Reason	Rec. ^{*)}	
1	Treasure ^{*)} No. 115	Geungnakjeon hall of the Cheongpyeongsa temple	1934. 8.27		Destroyed during the 1950 - 1953 Korean War	○ (1975)	Before the existing Act
2	Treasure ^{*)} No. 240	Daeungjeon hall at the Borimsa temple	1936. 5.23	1957. 8. 7	"	○	
3	Treasure ^{*)} No. 273	Wontongjeon hall of the Gwaneumsa temple ^{*)}	1938. 5. 3	1957. 8. 7	"	**	
4	Treasure ^{*)} No. 276	Chokseongnu pavilion of Jinju Castle	1938. 5. 3	1957. 8. 7	"	○ (1960)	
5	Treasure ^{*)} No. 302	Andong Munmyo (Munmyo is Korean primary Confucian shrine)	1939.10.18	1958. 9.20	"		
6	Treasure ^{*)} No. 404	Baekseoldang hall and the Cheonggundang hall of the Songgwangsa temple	1943.12.30	1957. 8. 7	"	***	
7	Treasure No. 163	Daeungjeon hall of the Ssangbongsa temple	1963. 1.21	1984. 5.30	Careless handling of fire	○ (1986)	Under the existing Cultural Properties Protection Act since 1962
8	Treasure No. 458	Jeokmukdang hall of the Ssanggyesa temple ^{*)}	1967. 6.23	1968.12.16	Overheating of Korean floor heater	○	
9	Treasure No. 476	Daejeokgwangjeon hall of the Geumsansa temple	1968.12.19	1987. 1. 1	Arson occurred in 1986	○ (1989)	
10	Important Folklore Material No. 25	Kim Dongju's Dwelling in Uiseong country	1970.12.29	1988.12.23	Unknown (Destruction by a fire)		
11	Gangwon province Tangible Cultural Property No. 24	Daeungjeon hall of the Guryongsa temple in Wonju city	1971.12.16	2004. 1.17	A fire started by a short circuit	○ (2004)	
12	Gangwon province Tangible Cultural Property No. 35	Naksansa temple in Yangyang country	1971.12.16	2009. 2.20	A forest fire	○	
13	South Jeolla province Tangible Cultural Property No. 42	Daeungbojeon hall of the Dogapsa temple in Yeongam country	1974. 9.24	1977.10.20	A fire caused by carelessness of a believer	○ (2009)	
14	South Chungcheong province Cultural Property Material No. 42	Lee Hyungu's Dwelling in the Boryeong city	1987.12.30	2000. 9.20	Unknown (Destruction by a fire)		

Key points:

What kind of disasters...?
How much damage...?

