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A Study on the Application of Crime Prevention through Smart Environmental Design for the Cultural Properties Conservation and Promotion

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ABSTRACT

The cultural properties that are spirits of national culture in tandem with nation's values must be the assets that need to be inherited intact to our descendents. However, the cultural properties are usually exposed to various natural and artificial environments, or in danger of being damaged or extinguished. In order to conserve the cultural properties in their entirety, an environmental design is required, which would warrant their conservation and people's convenient access to them as well. With such basic conception in mind, this study was aimed at reviewing the patterns of crime in regard to the cultural properties, and thereupon, analyzing the guidelines and criteria for their maintenance plan and conservation & management, and thereby, determine the factors of the CPTED (Crime Prevention Through Environmental Design) applicable to their conservation and presentation, while assessing their importance. First of all, this study surveyed the details of CPTED in reference to the Guideline and Criteria for the Comprehensive Maintenance and Conservation & Management for the Cultural Properties, and thereupon, determined 24 factors of CPTED based on its 5 principles: natural surveillance, natural control of access, and reinforcement of the territoriality, enhancement of availability and maintenance & management. Then, a questionnaire survey was conducted for 96 experts at administration, spot management, planning and design, maintenance, etc., to evaluate the applicability and importance of each CPTED factor. This study would be conducive to the conservation and availability of the cultural properties being protected from ...

Keywords: Cultural properties; CPTED (Crime Prevention through Environmental Design); AHP (Analytic Hierarchy Process)

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A STUDY ON THE APPLICATION OF CRIME PREVENTION THROUGH SMART ENVIRONMENTAL DESIGN FOR THE CULTURAL PROPERTIES CONSERVATION AND PROMOTION

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Abstract

The cultural properties that are spirits of national culture in tandem with nation's values must be the assets that need to be inherited intact to our descendents. However, the cultural properties are usually exposed to various natural and artificial environments, or in danger of being damaged or extinguished. In order to conserve the cultural properties in their entirety, an environmental design is required, which would warrant their conservation and people's convenient access to them as well. With such basic conception in mind, this study was aimed at reviewing the patterns of crime in regard to the cultural properties, and thereupon, analyzing the guidelines and criteria for their maintenance plan and conservation & management, and thereby, determine the factors of the CPTED (Crime Prevention Through Environmental Design) applicable to their conservation and presentation, while assessing their importance. First of all, this study surveyed the details of CPTED in reference to the Guideline and Criteria for the Comprehensive Maintenance and Conservation & Management for the Cultural Properties, and thereupon, determined 24 factors of CPTED based on its 5 principles: natural surveillance, natural control of access, and reinforcement of the territoriality, enhancement of availability and maintenance & management. Then, a questionnaire survey was conducted for 96 experts at administration, spot management, planning and design, maintenance, etc., to evaluate the applicability and importance of each CPTED factor. This study would be conducive to the conservation and availability of the cultural properties being protected from the crime and thus, to the improvement of citizens' right to appreciate them.

Keywords: Cultural properties, CPTED (Crime Prevention through Environmental Design), AHP (Analytic Hierarchy Process)

1. Introduction

The cultural properties, spirits of national culture in tandem, are also nation's valued assets that need to be inherited intactly to our descendants. However, the cultural properties are usually exposed to various natural and artificial risks, and in danger of being damaged or extinguished.

Furthermore, many cultural assets of Korea are vulnerable to fire because of the wooden cultural heritage. If disaster is not responded immediately, it will bring a significant national loss.

Through arson case of Sungnyemun Gate (Republic of Korea Cultural Properties No. 1) in 2008, importance of the maintenance and management of cultural heritage was recognized. However, still, large and small

careless accidents and arsons are taking place constantly.

In order to conserve cultural properties with their entirety, an environmental design that which would warrant their conservation and people's convenient access is required.

With such basic conception in mind, this study was aimed to review the patterns of crime in regard to the cultural properties, and thereupon, it analyzed the guidelines and criteria for the maintenance plan and conservation and management, then, it determines the factors of CPTED (Crime Prevention Through Environmental Design) that are applicable to the conservation and presentation, while assessing their importance.

2. Literature Review

In order to categorize types of cultural heritage, this study reviewed the guidelines of heritage administration in South Korea. Then, this study also identified its Comprehensive Maintenance, Conservation Management, planning guidelines, instruction, installation criteria. Then, to find applicable elements of CPTED that can be used for cultural heritage, this study went over the existing CPTED published by Cultural Heritage Administration, guidelines produced by national police agency and the ministry of land, infrastructure and transport of South Korea. First of all, through a literature review, this study determined.

3. Research Methods

First of all, this study reviewed the details of CPTED in reference to the Guideline and Criteria for the Comprehensive Maintenance and Conservation and Management for the Cultural Properties, and thereupon, determined 24 factors of CPTED based on its 5 principles: natural surveillance, natural control of access, reinforcement of the territoriality, and enhancement of availability and maintenance and management. Then, a questionnaire survey was conducted on 96 experts in department administration, spot management, planning and design, maintenance, and more, to evaluate the applicability and importance of each CPTED factor.

Lastly, this study examined a statistical applicability by using S.P.S.S. v.18.0, and, using Experchoise 2000, it analyzed importance of cultural property through AHP (analytic Hierarchy Process).

4. Discussion and Conclusion

This research, it was found that such factors as CCTV, guide, reinforced safety personnel's patrol, visitors' circulation, clear distinction of visitors' circulation, maintenance and management, and more, scored higher in both terms of applicability and importance.

Since the cultural properties cannot well be reinstated once they have been damaged, it would be efficient to watch them by means of both manpower and equipments, and furthermore, it has been confirmed through this study that clear distinction of visitors' circulation and maintenance & management are the important factors conducive to conservation and availability of the cultural properties.

However, some factors were found less applicable and important: proper layout of planted trees, minimum height of such facilities as stonework, natural fences (bush clover, hardy orange tree, etc.), outdoor exhibition space and the like. Tree planting, fence, stonework, etc., require high budget, while being less efficient than manpower and equipment in terms of surveillance. As conservation of the cultural properties is deemed less important than their availability, outdoor exhibition space is deemed less applicable and important.

Based on the results, the following reformed measures for crime prevention in regard to the cultural properties have been suggested. First, it is necessary to arrange guidelines or criteria a CPTED conducive for conservation and availability of the cultural properties in detail. Secondly, it is required to have such guidelines or criteria reflected in a comprehensive cultural properties maintenance planning. Thirdly, it is necessary to apply the guidelines and criteria preferentially to the maintenance and management works, while setting their priorities in consideration of applicability and importance. Fourthly, it is also necessary to monitor the conditions before and after the project reflecting the CPTED factors and thereby, to identify the problems and their solutions to be suggested to the guidelines or criteria on a continual basis.

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