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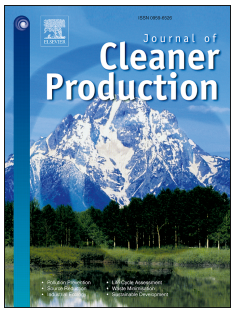

Tracing sustainable design strategies in the example of the traditional Ohrid house

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Tracing Sustainable Design Strategies in the Example of the Traditional Ohrid House

Abstract: This paper examines the sustainable design strategies of the Balkan vernacular architecture in the example of the traditional Ohrid house. The approach regarding the problem of resource conservation which is present in the selected examples of vernacular architecture offers the possibility of analysing and discussing the building strategies of the past, which are still considered to be relevant in terms of sustainability and environmental design. The subject of this research is the sustainable design strategies that refer to the reuse of building material and the measures regarding waste reduction in the form of its incorporation into new building materials. The research points to sustainable solutions regarding on-site minimisation of construction waste in the example of the traditional Ohrid house during the following three phases of the life cycle of both the material and the building: pre-building, building, and post-building phase. The applied on-site waste minimisation measures and the principle of using materials with low-embodied energy, identified in the example of the traditional Ohrid house, can be understood as the conceptual basis for finding more efficient solutions in today's material and energy conservation practices, proving that sustainable architecture could be achieved by a simple and thoughtful application of local materials and building techniques.

Key words: Reuse, on-site waste minimisation, traditional Ohrid house, sustainable design strategies, Ohrid's vernacular architecture.

1. Introduction

Contemporary sustainable building practice is looking for a reliable way of assessing and certifying materials. With this in mind, the issue of the use of materials is increasingly being observed through their ecological characteristics that refer to various aspects of interaction between a material and the environment: embodied energy and pollution, waste generation and recycling possibilities, but also the issue of energy conservation and energy efficiency. Contemporary sustainable tendencies reinvent ways for reducing waste and loss of materials, which leads to a reduction of environmental pollution (Zuo and Zhao, 2014; Coelho and de Brito, 2012) Since waste generation on-site is directly related to the design process, better site planning and management of the materials is believed to be the solution