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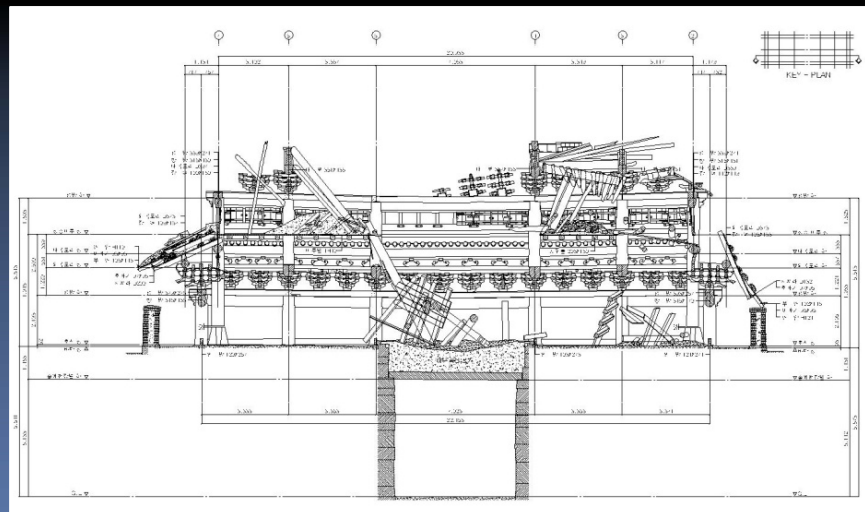
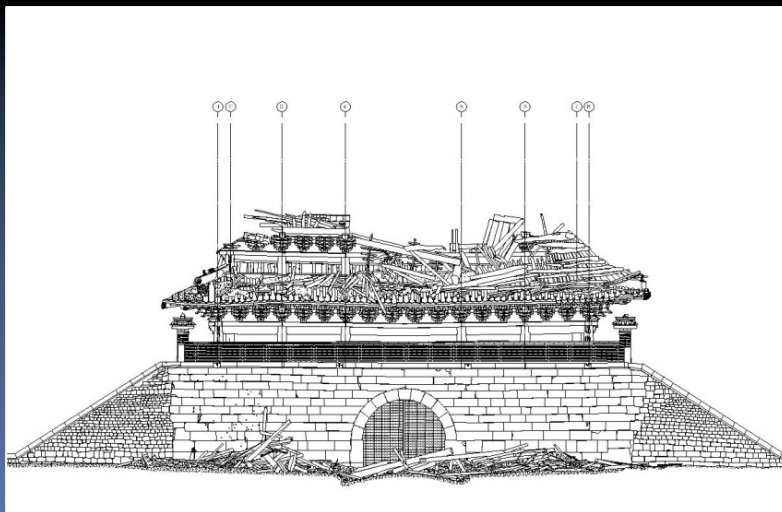
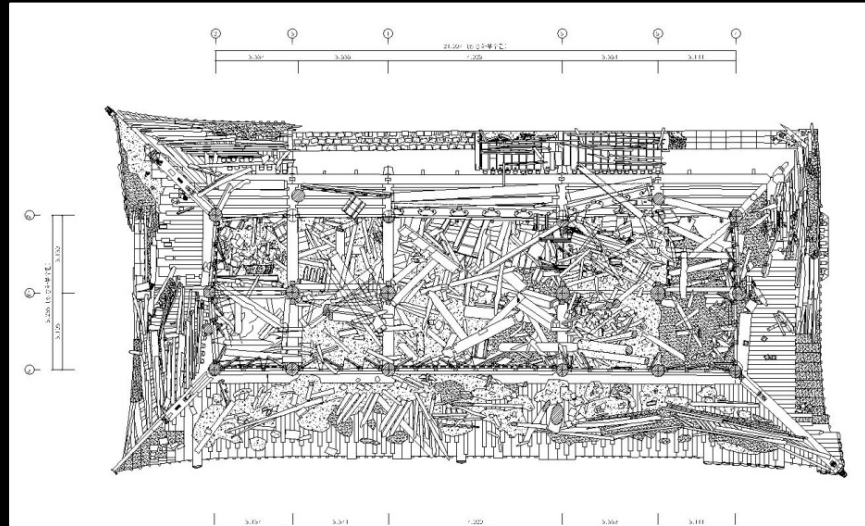
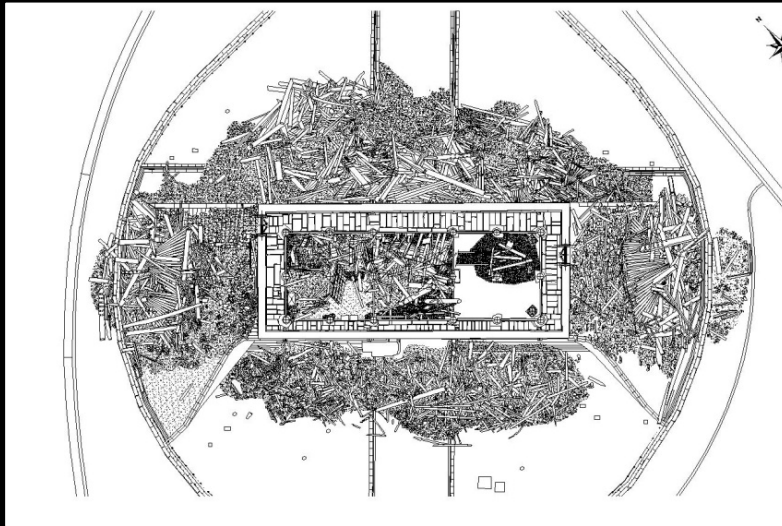
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Can we recovery or rebuild it?
How do we recovery?

