Planning of sustainable cities in view of green architecture

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Abstract

Green architecture usually symbolise the sustainability of modern cities. While urban central areas are usually endowed with a multitude of green spaces, they are also the areas that are most prone to the undesirable effects of growth and urbanisation. Planning of sustainable cities serves as a fundamental catalyst for change, improving environmental quality of the natural and built environments, and upgrading conditions for development of green architecture. This paper analyses strategies that have been used in Baku, Azerbaijan, and focuses on the strategies of sustainable development, that have been used to upgrade the environmental quality of this city.

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Keywords: sustainable city, urban planning, green architecture, environmental quality, Baku.

1. Introduction

In order to comprehend the nature of cities, it is essential to look back into history and identify their beginnings, growth, development and the multiple layers time has bestowed upon them. It is interesting to note how the green areas of the city tend to represent their origins. The beginnings of most world-famous cities, such as Alexandria, Egypt, Istanbul in Turkey, Barcelona in Spain and Baku in Azerbaijan, were originally constructed in the area that nowadays represents the green beginnings of these cities. Over the centuries, the city's urban fabric began to articulate with respect to this green area, and urbanisation accordingly occurred in a peripheral direction, as depicted in Fig. 1.

The importance of green spaces is that they serve as a place of identity, memory and belonging [1]. Green city spaces tend to forge an urban identity for the rest of city, and for surrounding districts to adopt.

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In many cases, green areas are representative of the entire city, the result of the outstanding multitude of green trees and architectural heritage and archaeological sites, which manage to endure time, contradicting new functions and development that take place around them, at expeditious rates. City green areas usually tend to serve as the city's central public spaces as they are often visited to. This is owing to the high percentage of ecological functions, public buildings and offices that environment exist within. In this way, the city green architecture tends to both represent and reveal a great deal about the city's ecological performance and success of sustainable planning, thus adding notable eminence and value to it.

Fig. 1. (a) The plan of Baku to show Urban Green Expansion that Radiates out from the City Centre, in a Concentric, Linear or Polycentric Direction, (b) The plan of Baku centre to show Urban Green Development from the Green Core City.

2. Challenges Facing Green Areas

While green areas are identitarian, core to the city both historically and geographically, they are also central to many challenges and obstacles. The explosion in urban population is partly to blame for this. In 2007, the world's urban population had exceeded its rural population, and by the year 2050, the world's urban population is expected to increase by up to 65% [2]; [3]. Green city areas all over the world tend to witness a multitude of undesirable effects, the result of the overwhelming waves of rural migration taking place. Overcrowding and consequential unplanned growth have resulted in environmental degradation on a variety of scales. This is inclusive of localised environmental health problems, such as indoor air pollution and contamination of drinking water, and city-regional environmental problems such as ambient air pollution, inadequate waste management and resultant pollution of water-bodies such as rivers and lakes. This persistence and the overall laissez-faire attitude that is usually adopted by city administrations may contribute to pollution on a broader scale, and have extra-urban impacts such as ecological disruption, resource depletion, emissions of undesirable greenhouse gases and subsequent rise in anthropogenic heat in the ambient atmosphere.

3. Planning of Sustainable Cities as a Catalyst for Change

Planning of sustainable cities and the revitalization of green city areas contribute largely towards upgrading environmental quality as the vast umbrella, thus serving as a fundamental catalyst for change. Sustainable development projects taking place in green city areas tends to attract a variety of economic
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