Sustainable Development and Planning II

Volume 1

WIT Press publishes leading books in Science and Technology.
Visit our website for new and current list of titles.
www.witpress.com

WIT eLibrary
Home of the Transactions of the Wessex Institute.
Papers presented at Sustainable Development and Planning are archived in the
WIT eLibrary in volume 84 of WIT Transactions on
Ecology and the Environment (ISSN 1743-3541).
The WIT eLibrary provides the international scientific community with immediate and
permanent access to individual papers presented at WIT conferences.
Visit the WIT eLibrary at www.witpress.com.
Ecological Sciences

EDITORIAL BOARD

D. DeAngelis
University of Miami
USA

F. Mueller
Ecology Center Kiel
Germany

N. Georgantzís
Universitat Jaume I
Spain

M.B. Neace
Mercer University
USA

K.G. Goulias
Pennsylvania State University
USA

R. O’Neill
Oak Ridge National Laboratory
USA

W.E. Grant
Texas A & M University
USA

M.S. Palo
Forestry Research Institute
Finland

A.D. Iacobas
Albert Einstein College of Medicine
USA

B.C. Patten
University of Georgia
USA

S.E. Jorgensen
University of Pharmaceutical Science, Denmark

H. Power
University of Nottingham
UK

U. Mander
University of Tartu
Estonia

Y.A. Pykh
Russian Academy of Sciences
Russia

N. Marchettini
University of Siena
Italy

J.L. Rubio
Centro de Investigaciones sobre Desertificacion
Spain
E. Tiezzi
University of Siena
Italy

W. Timmermans
Alterra Green World Research
The Netherlands

R.E. Ulanowicz
UMCES
USA

J-L. Usó
Universitat Jaume I
Spain

A. Viguri
Universitat Jaume I
Spain

Y. Villacampa
Universidad de Alicante
Spain
SECOND INTERNATIONAL CONFERENCE ON
SUSTAINABLE DEVELOPMENT AND PLANNING

SUSTAINABLE DEVELOPMENT
AND PLANNING II

CONFERENCE CHAIRMEN

A. Kungolos
University of Thessaly, Greece

C.A. Brebbia
Wessex Institute of Technology, UK

E. Beriatos
University of Thessaly, Greece

INTERNATIONAL SCIENTIFIC ADVISORY COMMITTEE

M. Andretta
S. Basbas
R. Brandtweiner
S.D. Brody
O.G. Christopoulou
H. Coccossis
V. Ferrara
A. Gospodini
H. Hendrickx
MD.B. Ishak
H. Itoh
B.A. Kazimée
E. Larcan
T. Oc
N.J.J. Olivier
V. Pappas
H. Schocken
M. Su
J.H.R. van Duin

Organised by
Wessex Institute of Technology, UK

Sponsored by
WIT Transactions on Ecology and the Environment
Preface

These volumes contain the contributions presented at the 2nd International Conference on Sustainable Development and Planning, held in Bologna, Italy, September 12 to 14, 2005. The series, which started in October 2003 in Skiathos, Greece, is organized by Wessex Institute of Technology, UK and sponsored by WIT Transactions on Ecology and the Environment.

The Conference addressed the subjects of planning and regional development in an integrated way as well as in accordance with the principles of sustainability. It has become apparent that planners, environmentalists, architects, engineers, policy makers and economists have to work together in order to ensure that development can meet our present needs without compromising the ability of future generations. In recent years, there has been in many countries, an increase in spatial problems that has lead to planning crises. Planning problems are often connected with uneven development, deterioration of the quality of urban life and destruction of the environment. Furthermore, problems of environmental management and planning are not restricted to urban areas. Environments such as rural areas, forests, coastal regions and mountains face their own problems that require urgent solutions in order to avoid irreversible damages. The use of modern technologies in planning, such as geographical information systems and remote sensing, give us new potential to monitor and prevent environmental degradation.

Effective strategies for management should consider sustainable development and planning, and emphasise the need to handle these matters in an integrated way. The conference provided a common forum for all scientists, specialising in the wide range of subjects.

