



## U R B A N   A G R I C U L T U R E   B Y   U S I N G   R E N E W A B L E E N E R G I E S

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**I N T R O D U C T I O N :** These days, cities are known as acute consumers of resources and producers of wastes, and their impacts have gone beyond their matrix effects. Apart from that, as cities face overpopulation, they will also face more people for nutrition. Therefore, before a piece of land is allocated for green space, it will be in competition with other applications due to economic requirements. Under these conditions, the need to review the urban landscape design and management and to mingle green space applications as a respiratory system of the city with other applications so that it preserves its ecological property and at the same time keeps its economic benefits, too, seems necessary. Urban agriculture can be an appropriate response to this intertwining of applications. On the other hand, one of the suggested strategies in the development of sustainable cities is the creation of “a native city”. “Native City” planners concentrate their objectives on creating cities with lower energy and materials input and production of least wastes and pollutions. it leads to environmental sustainment and developments homogeneous with principles of socio-economic sustainment (Daneshpoor:2008). Based on FAO’s definition, a correct perception of urban agriculture is in a way that variety in agricultural and home activities leads to food security and creation of income. Urban agriculture is a method to decrease the vulnerability of world urban population against world ecological changes. The relationship has been documented between urban agriculture and preservation of urban wastewaters, food insecurity, effects of urban heat island, energy efficiency, air quality, climatic changes, loss of life quality in residential areas, social isolation and prevention of crimes (Urban Agriculture Report, 2005).

**RESEARCH METHOD:** The method by which food products are produced has an important effect on environmental conditions such as ability to reuse wastes, energy consumption and management of local microclimate. If the method of production is not appropriately managed, it will have negative environmental effects like noise, dust, unpleasant odor, and water pollution as well as an increase in potable water (Urban Agriculture Strategy, 2002). From among various discussions during sustainable development, one of the most sensitive and challenging issues is that of energy; and our cities have always been considered as the most involved areas in energy issues, and have been among focal points to find reasons for shortcomings and pollutions related to the production and consumption of energy. In this research, efforts will be made to devise approaches to urban landscape design with a view to urban agriculture by employing methods in accordance with principles of sustainable development and rules adopted from natural systems and maximum application of renewable energies (water, wind, sun, geothermal). Landscape design is carried out in a way that the whole designed system uses plant growing beds from a series of beds produced by compressed and recyclable paper to equipment employed for the conditioning and trickle irrigation. The required electric power for electrical equipment etc. is produced and used in a system so that the whole system can secure its energy needs and so that it can have a



performance without past pollution and challenges of urban agriculture with higher efficiency as a part of urban landscape.

**DISCUSSION & CONCLUSION:** The fruitful green space in the city has the capability of securing a part of food needs of city-dwellers. With this approach, water, soil and energy resources used in urban green space are directly used by city-dwellers, and the mere consumer green space is changed into productive green space. By continuing urban agriculture, the green space of the city will have a different relationship with social, economic and environmental issues, and the city will host a style of life that will lead to a decrease in energy waste. Among the advantages, which urban agriculture has for urban environment, and which are particularly tangible in implementing the green roof and vertical gardens plan, are improved management of rainstorms, decrease in effects of heat island, improvement in air quality, increase in biodiversity and sound insulation.

**KEY WORDS:** Urban Agriculture, Renewable Energy, Sustainable Development, Urban Landscape



The 1st International Conference on New Ideas in Agriculture  
Islamic Azad University Khorasgan Branch  
26-27 Jan. 2014, Isfahan, Iran

