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

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The Sustainable City IV
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Contents

Section 1: Architectural issues

The use of greenrooves for the mitigation of environmental problems in urban areas
A. Teemusk & Ü. Mander...........................................................................................................3

Urban architecture for the advancement of small-scale township enterprises: relevance of the scholarship
G. P. Setshedi.................................................................................................................................19

International assessment of the environmental performance of housing, and prospects for sustainable cities
R. Horne........................................................................................................................................29

Thermal characterisation of bio-based building materials
S. Costanzo, A. Cusumano, C. Giacone & G. Giacone.................................................................39

Section 2: Cultural heritage

Sustainable reconstruction and planning strategies for Afghan cities: conservation in cultural and environmental heritage
B. A. Kazimee................................................................................................................................49

History integrated urban transformation
W. van der Toorn Vrijthoff.............................................................................................................61

Historical centers: sustainable economic spaces, management for sustainable projects
R. Jordán, J. Plaut, G. Carlo Magnoli, R. M. Pulselli & E. Tiezzi.................................................71
Contents

Section 1: Architectural issues

The use of greenrooves for the mitigation of environmental problems in urban areas
A. Teemusk & Ü. Mander ................................................................. 3

Urban architecture for the advancement of small-scale township enterprises: relevance of the scholarship
G. P. Setshedhi ................................................................................. 19

International assessment of the environmental performance of housing, and prospects for sustainable cities
R. Horne ......................................................................................... 29

Thermal characterisation of bio-based building materials
S. Costanzo, A. Cusumano, C. Giaconia & G. Giaconia ......................................................... 39

Section 2: Cultural heritage

Sustainable reconstruction and planning strategies for Afghan cities: conservation in cultural and environmental heritage
B. A. Kazimee ............................................................................... 49

History integrated urban transformation
W. van der Toorn Vrijthoff ........................................................... 61

Historical centers: sustainable economic spaces, management for sustainable projects
R. Jordán, J. Plaut, G. Carlo Magnoli, R. M. Pulselli & E. Tiezzi ........................................ 71
Section 3: Planning issues

Sustainability in cities: the green areas and climatic comfort as fundamental parameters
F. Gómez, V. Sifre, L. Montero, V. De Vicente & L. Gil..................................................83

Speed in the sustainable city
P. Yıldız..........................................................................................................................95

Sustainable regional development and provincial development planning: the case of Bolu
O. Özbek.........................................................................................................................105

Valuing the effects of urban road-network projects: a methodological proposal
A. Granà.........................................................................................................................115

Mobile positioning in sustainability studies: the social positioning method in studying commuter’s activity spaces in Tallinn
R. Ahas, Ü. Mark, O. Järv & M. Nuga........................................................................127

Planning with PlaceMaker: complex indices for sustainable projects
M. Sepe.........................................................................................................................137

Green-switch: reducing the conflict between the industrial and the residential interface
A. Sharma......................................................................................................................147

Section 4: Planning, development and management

KiwiGrow™: a community and environmental health framework for sustainable development
P. G. Luckman.............................................................................................................155

On the way to Gigapolises: can global urban development become sustainable?
M. Keiner & W. A. Schmid.......................................................................................169

Seeking a unified urban systems theory
D. Coelho & M. Ruth ..................................................................................................179

What the “new Istanbul” shaped by capital makes one think...
S. Turgut.......................................................................................................................189
Green-switch: reducing the conflict between
the industrial and the residential interface

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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.

References

Urban areas produce a series of environmental problems arising from the consumption of natural resources and the consequent generation of waste and pollution. These problems contribute to the development of social and economic imbalances. All these problems, which continue to grow in our society, require new solutions.

The contents of this book address the many inter-related aspects of the urban environment from transport and mobility to social exclusion and crime prevention.

Topics include: Architectural issues; Cultural heritage; Planning issues; Planning, development and management; Strategy and development; Land use and management; Environmental management; Energy resources; Sustainable transportation and transport integration; Traffic and transportation; The community and the city; Socio-economic issues; Public safety.

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