The scientific topics of Sustainable Planning and Development 2005 included:

1. City planning
2. Environmental impact assessment
3. Environmental legislation and policy
4. Environmental management
5. Waste management
6. Resources management
7. Geo-informatics
8. Transportation
9. Ecosystems analysis, protection and remediation
10. Regional planning
11. Rural development
12. A Multidisciplinary approach to territorial and environmental risk assessment and management
13. Social and cultural issues
14. Urban landscapes

The editors would like to thank all the authors for their presentations and in particular, the members of the International Scientific Advisory Committee who helped to review the papers.

The Editors
Bologna, 2005
Contents
(Includes complete contents and author index for volumes 1 & 2)

Volume 1
Section 1: City planning

Sustainable urban freight policies in the Netherlands: a survey
J. H. R. van Duin ........................................................................................................ 3

Sustainable cities: an integrated strategy for sustainable urban design
A. Abdulgader & Y. Aina ........................................................................................... 15

The optimum density for the sustainable city: the case of Athens
D. Milakis, N. Barbopoulos & Th. Vlastos ............................................................... 25

The transformation of residential patterns in Al-Ain City, UAE
M. Haggag & K. Hadjri ............................................................................................ 35

Spatial conditions for the integration of combined decentralised energy
generation and waste(water) management in city districts
A. van Timmeren, P. A. de Graaf & G. de Vries .................................................. 45

Urban model for a crowded planet – vision42
R. Warren ............................................................................................................. 57

Ecourbanism: designing a ‘green’ city
P. Viswanathan & T. Sharpe .................................................................................... 67

A land-use transition model based on building lots considering the
steady state of locations and inconstancy of transition
T. Osaragi .............................................................................................................. 77

Urban compactness and its progress towards sustainability:
the Hong Kong scenario
S. B. A. Coorey & S. S. Y. Lau ........................................................................... 87
Growth management of the cities as a function of sustainable development of the Serbia Region
M. Ralevic & A. Djukic ................................................................. 99

Exploring changes in land use, population, transport and economics with CAST
L. Jankovic, W. Hopwood & Z. Alwan ........................................ 109

An analysis of sustainability and urban sprawl in an Algerian oasis city
R. Meziani, T. Kaneda & P. Rizzi .............................................. 121

Sustainability strategies in North American cities
L. A. Reese & G. Sands ............................................................... 133

Sharpening census information in GIS to meet real-world conditions: the case for Earth Observation
J. Weichselbaum, F. Petrini-Monteferrri, M. Papathoma, W. Wagner & N. Hackner ............................................................... 143

Survey on the transition in urban retailing space from the evolution of location choice by applying information technologies
H. C. Chang & K. W. Tsou .......................................................... 153

Homes for the future – accommodating one-person households the sustainable way
J. Williams .............................................................................. 161

Towards a sustainable and tourism-led urban regeneration objective: Eminonu historical city core
P. Ozden & S. Turgut .................................................................. 171

The operative process in sustainable urban planning
M. P. Amado ............................................................................. 181

Building regulations based on sustainable principles in Italy: state of the art and trends
C. Carletti, P. Gallo, C. Gargari & F. Sciuropi ................................ 193

Criteria for choosing tunnels as a possible corridor for urban public installations
R. Spaic & M. Terzic ................................................................. 201
Ningbo – a new sustainable city for China
R. Edmond ........................................................................................................... 207

Underground development: a path towards sustainable cities
D. C. Kaliampakos & A. A. Mavrikos ...................................................................... 219

Residential palimpsest: a novel dimension to city sustainability
G. Holden.................................................................................................................. 227

Section 2: Environmental impact assessment

Quantitative approaches to landscape spatial planning: clues from landscape ecology
R. Lafortezza, R. C. Corry, G. Sanesi & R. D. Brown ........................................... 239

Estimating the environmental risk of construction activities on the ecological receptors along the Egyptian Red Sea coast
A. H. Sherif, A. H. El Sherbiny & A. N. Hassan ...................................................... 251

