

Green Roofs, a Strategic Plan for Urban Environmental Planning - With the approach to reduce pollution in Tehran

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Abstract

Since the effects of air pollution on human health have been considered. The most important effects of air pollution can be the emergence of a variety of chronic diseases such as asthma, respiratory and cardiovascular diseases, and genetic diseases. Green roof is one of the modern solutions for urban problems. Roofing is a green roof that is covered with vegetation or soil, or its entire surface. Green roofing is one of the environmental technologies that can cover buildings with different uses. There are many benefits to doing this, which can help offset the negative aspects of pollution, especially in the urban environment. Considering the pollution caused by dust and gasoline contamination that has endangered the health of people in large cities, consideration of environmental impacts and positive greenhouse effect in reducing air pollution is essential. Accordingly, the main objective of this study is to investigate and analyze the green roof and its effect on reducing air pollution in Tehran metropolis using descriptive-analytical method. In this regard, we first studied and studied the types of green roofs and then the effects of green roofs on reducing air pollution. And then the benefits of green roofing were discussed in Tehran. The results of the research show that due to the environmental quality of the city and environmental threats in large cities such as air pollution, the emergence of the urban thermal island phenomenon, energy crisis, etc., the greening of the roofs, due to environmental benefits They will be considered as an ecological solution in the planning of urban physical space.

Keywords: Environmental Strategies, Environmental Planning, Ecological, Green Roof

1- Introduction

The consequences of mass urbanization have created both costs and benefits for the human inhabitants of cities and the surrounding ecosystems. Some costs include poor urban air quality, heat islands, pervasive impervious surfaces leading to sinking groundwater levels and poor watershed health, declining ecological diversity in urban areas, and an often bleak, homogeneous landscape of concrete and asphalt that can negatively affect the human psyche.

The sustainability movement has often sought to join aspects of vernacular architecture with modern technology and design to achieve a more comprehensive design solution for the conditions presented by modern architecture and urbanism. Green roofs are one aspect of this approach to sustainable architecture and urban design. Green roofs offer numerous, albeit varied, benefits depending upon regional climatic and infrastructural variables (Mirkouhi, 2009, p. 2). The desire to develop alternative sustainable infrastructures to better cope with issues such as urban hydrology, energy consumption, and overall quality of life helps to drive the green roof movement. Because the metropolitan cities in the field of urban green spaces in different regions, the incorrect location of urban green spaces, the lack of land for creating new green spaces in the city, the lack of coordination of urban green spaces with native culture. As for the history of green roofing, it can be said that the green roofing technique has been considered as an integral part of buildings in European countries for many years. But in our country and in many Third World countries, this element has remained obscure (Mirkouhi, 2009, p. 1). The observer shows the general time of the green roofs. Which has been going on since ancient times.