

# Framework of Legal Systems in recent condition on Disaster Prevention Analysis and Mitigation of Risk for Cultural Property in Taiwan

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The core subject of the precaution against natural calamities for cultural assets is to build the disaster prevention and rescue system based on monument first, and does not insist to apply current system to the monuments. Such concept of “cultural assets value first” is comprehended gradually in the layer of conservation and restoration of cultural heritage domestically. However, it is still unknown in the disaster prevention system. According to the result of this study; it is found that most of the current laws go their own ways. There is no thinking based the characteristics of cultural heritage values. Modification must be made based on an integrated system.

**Keywords:** *Disaster Prevention Analysis, Mitigation of Risk, Taiwan*

## 1. Policy

Though the importance of disaster prevention of the monuments was realized in the past system and laws for disaster prevention and cultural heritage in Taiwan, yet the monuments for cultural heritage in many places were damaged since the earthquake of 921 in the year of 1991. Hence, considering the influence of large scale disaster to the cultural heritage, Council for Cultural Affairs added some articles for major disaster management in 2000, and planned the “Major Disaster Response Measures for Monuments and Historical Buildings” in January, 2006. The Executive Yuan subsumed the cultural heritage into the central disaster prevention system in April, 2009. However, relational policies and integration system for such declaration are required to be constructed.

In which, Cultural Heritage Preservation Act was re-published in 2005. Article 20 points that “The owner, user or manager of the designated Monuments shall draft the management and maintenance plan and report to the competent authority for recordation.” That is, the disaster plan shall be included. The manager of the designated Monuments is generally lack of prevention knowledge in Taiwan. Therefore, in the initial stage of the disaster, relative strategy and action might not be performed in time. Cultural Heritage Preservation Act, Article 21 describes that “The repair plan referred to in the preceding paragraph may include, if necessary, modern technologies and construction methods in order to enhance the Monument's resistance to earthquake, natural disasters, flood, termite and its durability.” It points clearly the importance of precaution against natural calamities in repair plan. “The reuse plan as referred to in the first paragraph, may, if necessary, include proposal to add other necessary facilities, but the original appearance of the Monument should not be affected” illustrates that modern facilities and equipments will be the necessary means for the reuse of monuments.

The monuments and historic building are totally different with the modern building. If the maintenance is executed according to the existing regulations, the original monuments and historical buildings might be destroyed. In Cultural Heritage Preservation Act, Article 22 stipulates that “monuments, historical buildings shall be exempted, in whole or in part, from the restrictions of the Urban Planning Law, Building Code, Fire Act and other related laws and regulations”. However, related legislation of fire relief for monuments and historical buildings are few.

In Cultural Heritage Preservation Act, Article 33 stipulates that the neighboring environment of the monuments must be included in the scope of preservation from single spot to an area. It not only maintains the overall landscape style of the monuments, but also considers the fire safety of the monuments. For example, fire lane and fire barriers must be set with enough distance between the historic preservation district and adjacent buildings. Thus, the monuments can avoid the fire attack from the adjacent buildings, and the landscape style of the monuments can be maintained well.

The “Fire Safety Measurers and Construction Management for Reused Land and Repaired Monuments, Historical Buildings and Settlements” was amended and announced in October, 19, 2010. According to the Article 22 in Cultural Heritage Preservation Act, the emphasis is to present response plan based on the target of preservation of cultural assets and base environmental hazard risk analysis. The content contains characteristics of cultural assets and suitability analysis of recycling to display the correct concept that the public sector has. However, there aren't solved in the aspect of execution.

Refer to Figure 1. The core value` of monuments precaution against natural calamities is to build the disaster prevention system with heritage values first. The values include concrete and abstract aspects, and are implemented in movable and immobile components and cultural relics.