Dealing with uncertainty – integrated sustainability assessment based on Fuzzy Logic
R. J. Baumgartner...................................................................................................... 261

Environmental and hazard perception: a case study of a periurban area of Central Portugal
J. Gaspar, A. Tavares & J. Azevedo ........................................................................ 271

Tailoring the precautionary principle to pharmaceuticals in the environment: accounting for experts’ concerns
N. A. Doerr-MacEwen & M. E. Haight ........................................................................ 281

Applying a CBA model to assess the Three Gorges Project in China
R. Morimoto & C. Hope ............................................................................................ 293

Environmental impact assessment as a step to sustainable tourism development
N. Raschke .................................................................................................................. 303

Section 3: Environmental legislation and policy

Planning for safety: a sustainable interface between chemical sites and urban development, European experiences and perspectives
C. Basta & R. B. Jongejan .......................................................................................... 317
To control or not to control? The role of sustainable planning in order
to accommodate informal brickyards in the integrated development
plan of the Mangaung Municipality
G. M. Steenkamp & J. J. Steyn................................................................. 327

Integrating environmental issues into the Portuguese planning
system – 10 years of emerging challenges and persistent problems
T. Fidelis.................................................................................................. 337

A conceptual device for framing sustainability in project development
and evaluation
C. Bogliotti & J. H. Spangenberg............................................................. 347

Economic analysis of an environmental policy instrument for
basins protection in Colombia
J. A. Vásquez P. ...................................................................................... 359

Economic instruments for environmental control: perspectives
S. M. V. G. de Araújo & I. da A. G. M. Juras ........................................... 367

Management of noise in the case of infrastructure works
M. Clerico & G. Pizzo ............................................................................... 377

Section 4: Environmental management

Planning and management of protected areas in Greece
El. Beriatos .......................................................................................... 389

Land use planning around high-risk industrial sites:
the factors that affect decision-making
I. Pappas, S. Polyzos & A. Kungolos.................................................... 401

State of the art of environmental management
R. Brandtweiner & A. Hoeltl ................................................................. 413

The effects of urbanization on the natural drainage patterns
and the increase of urban floods: case study Metropolis of Mashhad-Iran
S. R. Hosseinzadeh................................................................................ 423

The role of environment in sustainable development
and its relation with development management
K. Loloei .............................................................................................. 433
Environmental management and planning in urban regions – are there differences between growth and shrinkage?
U. Weiland, M. Richter & H. D. Kasperidus ................................................................. 441

Can we plan to protect our environment?
Spreading urbanization in the State of Louisiana
I. Maret & H. Blakeman .............................................................................................. 451

The role of soil organic matter content in soil conservation and carbon sequestration studies: case studies from Lithuania and the UK
C. A. Booth, M. A. Fullen, B. Jankauskas, G. Jankauskiene & A. Slepetiene .................................................. 463

The ‘Sefton Coast Partnership’: an overview of its integrated coastal zone management
A. T. Worsley, G. Lymbery, C. A. Booth, P. Wisse & V. J. C. Holden.......................................................... 475

Collaboration between researchers and practitioners within the context of Integrated Coastal Zone Management: a case study of the north Sefton coast
V. J. C. Holden, G. Lymbery, C. A. Booth, A. T. Worsley, S. Suggitt & P. Wisse ............................................. 485

Application of P-S-R framework on the sustainable utilization of shallow artificial lakes management
H.-C. Su, L.-C. Chang & S.-Y. Hsieh ............................................................................. 495

Asset management for environmental infrastructure
A. R. Perks, S. Devnani, R. Denham & M. N. Thippeswamy ........................................... 505

The global sustainable development with emphasis on sustainable ecotourism
A. Estelaji, H. Mojtabazadeh, M. Ranjbar & R. Sarvar ................................................. 515

Challenges in the environmental management of post-military land conversion
K. C. Fischer, W. Spyra & K. Winkelmann ................................................................. 523
Section 5: Waste management

