

The Sustainable Design Approaches of Vernacular Architecture in Anatolia

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Abstract : The traditional architectural style or the vernacular architecture can be considered modern and permanent in terms of reflecting the community's lifestyle, reasonable interpretation of the material and the structure, and the building and the environment relationship's integrity. When vernacular architecture is examined, it is seen that sustainable building design approaches are achieved at the very beginning by adapting to climate conditions. The aim of the sustainable design approach is to maintain to adapt to the characteristics of the topography of the land and to the climatic conditions, minimizing the energy use by the building material and structural elements. Traditional Turkish House, as one of the representatives of the traditional and vernacular architecture in Anatolia, has a sustainable building design approach as well, which can be read both from the space organization, the section, the volume, and the building components and building details. The only effective factor that human beings cannot change and have to adapt their constructions and settlements to is climate. The vernacular settlements of vernacular architecture in Anatolia, "Traditional Turkish Houses," are generally formed as concentric settlements in desert conditions and climates or separate and dependently formations according to the wind and the sun in moist areas. They obtain the sustainable building design criteria. This paper aims to put forward the sustainable building design approaches of vernacular architecture in Anatolia. There are four main different climatic conditions depending on the regional differentiations in Anatolia. Taking these different climatic and topographic conditions into account, it has been seen that the vernacular housing features shape and differentiate from each other due to the changing conditions. What is differentiating is the space organization, design of the shelter of the building, material, and structural system used. In this paper, the sustainable building design approaches of Anatolian vernacular architecture will be examined within these four different vernacular settlements located in Aegean Region, Marmara Region, Black Sea Region, and Eastern Region. These differentiated features and how these features differentiate in order to maintain the sustainability criteria will be the main discussion part of the paper. The methodology of this paper will briefly define these differentiations and the sustainable design criteria. The sustainable design approaches and these differentiated items will be read through the design criteria of the shelter of the building and the material selection criteria according to climatic conditions. The methods of preventing energy loss will be examined. At the end of this research, it is going to be seen that the houses located in different parts of Anatolia, depending on climate and topographic conditions to be able to adapt to the environment and maintain sustainability, differ from each other in terms of space organization, structural system, and material use, design of the shelter of the building

Keywords : sustainability of vernacular architecture, sustainable design criteria of traditional Turkish houses, Turkish houses, vernacular architecture

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