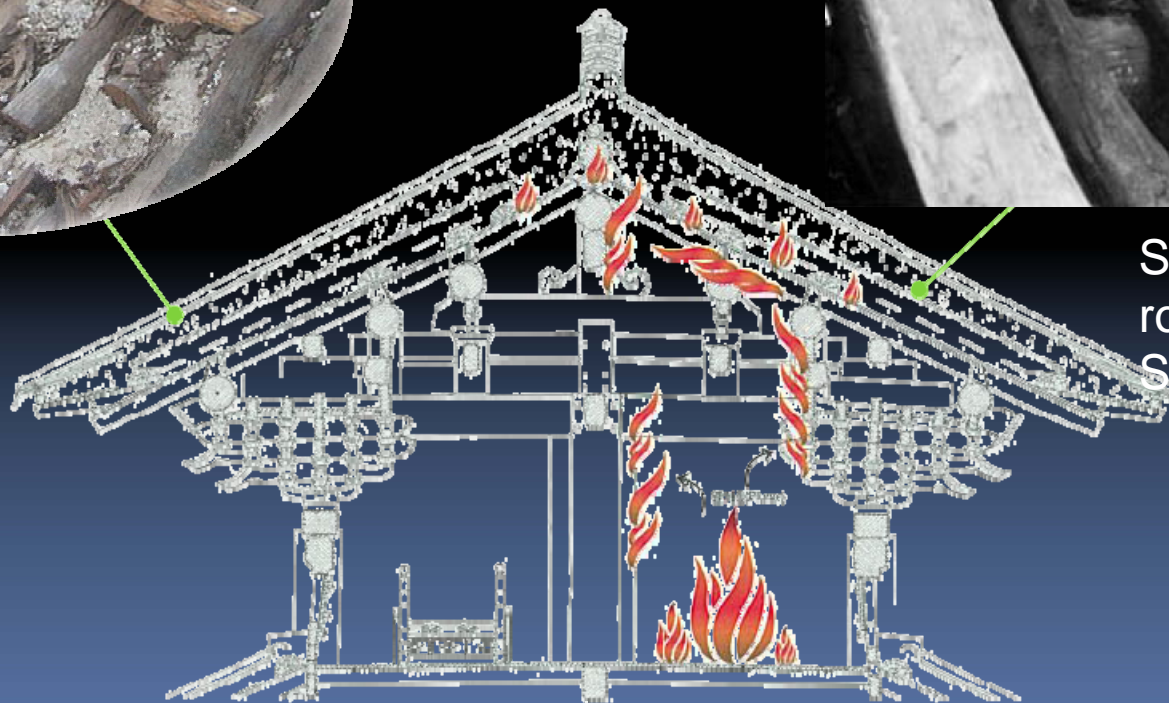


Does the cultural property have/ maintain its own value or not?

How do we maintain the value of historic building after disaster?