Multicriteria evaluation of alternative wastewater treatment processes at municipality level
K. P. Anagnostopoulos, M. Gratiou & A. P. Vavatsikos .......................... 535

Environmental diagnosis methodology for municipal waste landfills as a tool for planning and decision-making process
M. Zamorano, E. Garrido, B. Moreno, A. Paolini & A. Ramos ............... 545

Economic evaluation of small capacity domestic wastewater processing units in provincial or rural areas
M. Gratiou & M. Tsalkatidou .................................................................. 555

Medical waste management in Greece: the case of Thessaly region
S. Bakopoulou, A. Kungolos & K. Aravossis ...................................... 565

Potential for construction waste minimisation through design
M. Osmani, A. D. F. Price & J. Glass .................................................. 575

Vinyl 2010: the European PVC industry’s approach to sustainability
M. Griffiths .......................................................................................... 585

Wood production utilizing raw sewage in Ojinaga, Chihuahua, México

Alleviation of environmental health impacts through an ecosystem approach – a case study on solid waste management in Dhaka City
I. M. Faisal & S. Parveen ...................................................................... 601

The PVC industry’s contribution to sustainability in the building and construction sector
M. Piana ............................................................................................... 611

Dynamic modelling software for the analysis of different waste valorization scenarios in the cement production process: a new step on sustainability
J. Arias, C. Gutierrez-Cañas, M. Larrion & C. Urcelay ......................... 621

Waste statistics surveys
M. Zitnik .............................................................................................. 631

Development of fuel briquettes from oil palm wastes
M. S. Aris, S. Hassan, O. Mamat & K. Sabip ....................................... 641
Section 6: Resources management

Potential assessment of the use of green energy to meet the electricity demand in a land aquafarm
C.-M. Lai & T.-H. Lin ................................................................. 653

Sustainable management of human water consumption:
a preliminary case study in North-eastern Portugal
N. Haie, J. E. R. Queirós & L. F. Fernandes ........................................... 661

Updating the institutional debate in sustainable water management and planning
K. F. Wong .................................................................................. 671

Beyond weights and discounting: decision analysis tools for integrated planning
L. Holz, G. Kuczera & J. Kalma ........................................................ 681

Means to ends: success attributes of regional NRM
J. A. Williams, R. J. S. Beeton & G. T. McDonald ............................ 691

Aspromonte National Park: a study of the energy flows as a support tool for the sustainable management of protected areas
M. R. Giuffrè, V. Grippaldi & R. F. Nicoletti ....................................... 703

Urumiyeh, a unique lake exposed to danger: challenges and sustainable approaches
R. Sarvar, H. Mojtaba Zadeh, A. Estelaji & M. Ranjbar .......................... 713

Carrying capacity assessment of Slovene Istria for tourism
I. Jurincic ...................................................................................... 725

The role of industries in air pollution and guidelines: a case study of the city of Tabriz
H. Mojtabazadeh .......................................................................... 735

The Solar D House
M. Garrison .................................................................................. 743

A computational model based planning approach for integrated resource management with a case study

The areal distribution of applied water above and below soil surface under center pivot sprinkler irrigation system
H. M. Al-Ghobari ........................................................................... 763
Towards integrated water resources management in Armenia  
*M. Vardanyan, T. Lennaerts, A. Schultz, L. Harutyunyan & V. Tonoyan........773*

**Author Index** ..........................................................................................................i-iv

---

**Volume 2**

**Section 7: Geo-informatics**

Technology based on distributed GIS tools: an approach for sustainable planning  
*V. Ferrara & C. M. Ottavi.................................................................785*

A GIS-based multicriteria model for the evaluation of territorial accessibility  
*J. F. G. Mendes, D. S. Rodrigues & R. A. R. Ramos.................................795*

GIS and RS integrated application system for sustainable development of China’s coastal zone and offshore  
*D. Yunyan, S. Fenzhen, L. Ce & Y. Xiaomei........................................805*

