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Green-switch: Reducing the conflict between the industrial and the residential interface

Archana Sharma

University of Tennessee - Knoxville, archsharma1@gmail.com

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**USTAINABLE
CITY IV**

Urban Regeneration and Sustainability



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The Sustainable City IV

Urban Regeneration
and Sustainability

Editors

Ü. Mander

University of Tartu, Estonia

C. A. Brebbia

Wessex Institute of Technology, UK

E. Tiezzi

University of Siena, Italy

WITPRESS Southampton, Boston



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Green-switch: reducing the conflict between the industrial and the residential interface

A. Sharma

School of Architecture and Design, RMIT University, Melbourne, Australia

Abstract

The dilemma of the co-existence of humans and industry has been a constant topic of debate among the realms of landscape planning, many times without being clearly articulated as such. This paper examines the conflict through the study of the industrial–residential domain. Natural resources such as water and land are primary reasons of conflict. This paper explores the potential of landscape design to address this conflict. The proposed landscape design strategy green-switch combines the landscape planning concept of “greenways” and the applied ecological engineering concept of “constructed wetland” to address the conflict.

Keywords: *greenways, urban planning, industrial landscapes, industrial–residential conflict, land and water resource conservation.*

1 Introduction

The structure of the industrial domain has evolved over the years from a conglomeration of heavy manufacturing industrial estates to light manufacturing industrial parks and most recently to eco-industrial parks - the conglomeration of cleaner production industries engaging in matter and energy exchanges. The industrial domains comprising cleaner industries are increasingly being located within cities, inadvertently becoming a part of the larger geographical and ecological context. This has resulted in conflicting consumption of land and water resources. The planning authorities responsible for planning of these mixed-use zones try to be judicious in allocation of land and water resources to these zones. Mostly, people come to terms with sharing of resources with an industrial domain in view of the perks offered by industries such as employment,



constructed treatment wetland system as natural transition zones, including woody vegetated buffer areas around the site.

5 Discussion

Green-switch acts as an area for treating or holding the water and its component metals and minerals to be recycled besides facilitating the spatial connection among industrial and residential contexts, thus forming a land loop. Use of selected constructed wetland as spatial workgates controls the undesired mixing of secondary treated water in industrial premises with the tertiary treated recreational water in the surrounding residential context. It acts as a naturalistic valve for directing and distributing the water flows among the industrial–residential precinct. The green-switch thus provides an avenue for conservation of land and water resources.

6 Conclusion

Industrial and residential domains have co-existed together for reasons of mutual gains. The residential context provides the industries with raw materials and labor and gains in terms of directly or indirectly usable consumer products and employment. However, the competition for land and water resources persists as an underlying reason of conflict among the two. This is a matter of grave concern as the natural resources are rapidly depleted and the impacts are realized more pronouncedly at the local level. The ecological landscape planning approach offers some indirect answers only, probably because the intensely built urban contexts are not the primary focus of those approaches. The role of green-switch thus becomes more significant. The potential to treat wastewater and facilitation of biodiversity connections augment the ecological values regained due to increased green-cover in the industrial–residential precincts. The landscape design strategy of green-switch needs to be further explored through multidisciplinary approaches to estimate its true potential.

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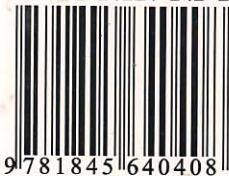


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