

## The Evaluation of the Effects of Commercial Buildings Green Roof on Quality of Life in Urban Area

### Introduction

In 21<sup>st</sup> century, unplanned urbanization, global warming, lack of green space and deterioration of the ecological balance in the nature, influence the man's life.

During the recent years, the number of buildings increased according to the population's growth. As a result, most of the urban areas have been covered by buildings.

These changes cause the deduction of open-green areas and consequently reduce natural places which adversely effect the quality of human's life. That's why; due to the ecological anxiety and urban recreational necessities, **roofs** have gradually become significant.

### Purpose

According to the incredible growth of the commercial buildings with huge roof areas in different cities of Turkey during past few years, the positive effects of the **green roof on the life quality** has been examined.

### Methods

- **Three** commercial buildings with different locations and architectural features have been selected in Ankara and Istanbul. The major factor of our selection is the **location** of these buildings and **potentials for green and open spaces on their roofs**.
- Because of the huge number of visitors of these commercial buildings, we decided to make **randomly questionnaire** corresponding by the workers.
- In each commercial building, 60 person participate in the survey and totally 180 people answer the survey questions.
- Answers have been computed in SPSS (Statistical Packages for the Social Sciences) and the results evaluated according to objectives.

### Case studies

#### 1. Anafartalar Commercial Building

It is located in historical part of Ankara. There is lack of green and open space around the building.



Beside the long working hours, most of the workers spend their rest time inside the building. This effects their work life adversely.



#### 2. Gama Commercial Building

It is located in the center of Ankara beside a park.



Due to building's short distance from the park, workers have a chance of being in parks in their rest time during the day.



#### 3. Kanyon Commercial Building

It is located in Istanbul. The building's shape is like a canyon with open-green space and a green roof.



Visitors and workers benefit from the green and open space during the day.



### Survey results

- Green roofs in commercial buildings are important parameters effect the life quality of the workers.
- Workers prefer these areas in their rest hours during the day.
- Green roofs of commercial buildings have positive impact on workers both physically and psychologically improving their life quality.
- Workers prefer plant materials in roof gardens.



- Green roofs increase work efficiency of the workers.
- Green roofs can be an effective factor choosing a work place.
- Green roofs can provide the need for natural and green space in commercial buildings.

### Conclusion

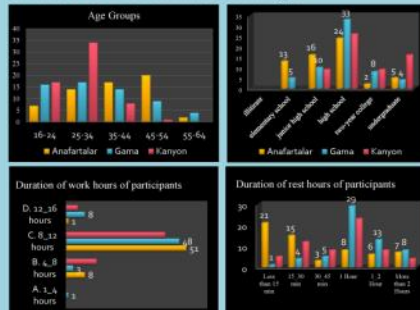
The result of the survey illustrates that lack of green spaces in the sites has unfavorably effect the workers psychology and business productivity. Furthermore, it is concluded that green roofs have not only a positive effect on workers life quality, but also can construct natural and open space in the structural environments of commercial buildings.

### References

- ❖ Özer, B. 2005. Human Psychology and landscape design . Master thesis, Graduate School of Natural and Applied Science Institute, Ankara.
- ❖ Shakouri, N. 2011. The Evaluation of the Effects of Commercial Buildings Green Roof on Quality of Life and biodiversity, PhD seminar, Graduate School of Natural and Applied Science Institute, Ankara.
- ❖ Stigsdotter, U. 2005. Landscape Architecture and Health (Evidence-based health-promoting design and planning). Doctoral thesis, Swedish University of Agricultural Sciences, Sweden.
- ❖ Ulrich, R. S., Addoms, D. L., 1981. Psychological and recreational benefits of a residential park. Journal of Leisure Research, 13: 43-65.
- ❖ Varol, G. 2010. The concept of business park and user expectations, Case study of ODTÜ Teknokent. Master thesis, Graduate School of Natural and Applied Science Institute, Ankara.

### The Basic Information of Participants

The basic information of participants of the survey is illustrated for three commercial buildings.



### Contacts

Name 1. Nasim  
2. Mehmet Emin

Surname 1. Shakouri  
2. Baris

Institution Ankara University-Landscape  
Architecture Department

### Contacts

Nasim.shakouri@gmail.com  
ebaris@ankara.edu.tr