Early warning method for rice production using remote sensing and meteorological data: Photosynthetic Crop Production Index  
*D. Kaneko, T. Itohara, M. Ohnishi & T. Ishiyama.................................815*

A landform classification method with G.I.S. for landscape visual analysis purposes  
*A. Tsouchlaraki.................................................................825*

---

**Section 8: Transportation**

Traffic demand reduction strategies: the potential role of Park and Ride  
*S. Basbas.................................................................................................839*

A model for assessing land use impacts on driving costs  
*M. Salatino.................................................................849*

A sensitivity analysis of user’s choices to evaluate urban mobility government policies  
*R. Guzzo & G. Mazzulla.................................................................859*
Demand modelling by combining disaggregate and aggregate data: an application to a displacement scenario for the Mount Vesuvius area
S. de Luca ................................................................. 871

Improving the accessibility of employment and training opportunities for rural young unemployed
H. Titheridge................................................................. 881

Effects of a new inter-city railway infrastructure on transport mode competition
A. Cartenì & S. de Luca .................................................. 891
Accessibility calculations in six Swedish towns
M. Reneland ................................................................. 903

Feasibility study of express railway line construction in Lithuania
L. P. Lingaitis & J. Butkevičius ........................................ 913

Design of a sustainable and accessible environment in central areas
S. Basbas, G. Mintsis, K. Oikonomou & C. Taxiltaris ...................... 921

Roundabouts and traffic emissions at crossroads
G. Latini, G. Passerini & S. Tascini ...................................... 931

Can public transport interchanges be positive urban environments in the developing world context?
B. Verster ................................................................. 941

Urban traffic noise impact zones as brown fields
E. Ph. J. de Ruiter .......................................................... 951

Empirical analysis of urban transport demand of young people and prospects of sustainable transport policies
E. Venezia ................................................................. 959

Is Hong Kong transport sustainable?
J. Karakiewicz ............................................................. 969

An elastic and continuum model of transportation
P. Daniele, G. Idone & A. Maugeri ....................................... 981

The expansion of grain ports in Argentina
C. M. Ibañez ............................................................... 989
Section 9: Ecosystems analysis, protection and remediation

Sustainable planning at the urban fringe: examining the factors influencing nonconforming development patterns in southern Florida
S. D. Brody ................................................................. 997

An ecological network for the Oporto metropolitan area
T. Andresen, M. J. Curado & V. Silva ................................. 1007

Local Agenda 21 and protected areas: the case of the Biosphere Reserve of Urdaibai in the Basque Country
I. Aguado, C. Echebarria & J. M. Barrutia ............................. 1017

Conserving biodiversity: the experience of Singapore
W. Chunneng & O. B. Lay ........................................... 1027

Section 10: Regional planning

The dwelling “margin” and housing density: design considerations for sustainable multifamily housing sites
B. A. Kazimee ................................................................. 1039

Futures tools for regional development
M. Rhisiart ................................................................. 1051

Barriers to sustainable suburbs
N. Wales & E. Mead ...................................................... 1061

Partnership between land-use planners and scientists to reduce landslide hazards
P. Gori & L. Highland .................................................... 1071

Alternative future growth scenarios for Utah's Wasatch Front: Identifying future conflicts between development and the protection of environmental quality and public health
R. J. Lilieholm, R. E. Toth & T. C. Edwards, Jr. .......................... 1079

The study of passenger transportation markets and their distribution among various transport facilities in Lithuania
J. Butkevičius & L. P. Lingaitis .......................................... 1089

Urban and regional typologies in relation to self-sufficiency aiming strategies
A. van Timmeren, L. C. Röling & E. D. Tawil .......................... 1095
Dialogue system of decision-making for sustainable planning in river basin improvement
S. Kagaya, K. Uchida & T. Hagiwara ........................................................... 1107

Developing a sustainable community – the challenges of new planning methodologies in the re-invention of public open space in Canada
T. Genco ......................................................................................................... 1119

Regional development in the islands of Kos and Rhodes: a study of sustainable financial opportunities
B. S. Tselentis & D. G. Prokopiou ................................................................. 1133