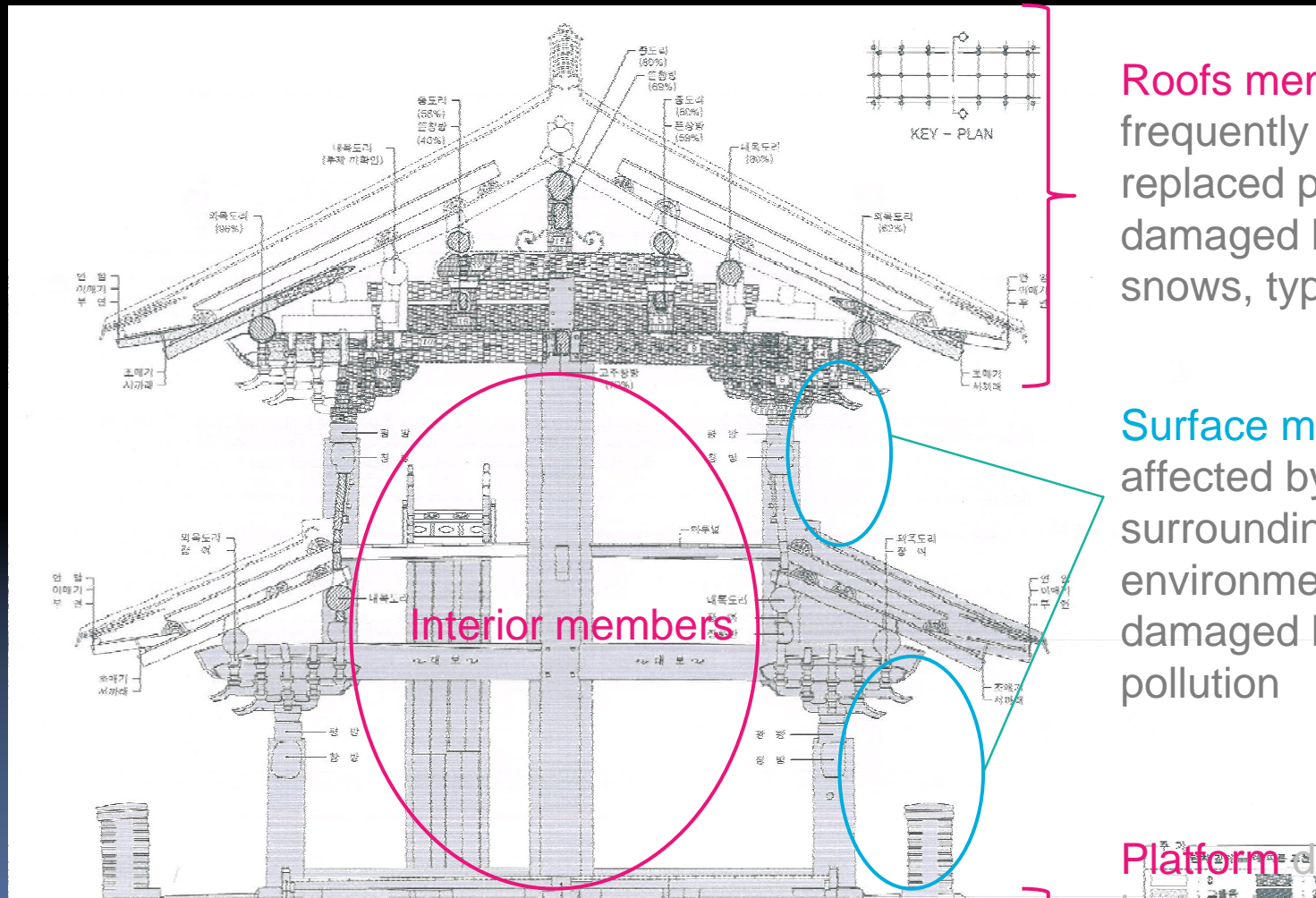
How do we maintain the value of historic building after disaster?



Similar example of
roof structure in
Sungnyemun gate

Figure of fire spread in Sungnyemun gate, 2008

How do we maintain the value of historic building after disaster?



