The impact of constructivism density of the urban tissue in improving the physical urban ambience of the free space - The street- for Saharian cities. The study of the case city of Biskra.

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Abstract

The urban tissue is designed for a major and an important role, which is the protection of the free space under the physical data that surrounds it. Thus the protection of the free space is one of the most important objectives of the constructed mass for the tissue. That’s why the success of the tissue in providing a great deal of the protection from the physical factors is considered as a success in the design and engineering of this tissue. Here comes this research. Which is based on a comparative study of the ambience physical elements, via two urban tissues that contain different constructivism density and the conclusion of the effect of every tissue in improving the physical ambience for the free space - the street -.the research is based on the comparison of three main axes of the physical ambience, they are 1-the Thermal ambience, 2-the visual ambience, 3- the Audio ambience. The cording to that the methodology of the research was due to the field of experience in order to raise the real values of the physical ambiances every two hours, each three consecutive days. According to the measurement stations that is positioned via the three types of the street engineering (H≥2W, H=W, H≤0.5W). Through the obtained results and with the comparison of those values. We noticed and recorded the difference between these values in the three types of street engineering. The difference in the thermal values of the air reached 4 °C, and the difference in the direct natural lighting periods of the high amount reached six hours. Even the recording of difference in the level sound values can reach 15 (db) between the three types. This difference in values indicates the impact of constructivism density in improving the physical urban ambience within the free space - street- for urban tissue. And this means that the urban tissue smart and sustainable city in the desert.

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1. Introduction

The cities of the desert constitute a great legacy of human civilization throughout history[6]. Where the question of the physical comfort of these cities, is re-value and fundamental authenticity. Which the improvement and realization of physical comfort in free urban –street- space. It is the obligatory principle for the survival of the cities of the desert, it is they allowed the development of human settlements in the desert throughout history.

2. The problematic

Many cities are suffering from the problem of increase the environmental physical burden[8]. Where increase of air temperature, increase natural lighting, strong winds, and noise. This problem can causing to many problems to the health of the human. The city of Biskra is considered of those cities, which suffer from the problem of increase the environmental physical burden in the urban space[8] [6]. This problematic raises the question of how enable the reduction and improving of the physical urban ambience of tissue -street-.

3. The objectives

- Study relationship of the effect of the H / W. To improve urban physical comfort in urban space - street-.
- Identify the best of the typical relationship between H / W, to improve urban physical comfort in space -street- through comparative study between them.

4. Methodology

Scientific methodology in this research accordance with the comparative method. In the first, the theoretical axis, where the conceptual analysis phase by dismantling the basic concepts of the subject and their dimensions. The axis practical, where also included three axes. The first: identify the urban environment, by the analysis of the site, its for identifying the overall sample - measuring stations -. As well as the identification of the scientific instruments used in the measurement process. The second determine the tool to search. Is the field work. The third, is a process of analysis, interpretable, by the comparative method and the discussion of the results.

5. The physical Urban Ambience

The concept of the physical ambience consists of concept of comfort where five head consists. It is thermal comfort, visual, acoustic and olfactory. Comfort olfactory, which has been ignored, because unrelated to the objectives of the research.

6. Thermal comfort

The thermal comfort zone is a very short period within a period of thermal equilibrium. That area reflects interaction the components and combinations the climatic factors that affect the heat exchange between climate and human, when the case of thermal equilibrium. Those elements which comprise the human activity that is practiced, the coefficient of thermal insulation of clothing, air temperature, air speed, relative humidity, and the average temperature of surfaces surrounding.

6.1. Solar thermal radiation

Solar thermal radiation move by radiation from its source to the receiver (the ground) in four forms of radiation form. All of which affect the acquisition of thermal energy for the urban tissue.

The first form: direct thermal radiation with a short-wave. The second is: indirect thermal radiation, which also has a short wave. Third: it is the reflected rays of the terrain be short-wave. Finally: the reflected radiation from the
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