New challenges for regional development in Estonia – the case of Pärnu city region
U. Kase & K. Lass ......................................................................................... 1143

People in the pixel: towards grid-based population modelling
H. B. M. Hilderink ....................................................................................... 1155

The sustainable location of low-income housing development in South African urban areas
S. Biermann ................................................................................................... 1165

Section 11: Rural development

Land use evaluation and planning for integrated rural development (the case of a Hellenic region)
O. Christopoulou & G. Arabatzis ................................................................. 1177

Integrated risk response techniques in emergency situations: “the Mozambique floods case simulations”
A. I. Mondlane ............................................................................................... 1189

The system of rural service rating in Mashhad county (the second metropolis of Iran)
H. Shayan .................................................................................................... 1199

Section 12: A multidisciplinary approach to territorial and environmental risk assessment and management (Special session organised by E. Larcan)

Flooding hazards in northern Italy: two case studies
D. Bagioli, E. Larcan & S. Mambretti .......................................................... 1211
The management of territorial risks: which integration between planning instruments, evaluation tools, and certification procedures
M. Magoni ................................................................. 1221

Research and definition of an integrated territorial risk management system
C. Baldi ........................................................................ 1229

Seismic and landslide risk analysis at Toscolano Maderno
F. Pergalani & V. Petrini .................................................. 1239

The atypical assessment of risk and disaster management in municipalities that have Seveso II production and storage sites on their territory
D. Manca & S. Colombo .................................................. 1251

Territorial vulnerability and local risks
M. C. Treu, A. Colucci & M. Samakovlija ......................... 1261

Section 13: Social and cultural issues

Social impact assessment of technological water projects
C. Mendoza & C. Levi ...................................................... 1271

When the city invades the countryside – cultural-historical environments in spatial planning
G. B. Jerpåsen & G. Swensen ........................................... 1281

The Wadden Sea Forum: the relevance of stakeholder participation for sustainable planning
F. De Jong ....................................................................... 1291

Native vs exotic: cultural discourses about flora, fauna and belonging in Australia
D. Trigger & J. Mulcock .................................................. 1301

Gender assessment – a new era in Egypt’s water management
H. A. El Desouki & R. M. S. El Kholy ................................ 1311