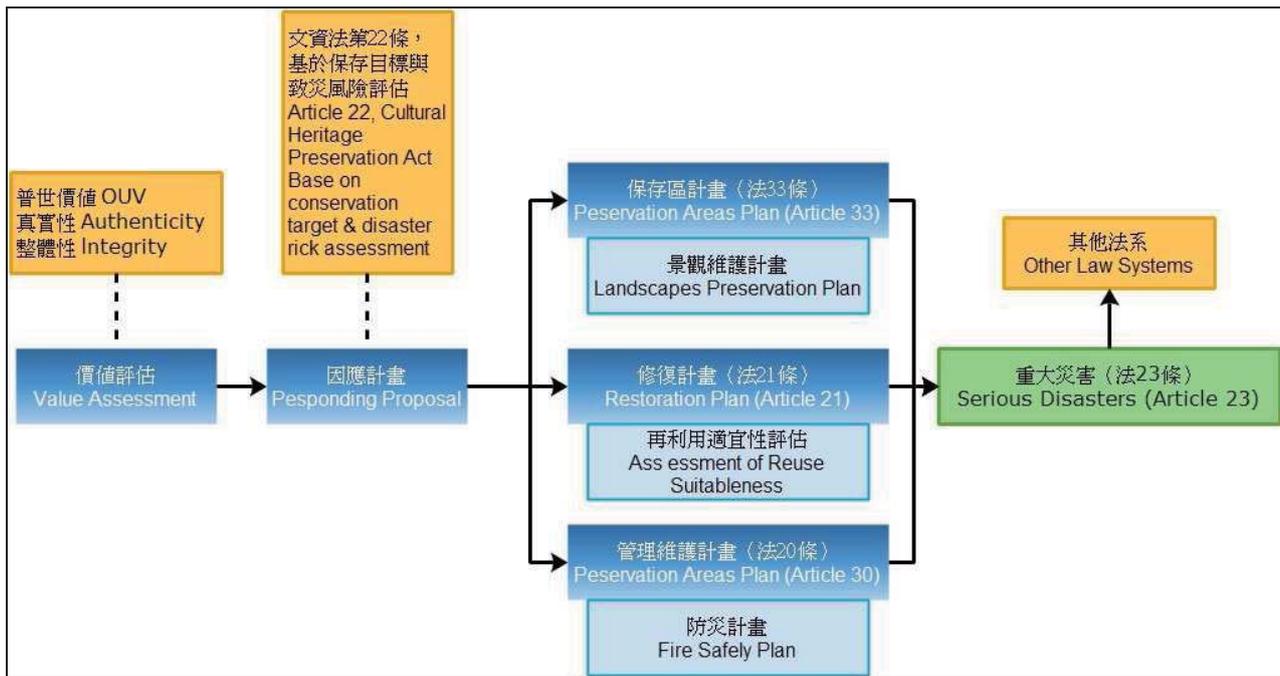


Figure 1 Relation Diagram for Regulatory Framework

## 2. Disaster prevention analysis for Cultural Property in Taiwan

### (1) Pushing the Pre-disaster Management and Maintenance

To implement the management and maintenance plan of cultural assets, the Headquarters Administration of Cultural Heritage, Council for Cultural Affairs, Republic of China (Taiwan) pushed the establishment of the “Professional Service Centers for Monument, Historical Building and Settlements District” in 2010. There are six district centers located in Taiwan. The main action items contain visit for management and maintenance, assisting to complete the plan of management and maintenance, assisting to process the emergency rescue plan and holding the seminars of management and maintenance.

This study proposes the suggestions and measures according to the items of management and maintenance. 1) The daily management and periodical maintenance shall be performed based on the checking list made for pre-disaster and post-disaster per week (day), month, year with basic plain-view drawing and elevation drawing. 2) Set a plan for managing the using and reusing of monuments. Such plan can be added to existing plan. If not, set a new plan for it. 3) A disaster plan for the security, disaster prevention and insurance of the monuments should be settled and offer disaster insurance suggestions according to the value analysis of the monuments. 4) Organize the emergency response team according to the Major Disaster Response Measures and implement the disaster training and drill. 5) Use the digital tool for management to implement the management and maintenance work.