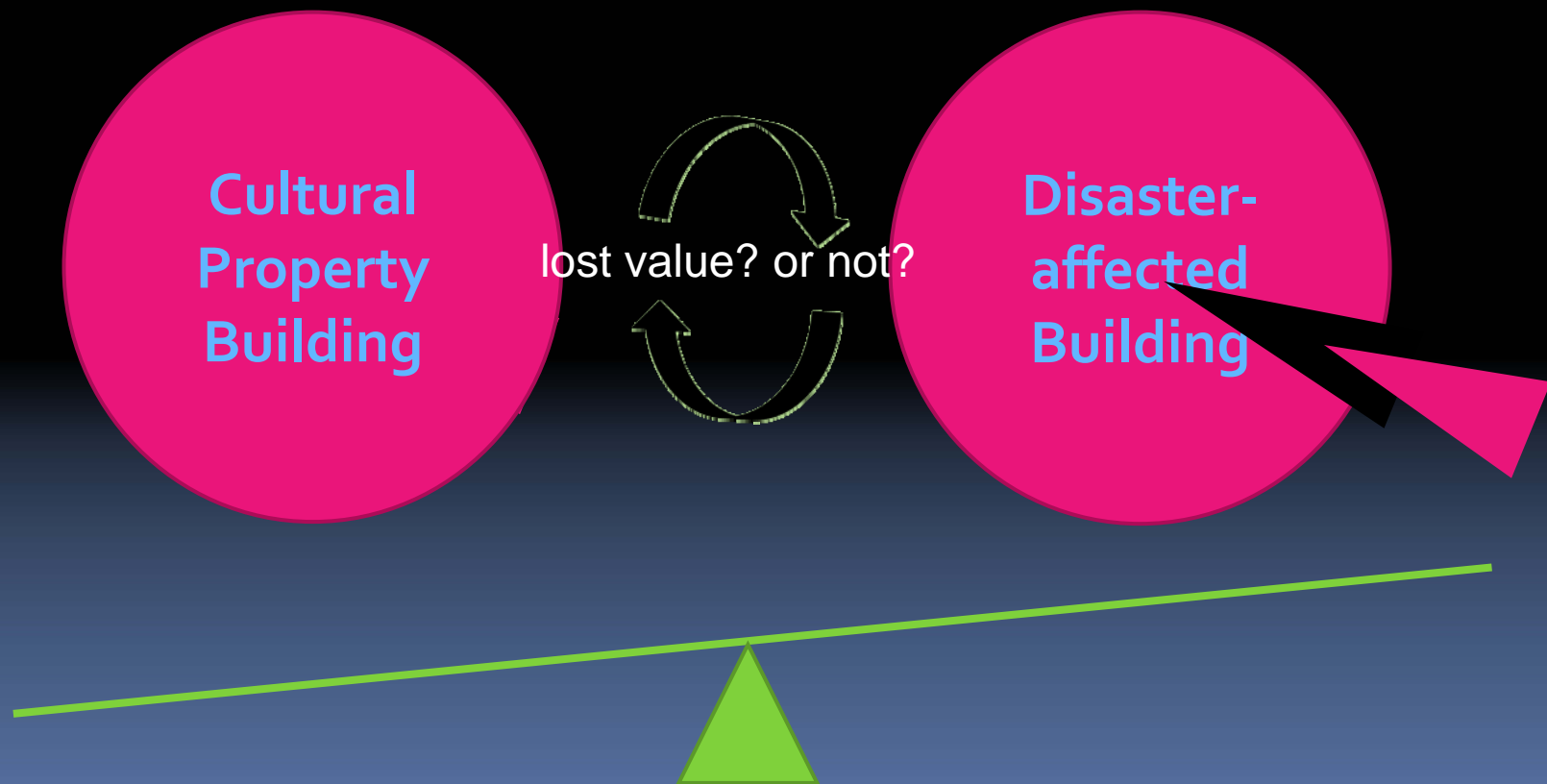
Roofs members
frequently repaired /
replaced parts,
damaged by rains,
snows, typhoon, etc

Surface members
affected by
surrounding
environment,
damaged by air
pollution

Platform damaged
by land subsidence,
tremor

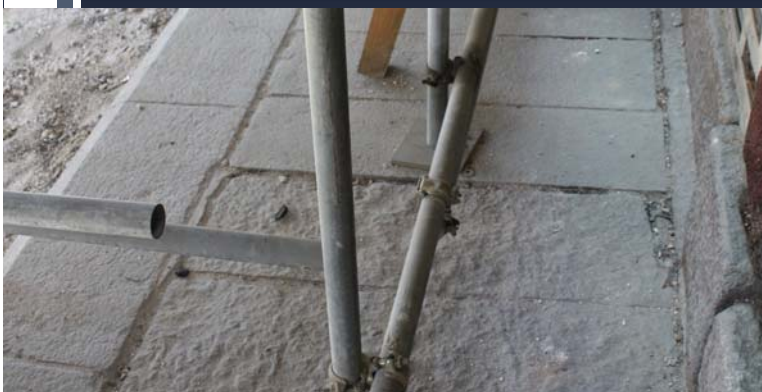
How do we maintain the value of historic building after disaster?

Known as the “World Heritage Convention,” this agreement considers “**authenticity**” and “**integrity**” when appraising World Heritage sites.



How do we maintain the value of historic building after disaster?

How many original members and materials are remained? And how can we remain it?





Thank you very much for your

attention.

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