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Preserving Minangkabau traditional building in West Sumatera, Indonesia: Integration of information technology

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Abstract

Minangkabau traditional house is part of Indonesia's rich cultural assets with historical and normative values. The heritage material of Minangkabau is a very important part of social identity. Beside as custom homes, Minangkabau traditional building also serves as residence for common people. Today, the sustainability of traditional house is threatened, and it is gradually diminishing. The purpose of this study is to collect relevant data of preservation of the Minangkabau traditional building as part of cultural heritage in West Sumatera, Indonesia. The data collection included demography of ownership, physical characteristics and the function of the building, location and picture. This research also developed a database involving the integration of information technology to set up sustainable evaluation of traditional building for past and present. Records of fieldwork data input were inserted into the database to provide a very comprehensive documentation of the cultural heritage of Minangkabau traditional building. The database is vital in the preservation, maintenance and conservation efforts and as a promotion to the related locations of heritage and culture. Implications of the study on the urban sustainable development are discussed.

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Keywords: Preservation; cultural heritage; Minangkabau traditional building; Information Technology (IT)

1. Introduction

The Minangkabau traditional house is an architectural construction comprising of the internal and external decoration, as well as the functions of the house that reflect the culture and values of

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Minangkabau. It is one of the trademarks of social identity essential for Minangkabau ethnic group in West Sumatra, Indonesia. In addition, it also becomes part of regional identity that is “heritage material” for Minangkabau ethnics.

The current status and the existence of Minangkabau traditional building in some areas in West Sumatra is worrisome, as sometimes these traditional houses are uninhabited because the owners live somewhere else. In addition, the physical condition of many Minangkabau traditional buildings indicates that they are poorly maintained and damaged. Beside the economic factor, owners need to pay high cost to repair or renovate. The difficulty in getting material or wood is also a constraint faced by the community to repair the damaged houses. Some of the restrictions which are categorized as internal and external factors become the obstacles in the preservation of Minangkabau traditional building [1].

Previous research about Minangkabau traditional building focused more on the architectural aspects. Elfida Agus [2] studied the topology, morphology and typology of Minangkabau traditional building. The cultural values, patterns and shapes have also been studied by Sudirman Is [3][4]. Moreover, transformations within the home space were studied by Al Busyra Fuadi [5]. Minangkabau traditional building is one form of manifestations of Minangkabau culture [5]. In the Minangkabau society, the Minangkabau traditional building as architecture is really a reflection of social and cultural expression of society, displaying specific form in harmony with its environment—a harmony between nature and the constructed environment [2] [4].

Traditional building is a Minangkabau architecture that reveals the shape and the space environment according to the rules of society. Traditional houses are also a source of inspiration to be used as a basis for planning the form of modern architecture [2] [3] [4]. Even the house for the community can be a sign of cultural heritage that retain the typical architecture of Minangkabau ethnics [2]. Along with times, the traditional home changed and continues to change. Some changes are connected to the function, form, construction, structure and spatial structure of the house. These changes can be caused by the influence that comes from society itself, and they are caused by acculturation [4].

According to the Ministry of Law and Human Rights of The Republic of Indonesia regarding cultural heritage, preservation is defined as a dynamic effort to sustain the existence of heritage and values in a way to protect, develop and exploit it. The concept of preservation itself aims to preserve and maintain the identity of an environment. Furthermore, the concept of preservation has been integrated with the information technology approach. Previous studies have applied information technology in terms of cultural preservation such as in Fatih (Zeyrek), Istanbul [6]. Malaysia [7] already developed a cultural map which involves the integration of spatial information technology, online application, open source GIS and spatial data with architecture and humanities distribution related to cultural heritage. The study [7] involved eight category of cultural attributes namely, hand craft, archaeology sites, Malay knowledge, place of natural recreation, monument, museum, descendant community and traditional story. Total data recorded in the database comprised 200 cultural locations. In Indonesia [8], a case study approach was used to develop a model for the preservation of traditional architecture of Banjar ethnics.

Based on previous study the preservation object is already identified by its location. The problems of preservation study of Minangkabau traditional building has not yet identified the total and distribution of Minangkabau traditional buildings in West Sumatra, except for some traditional building that has been legalized by statute as cultural sites. In other words, there are no statistics for the total and distribution of traditional buildings in West Sumatra. There is no clear information regarding data on the building condition or the physical changes and functions of traditional buildings at present. The database as an output through this study will describe such condition.

2. Methodology

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