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THE METHOD OF CLIMATIC SEASONS: A STRATEGY OF DWELLING QUALITY IN BECHAR CITY ALGERIA

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Abstract

In recent decades, urban development has increasingly relied on standardized construction methods, resulting in uniform architectural forms that often disregard local climatic and cultural contexts. This global trend not only undermines regional architectural identity but also leads to the creation of energy-intensive buildings, particularly problematic in hot-arid climates where achieving thermal comfort is challenging. In Algeria, this issue is especially pressing: the building sector accounts for approximately 41% of the country's total energy consumption. In response, the 2016 Algerian Thermal Regulation was introduced to promote energy-efficient practices and reduce consumption. However, implementation remains inconsistent, and many modern housing solutions continue to perform poorly under harsh environmental conditions. Cities in the Algerian Sahara, such as Bechar, experience extreme climatic variations, with extremely high summer temperatures and very low winter temperatures. Despite this, most contemporary dwelling developments fail to apply passive design strategies tailored to these realities. This results in poor indoor thermal performance and a heavy dependence on mechanical heating and cooling, further exacerbating energy demand. This disconnect between standardized architectural approaches and the specific needs of local climates highlights a critical gap in current design practices. To address this issue, the present study evaluates the Climatic Seasons Method, a bioclimatic analysis tool that classifies the year into thermal seasons based on external stressors like temperature. By identifying seasonal requirements for heating and cooling, this method offers actionable insights to support climate-responsive design. Applied to the city of Bechar, the study aims to demonstrate the method's potential in guiding low-energy architectural strategies. The ultimate goal is to promote context-sensitive design approaches that reduce energy use while improving thermal comfort in hot-arid environments.

Key words: cooling day degree, heating day degree, hot/dry climate, dwelling/quality, the climate seasons method

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