Table of Contents

Preface

Chapter 1: Architecture and Urban Planning in the Context of Built Environment

Challenges of Green Highway Concept towards Implementation of Green Highway
F. Najwa Mohd Nusa, I.R. Endut and S.Z. Ishak 3

The Application of Principles of Green Building in Traditional Housing in Iraq
M. Qays Oleiwi, A. Ali, N. Utaberta and M. Surat 7

Green Facade (Vertical Greening): Benefits and Threats
M. Rakhshandehroo, M.J. Mohd Yusof and M. Deghati Najd 12

Living Wall (Vertical Greening): Benefits and Threats
M. Rakhshandehroo, M.J. Mohd Yusof and R. Arabi 16

Parametric Visualization Tools for Land Use Planning towards Improved Green City
F.U. Sjarifudin 20

Green Architecture and Islamic Architecture: The Islamic Arabic City and the Traditional Islamic House
A. Ali, N. Utaberta, M. Surat and M. Qays Oleiwi 24

The Genius Idea of Using Local Material on Javanese House Architecture
Hardiyati, J. Prijotomo and M. Rachmawati 28

Green Agenda: A Socio-Cultural Response to Sick Building Syndrome (SBS) and Building Related Illness (BRI) in African Domestic Architecture
E. Eghosa Noel and A.A. Babajide 32

A Critical Analysis of 20th Century Modern Terrace Housing in Malaysia
N. Utaberta, N.F. Elina, M.T. Mohd Rasdi and M.A. Othuman Mydin 36

Kuala Lumpur Chinatown Pre-War Shophouses (Adaptive Re-Use) and City Image
Y.S. Toong and N. Utaberta 40

Opportunity for New Entrepreneurial Ventures from Sustainable Public Open Space Adaptive Used Implementation (Case Study: Taman Fatahillah, Jakarta Old City)
W. Hary Susilo 44

Post Modern Cross Comparative Analysis on the Mosque Ornamentation in Malaysia: (A Case Study of Charles Jencks)
N. Utaberta, A.N. Handryant and M.A.O. Mydin 48

Understanding the Potential of Modern Community Center as Social Architectural Spaces in Malaysia
N. Utaberta and N. Spalie 52

Evaluating the Customs and Rituals of the Malay Culture and its Contribution on Space Design in Modern Terrace House
N. Utaberta, N.F. Elina and M.T. Mohd Rasdi 56

Heritage Buildings Conservation Issues of Shophouses in Kuala Lumpur Chinatown
Y.S. Toong and N. Utaberta 60

Changing Transportation System in University Campus by Cycling and its Impact on Socio-Cultural Characteristics
S. Vosoughi, M.J. Mohd Yusof and N. Baharuddin 64

The Transformation of the Traditional Balinese House in Tourist Villages: Maintaining the Culture and Obtaining Economic Benefit
I.D.G.A.D. Putra, M. Lozanovska and R. Fuller 68

Significance of the Application of Universal Design in Mosque Buildings in Malaysia
M. Dabbagh Niya, N. Utaberta and S. Maulan 72

Unique Elements of the Traditional and Vernacular Masjids in Malaysia; Traditional Elements Acquainting Practical Sustainability
R. binti Othman, L.H. Mahamod and S. Aripin 76
Value-Based Architectural Conservation Practice as an Alternative Solution to Sustainability Problems
P. Praptidita Suratman and Denny 80

The Conservation of Balinese Traditional Architecture: The Integration of Village Pattern and Housing Pattern in Indigenous Villages
N.M. Yudantini and D. Jones 84

The Aspects of Visual Privacy and Interior Design Elements of Malay Dwelling (MD) in Melaka
N.H. binti Mohd Razali and A. bin Talib 88

Historic Urban Areas in Heritage Tourism: Kuala Lumpur Historic City Centre, a Potential Asset
M. Deghati Najd, N.A. Ismail, M.Y. Mohd Yunos and S. Maulan 93

Post Occupancy Evaluation of Putra Perdana Park
N. Talib, N. Mohamed, M.K. Hussein and S.F. Abd Shukor 97

