

A STUDY ON A RELATIONSHIP BETWEEN COGNITION OF GREENERY ENVIRONMENT IN RESIDENTIAL AREA AND ENERGY-SAVING LIFESTYLE IN JAPAN

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1. Purpose

The effect of greenery has been focused on in the temperate climate area like Japan as one of the ways to realize both of energy-saving and comfortableness in summer. The purpose of this study is to analyze the effects of the greenery environment in the residential area on energy saving behavior of the residents for cooling, and energy consumption style.

2. Overview

We analyzed and showed in Ref[1] that the greenery environment had a correlation with the energy-saving lifestyle. That means that the residents who perceive the lush greenery in the yards of their houses are inclined to restrain the use of air-conditioner and are also motivated to select lifestyle which needs less energy consumption as a consequence.

This study shows that the causal relationship between the greenery environment and the energy-saving lifestyle. And also shows what kinds of greenery have effects on the energy consumption style.

3. Methods

A survey of questionnaire was executed by using the Internet in September 2010 for the residents living in new detached houses which had been completed for three years. The survey was on the greenery environment in the residential area and energy consumption style. The number of the valid responses for the survey is 482 (Response rate is 10.2%).

4. Results including expected ones

4-1. The relationship between greenery environment and energy-saving lifestyle

Residents who responded to the questionnaire are divided into two groups. One group comprises the residents who built new houses in the area where they have lived before. Another comprises the residents who built new houses in the area where they have never lived . In order to clarify the causal relationship between the greenery environment and the energy-saving lifestyle, we used the

questionnaire results of the latter group in this study.

The results show that the residents, who perceive the lush greenery in their yards now and have not perceived the lush greenery in their previous living area, are motivated to select energy-saving lifestyle more than the residents, who perceive the lush greenery in their yards now as well as in their previous living area. This means that the greenery environment has causal relationship with energy-saving lifestyle and makes the residents motivated to live a life with less energy consumption.

4-2. The relationship between the kinds of greenery and energy-saving lifestyle

The results of the analysis also show that the existence of trees less than three meters tall, lawn and soil in their yards in front of living-room windows is inclined to motivate the residents to select energy-saving lifestyle.

5. Reference

- [1] Shimokawa M, Tezuka T, A study on a relationship between cognition of outdoors greenery environment and energy consumption of a residential house From the viewpoints of residents' behavior for cooling, perception of outdoors environment and energy consumption style, Journal of Environmental Engineering (Transactions of Architectural Institute of Japan), 2011, No. 662: 325-334.