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Architectural structure and environmental performance of the traditional buildings in Florina, NW Greece

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ABSTRACT

This paper presents various aspects, which characterise the traditional architecture in the town of Florina, north-western Greece, and can be related to bioclimatic and environmental architecture. The study is based on the documentation and the analysis of the architectural and bioclimatic aspects of a sample of forty (40) remaining houses of the 19th and the beginning of the 20th century. The analysis of the architectural aspects concerns the building typology, the form, the materials and the construction techniques, whereas the analysis of bioclimatic aspects involves the thermal behaviour of the building shell, the thermal and the visual comfort conditions. The aim of the study is to document and assess, both qualitatively and quantitatively, all the afore-mentioned aspects in order to draw conclusions concerning the principles, which characterised this architecture and can be integrated to the refurbishment of existing buildings or the design of new ones in traditional surroundings.

1. Introduction

The vernacular and traditional buildings in every area are a product of the accumulated experience and practice of many centuries and can constitute a continuous source of knowledge. The use of local materials and the harmonisation with the local environment and climate are some of the factors, which contribute to the distinct architectural identity of every area. This is the main reason why various researchers have examined traditional and vernacular buildings throughout the world with respect to bioclimatic and environmental architecture. These researches deal with the subject of the environmental performance of traditional architecture in two different ways: qualitatively and quantitatively. The qualitative approach involves the assessment of the environmental performance of the different elements of buildings and/or settlements in relation to the prevailing climatic conditions [1], whereas the quantitative approach is based on in situ measurements of different climatic parameters outside and inside the examined buildings, which lead to conclusions concerning the thermal performance of the houses [2,3].

For the wider area of the Balkan Peninsula, of which Greece forms part and where the traditional architecture of the period in question (19th–beginning of the 20th century) presents many common characteristics, previous studies concern areas of Former Yugoslavia [4–6], Bulgaria [7], Romania [8,9] and Turkey [10–12]. For Greece, earlier studies dealt with vernacular architecture in general [13] and in northern Greece in particular [14]. More recent studies include traditional settlements in Phokida in mainland Greece [15] and on the islands of Tinos and Andros, in the Cyclades [16]. Finally, for north-western Greece, previous studies analyse the bioclimatic aspects of the traditional buildings, which are found in Florina [17], various other towns [18] and settlements [19].

This study focuses on the town of Florina, in an attempt to detect, document and analyse the design principles and the elements of its traditional architecture of the 19th and 20th century. It should be noted that the term “traditional” is preferred over the commonly-used term “vernacular” because the buildings in question form part of an architecture, which was not spontaneously constructed by its inhabitants according to their needs, but was instead built by master-builders and tradesmen (*sintechnies* or *bouloukia*) using specific draft drawings and model plans. Rapoport [20] uses the term “pre-industrial vernacular” to describe this category of buildings identifying it with the term “traditional”.

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