In the existing regulations for management and maintenance, only the items of the articles are listed and there is no detailed information that the administrator should implement. Therefore, the management unit does not implement or plan by itself after the regulations are released.

## (2) Drawing up Disaster Plan

Several disaster prevention and drills were held in Taiwan for the past years (e.g. 2008 in Chiayi, 2009 in Taipei and Kinmen, 2010 in Taipei and Hsinchu) by advocating the education of the concept of monuments precaution against natural calamities to enhance the initial strain capacity. With the assistance of learning courses and the actual operation and training, people understand the procedure for fire fighting and heritage rescue is totally different with general relief. The prior training not only can improve the effectiveness of disaster prevention, but also it can reduce the extent of the secondary disaster. Besides, the concept of self-help and mutual aid can be reached with the participation of people.

According to the “Guidelines of the Fire Command and Rescue for the Fire Departments of Municipalities, Counties and Cities” revised by National Fire Agency, Executive Yuan in 2002, Article 7-1-2, integration various rescue information stated in the fire rescue operation essentials:

**a) Type A Fire Suppression Map:** Related information such as related streets, location of the buildings, the floor height, water status, diameter size and position of the fire hydrant, ponds, reservoir, river, lake, swimming pool which can be used for the access of fire rescue vehicles are marked as a reference for disaster rescue.

**b) Type B Fire Suppression Map:** The specific areas with high risk (e.g. squatters, ultra-high-floor, clustered housing, and so on) are illustrated with fire drawing by reviewing and investigating, and the fire-fighting equipment, location, quantity and the internal facilities information for life salvage and disaster rescue that can be used for disaster relief for the target object are marked.

At present, Type A Fire Suppression Map is made by fire branch in jurisdiction. According to the above items, the rescue equipment resources around the monuments can be seen clearly. However, Type B Fire Suppression Map does not mention about the fire rescue of the important cultural assets such as monuments and historical buildings. Now, the rescue of monuments and historical buildings are processed by using the general way for building rescue. It would cause second damage to the monuments and historical buildings. In the existing interface, how to integrate the monument evaluation and disaster prevention and rescue is the urgent problem to be solved currently.

In October, 14, 2009, the National Fire Agency announced “Principles of Fire Disaster for Monuments and Historical Buildings” with 4 articles based on “Disaster Prevention and Relief Programs for Strengthening the Monuments and Historical Buildings”. It divides the disaster rescue into phases of peacetime preparedness and strain rescue while in disaster. It is a reference for the monument and historical buildings before, in, and after the disasters. Now it is used for declaration of principle, and no follow-up development for the content of the practical implementation and operations.

