



## 한옥의 특성을 고려한 인증제도 도입 방안 연구

Policy Review for Introducing Hanok Certification System

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As accelerating the supply of Hanok, it has been a major issue how Hanok responses to the social, cultural and environmental change of modern society. To conserve the traditional exterior of Hanok and guarantee the high performance of Hanok as modern housing, Hanok Certification System should be established. The Hanok Certification System can help a consumer select a Hanok, and allow a provider to prove the differentiation and competitiveness of Hanok. In addition, building such a certification system is necessary in order to keep the consistency of many Hanok support policies conducted by the government.

In this study, we first clarify the ideal of Hanok by defining the range of Hanok subjected to related policies. Next, certification and evaluation systems for many types of buildings including Hanok support regulations are analyzed. Based on these analyses, reasonable indicators are developed, which help preserve the unique characteristics of Hanok following modern technology and building standards. Finally, we suggest the introduction plans of a certification system institutionally guaranteeing the indicators and encouraging to use them.

Hanok is the relative term to Yangok which refers to the Western-style modern architecture built at the end of 19th century. Although Hanok, a wooden structure with a sloped roof, has its own formal features very different from Yangok, it cannot be defined only by specific forms and materials. However, as the policies for promoting Hanok have been pursued since 2000s, the regulations of each local government have defined what is Hanok based on three criteria: structure, material, and style. This definition has helped keep the traditionality of Hanok, but it has

constrained the introduction of modern technology and building equipments to Hanok.

Hanok should be considered as an alternative of modern architecture, not as an reproduction of buildings of the past. For this, the modern methodologies on how to build Hanok should be sought beyond focusing on the specific exteriors and forms of traditional Hanok. Thus, the existing definition of Hanok set based on three criteria (traditional structure, material, and style) has to be modified through social consultation. This is the reason why new building standards reflecting the characteristics of Hanok need to be established. Even though all the buildings with traditional structure, material, and style can be called Hanok, not all of them can be considered *good* Hanok. The purpose of Hanok policies should not be to blindly preserve and supply Hanok, but to spread good Hanok.

To begin with, for the establishment of Hanok Certification System, domestic and foreign building standards (housing performance, energy use, ecology, sustainability, barrier-free, and crime prevention design, etc.) and overall standards related to Hanok (standards of wooden buildings, composition of traditional architectures, etc.) were analyzed. These standards were largely categorized into three areas: (1) landscape and design, (2) sustainability and energy efficiency, and (3) safety and durability.

First, in landscape and design, Hanok repair and building standards in force and the district units plan for areas with the highest concentration of Hanok were specifically analyzed. Moreover, two similar systems (the domestic landscape review system, and the landscape district system of Japan) were compared and examined. Second, in sustainability and energy efficiency, the domestic G-SEED (Green Standard for Energy and Environmental Design), CASBEE (Comprehensive Assessment System for Built Environment Efficiency) of Japan, and Heisei-no-Kyomachiya Accreditation System for the modernization and supply of Kyomachiya in Kyoto were analyzed. Finally, in safety and durability, the evaluation items about structural safety, durability, and the availability of maintenance were examined by investigating related systems, such as 5-star Quality Approval of Wooden Architectures from Canada, Housing Performance Indication System of Japan, and The Lead Model Project for Long-term Quality Housing of Japan. After then, the evaluation items of Hanok Certification System were drawn considering the features of Hanok.

Hanok Certification System is composed of three methods: (1) to define a target of support by presenting the minimum standards of Hanok, (2) to suggest standards for selecting good Hanok, and (3) to revise the evaluation items of an existing systems to fit Hanok. This Hanok Certification System can be enforced along with an existing certification system or alone.

G-SEED most comprehensively deals with building performance standards among domestic building certification systems. Among the evaluation standards specified according to usage of buildings in G-SEED, the evaluation standards for small houses can be adapted to Hanok. Although those evaluation items comprising of seven specialties (land use and transportation, energy use and environmental pollution, materials and resources, water cycle management, maintenance, ecological environment, and indoor environment) has limits for evaluating the exterior and safety of Hanok, it is still worth to adapt the G-SEED standards to Hanok because the new system can be introduced without additional costs and implemented soon. But some performance standards, which seem difficult to be satisfied in reality, need to be taken additional action. Those standards can be eliminated or be lowered.

If a new system is organized, evaluation items will consist of the required and the recommended, and be divided into three different parts: (1) landscape and design, (2) sustainability and energy efficiency, and (3) safety and durability. First, in landscape and design, a building is evaluated with respect to four aspects: the exposure of materials, the inheritance of traditional beauty, harmony with new elements, and balanced arrangement. Second, in sustainability and energy efficiency, energy use, materials and resources, and indoor environment are dealt with. In detail, this part describes the specific evaluation standards on energy conservation, the application of new renewable energy, the use of natural materials and environmentally certified products, the recycling of structural members, thermal environment, and air quality. Lastly, in safety and durability, five items are stated: structure, disaster prevention, maintenance, barrier-free, and crime prevention. Though this new system is composed of the most appropriate evaluation items, there is a concern that Hanok is treated with exceptional in building certification system as a result.

As another alternative, different systems can be applied together. For example, the exterior of Hanok follows the standards of Hanok support regulations

enforced by each local government as usual, but details related to performance which were not properly mentioned in the existing standards are adjusted by G-SEED. As each system is separately operated, it can be used selectively depending on the purpose of an applicant. In such a case, the partial revision of Hanok support regulations and G-SEED should be preceded taking into account the characteristics of Hanok.

In conclusion, Hanok Certification System should encourage the spread of *good* Hanok rather than regulate *poor* Hanok. Because Hanok has failed to reach the performance level required of modern buildings, the promotion policies for Hanok have been carried by making relevant exemptions. The popularization of Hanok, however, demands reliable evaluation items which guarantee the quality of Hanok as a general building and allow the mutual comparison between buildings. The introduction of Hanok Certification System will offer objective criteria on the exterior and performance of Hanok, and improve Hanok technology by building up its quality standards. Meanwhile, Hanok Certification System will be able to have a positive effect on the popularization and supply of Hanok.

**Keywords : Hanok, Hanok Certification System, Definition of Hanok, Quality Standards, Building Performance, Evaluation Indicators**