Intra-metropolitan inequalities in Rio de Janeiro and the Guanabara Bay Cleaning Programme
V. A. Carneiro da Silva & G. Ribeiro ............................... 1319
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluating a new participatory planning approach for sustainable</td>
<td>1329</td>
</tr>
<tr>
<td>landscape development in Switzerland – participatory techniques and</td>
<td></td>
</tr>
<tr>
<td>social effects of Landscape Development Concepts (LDC)</td>
<td></td>
</tr>
<tr>
<td>C. Höppner, J. Frick, M. Buchecker &amp; H. Elsasser</td>
<td></td>
</tr>
<tr>
<td>Sustainability, urban regeneration and social inclusion</td>
<td>1343</td>
</tr>
<tr>
<td>C. Doyle</td>
<td></td>
</tr>
<tr>
<td>Territorial functioning, victimisation and fear of crime: a</td>
<td>1353</td>
</tr>
<tr>
<td>comparative study of high and low crime rate estates</td>
<td></td>
</tr>
<tr>
<td>A. Abdullah, A. Bahauddin, B. Mohamed &amp; A. G. Ahmad</td>
<td></td>
</tr>
<tr>
<td>Development of design criteria for economically viable sustainable</td>
<td>1363</td>
</tr>
<tr>
<td>housing in Gauteng, South Africa</td>
<td></td>
</tr>
<tr>
<td>E. M. Minnaar &amp; C. E. Cloete</td>
<td></td>
</tr>
<tr>
<td>Social justice in a traditional Muslim built environment: the case of</td>
<td>1373</td>
</tr>
<tr>
<td>non-Muslim communities in Cordoba, Spain</td>
<td></td>
</tr>
<tr>
<td>H. Mortada</td>
<td></td>
</tr>
<tr>
<td>Gender and interest in ICT – a current Australian study</td>
<td>1385</td>
</tr>
<tr>
<td>I. Caddy, C. Jerram &amp; C. Lewin</td>
<td></td>
</tr>
<tr>
<td>Behavioral assessment of online education</td>
<td>1395</td>
</tr>
<tr>
<td>E. Ozan, M. Kishore, S. Aziz, L. Allred, L. Toderick &amp; M. H. N.</td>
<td></td>
</tr>
<tr>
<td>Tabrizi</td>
<td></td>
</tr>
<tr>
<td>Integration of science and art in architectural studies in the</td>
<td>1401</td>
</tr>
<tr>
<td>information era</td>
<td></td>
</tr>
<tr>
<td>A. Mosseri</td>
<td></td>
</tr>
<tr>
<td>Resident attitudes towards tourism in a destination in the stagnation</td>
<td>1411</td>
</tr>
<tr>
<td>stage of the tourism life cycle</td>
<td></td>
</tr>
<tr>
<td>L. Pennington-Gray</td>
<td></td>
</tr>
<tr>
<td>Sustainability of adventure tourism: the economic highway</td>
<td>1419</td>
</tr>
<tr>
<td>L. Steynberg &amp; J. P. Grundling</td>
<td></td>
</tr>
<tr>
<td>The integration of Computer Aided Design for the sustainable design</td>
<td>1429</td>
</tr>
<tr>
<td>of affordable houses in Kuala Juru, Penang, Malaysia</td>
<td></td>
</tr>
<tr>
<td>A. S. Hassan</td>
<td></td>
</tr>
<tr>
<td>An integrated model for cultural events</td>
<td>1439</td>
</tr>
<tr>
<td>E. Slabbert &amp; M Saayman</td>
<td></td>
</tr>
</tbody>
</table>
ISHTAR Suite: an advanced software tool for the assessment of short and long term measures for improving the quality of life in the urban environment
A. Agostini, E. Negrenti & M. Lelli .......................................................... 1449

The House of Bahrain Press Heritage
M. M. Sirriyeh ....................................................................................... 1457

Section 14: Urban landscapes
(Special session organised by A. Gospodini)

Landscape transformations in the postmodern inner city: clustering flourishing economic activities and ‘glocalising’ morphologies
A. Gospodini ......................................................................................... 1469

The present and the future of the Greek urban landscape
B. Ioannou & K. Serraos ...................................................................... 1487

Urban landscape transformations: the case of architecture
R. Papageorgiou-Seferiti ...................................................................... 1497

Structural change, cultural heritage and place
K. Olsson & T. Hasic ........................................................................... 1509

Public participatory landscape design for Beigu Hill wetland
Y. Y. Wu, P. P. Li, C. D. Wu, C. Y. Li & Z. H. Sun .................................. 1519

The PlaceMaker: a flexible and interactive tool to support the sustainable city construction and transformation
M. Sepe ............................................................................................... 1525

Greece in the face of the new EU dynamics at the dawn of the new millennium – a demographic-developmental plan
A. J. Anastassiadis ............................................................................... 1535

Transforming landscapes of abandonment: changing perception of low demand housing areas in Newcastle Gateshead, U.K.
T. Townshend ...................................................................................... 1545

Sustaining the cultural landscape in the city of Bath, Maine
D. J. Almy III ....................................................................................... 1555

Transformations in the night-time economy in English town centres: challenges to management
M. Roberts .......................................................................................... 1567
Multifunctional landscapes for urban flood control in developing countries
M. G. Miguez, F. C. B. Mascarenhas & L. P. C. Magalhães...................... 1579

The role of spatial layout in revitalizing the inner shopping area of the city:
Jeddah, Saudi Arabia, as a case study
A. Abdulgader................................................................................................ 1589

Spatial analysis of visual environmental information in urban landscapes:
attempting to detect homogeneous areas through a GIS
A. Tsouchlaraki & G. Achilleos................................................................. 1599

Author Index...................................................................................................v-viii