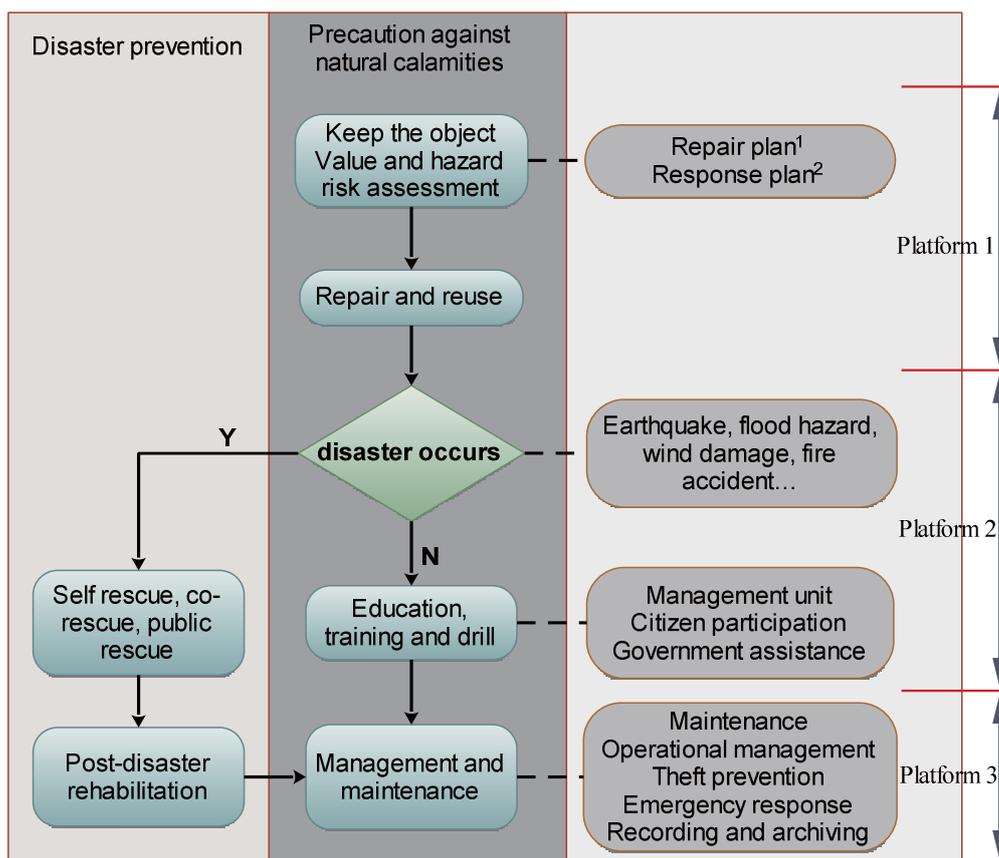
## 3. Mitigation of Risk

Such concept of “cultural assets value first” is comprehended gradually in the layer of conservation and restoration of cultural heritage domestically. However, it is still unknown in the disaster prevention system. Even in the studies with the subjects of disaster prevention for monument, mostly the discussion of historical

value is not elaborate and clarified. The countermeasures usually focus on the solution for facilities and equipment in traditionally. The core of the problem is not touched and the appropriate strategy can not be offered.

Now, in the disaster prevention and rescue system before, in and after the disaster relief, Pre-disaster Protection for Cultural Assets Legal System usually focuses on the phases of management, maintenance and repair in Taiwan and wishes to reduce the damage of monument and historical buildings and reduce the repair expenditure by usual inspection and management; Construction Management Legal System focuses on the settlement of fire safety facilities. However, there is no law made for monument and historical building; Fire-fighting Legal System can clearly point the items of fire prevention which separates the modern buildings with monuments and historical buildings.

Cultural Assets Legal System and Construction Management Legal System do not offer related regulations in disaster rescue; Fire-fighting Legal System announces the conditions and means of implementation while encountered in a disaster; Cultural Assets After Disaster Legal System focuses on repair and does not offer any methods of cleaning and preservation after the disaster; Construction Management Legal System does not make any regulations for such issue; and the Fire-fighting Legal System focuses on field identification after the disaster.



1. Based on “Measures for the Historical Buildings Repair and Reuse”, 2005.12.30
2. Based on Fire Safety Measures and Construction Management for Reused Land and Repaired Monuments, Historical Buildings and Settlements, 2010.10.19
3. Based on Measures Governing the Management of Historic Monuments and Historic Buildings Affected by Natural Disasters, 2006.1.12
4. Based on Measures Governing the Commissioning of Non-governmental Organizations to Manage Historic Monuments, 2005.12.30

Figure 2 Integration Platform Framework for the Disaster prevention of the Monuments

## 4. Discussion

The International has built clear concept in disaster prevention for cultural heritage and emphasizes on planning the framework integration to construct a complete disaster prevention system from top down and discuss with international organizations for exchange and development. In recent years, in addition to considering the disaster and risk prevention (disaster relief) for cultural heritage, the precaution (mitigation) of risk is valued more than before. In the aspects of public education and participation, the role of the public is changed from “be educated” into “forming self-help groups actively”.

Since the earthquake of 921, the related departments began to pay attention to the importance of the disaster prevention measures for monuments. In the recent years, international concept also was touched by the related departments. Though the corresponding laws had been revised constructively, yet a complete disaster prevention system was not established. The disaster prevention system based on “heritage value first” is urgent to be established further.

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