Measuring Ecological Values of Green Open Space Using Normalized Different Vegetation Index Parameter
R.B. Budiyanti 101

The Characteristics of Residents at Low Cost Housing in Jakarta - Indonesia and their Culture to Green Principles
N. Nurdiani 105

Visual Landscape Management of Scenic Peucang Island and Ujung Kulon Peninsula in Ujung Kulon National Park, Indonesia
I. Krisantia and N.I. Mangunsong 109

Transport Policy in the Klang Valley, Malaysia: The Sustainability Agenda
R.N. Raja Ariffin, R. Khairi Zahari and M. Tumin 123

Green Infrastructure Development in Sustainable Water Resources Management System
Q. Uniati 127

Attributes and Characteristics of Place Attachment
B. Karsono and J. Wahid 132

Brigdeheader Space for Dwell in Jakarta
Deni and Salwin 136

Identifying Functional Factor for Developing the Community Centre in Kuala Lumpur
N. Jafari and N. Utaberta 141

Sustainability is Important Part of the Identity in the Dimension of Regionalism Architecture
M.I. Hidayatun, J. Prijotomo and M. Rachmawati 145

The Integration of Universal Design in Interior Design as a Green Design Approach for Diverse Users in Malaysia
N. Mansor, R. Ibrahim and A.R. Awang 149

Importance of Preserving the Non-Use Value of the Cultural Heritage: Case Study of George Town, Penang World Heritage Site
N.F. Mohd Ariffin, Y. Ahmad and A. Alias 153

A Study on African Vernacular Mosque: A Lesson from Tradition
M.M. Osman, B. Hassanpour and N. Utaberta 157

Perceived Pedestrian Environment Functional Factors which are Associated with Walking in Tropical University Campus
B. Afsar, M.Y. Mohd Yunos, M.A. Othuman Mydin and M.J. Mohd Yusof 161

Preference on Social Spaces in High Density Condominiums in Malaysia

Spiritual Values in Urban Residential Garden: A Mitos or Reality?
N.A. Ismail and M.Y. Mohd Yunos 168

Cross-Cultural Ethnic Identity in Urban Residential Area: An Epistemology
N.A. Ismail and M.Y. Mohd Yunos 172

Evaluating Mobility in Marketing Places for Entrepreneurial Disabled, Case Study: Central Market Area Kuala Lumpur
B. Fardnia, N. Abdul Rahman, M.Y. Mohd Yunos and M.A. Othuman Mydin 176

Assessing the Residents’ Preference of Awareness Regarding Urban Agriculture at Rooftop Garden
N. Jafari, M.Y. Mohd Yunos, M.A.O. Mydin and O. Mohd Tahir 180
Chapter 2: Green Building Materials

Appraisal of Thermal Comfort of Paper Waste as Wall Element in Building
A. Fikriarini Muchlis, A.D. Aziz, M. Ishomuddin and A. Barata

Residual Compressive Strength of Lightweight Foamed Concrete after Exposure to High Temperatures
M.A. Othuman Mydin, M.Y. Mohd Yunos, M.N. Mohd Nawi and A.I. Che Ani

Durability Performance of Oil Palm Shell Lightweight Concrete as Insulation Concrete
E. Serri, M.Z. Sulieman and M.A. Othuman Mydin

Green Materials Comparison of Sawdust and Coconut Fiber Acoustical Waffle Panel
E. Setyowati, G. Hardiman and S.T. Atmaja

The Influence of Compressive Strength of EPS Concrete Using Fiberglass with Curing and Non Curing Treatment
I. Hidayat and J.D. Halim

Thermal Properties of Foamed Concrete with Various Densities and Additives at Ambient Temperature
S. Ganesan, M.A. Othuman Mydin, M.Y. Mohd Yunos and M.N. Mohd Nawi

The Mechanical Performance of Waste Concrete Ash as Cement Replacement Materials in Concrete
A.H. Husain and N.F. Abas

Polyacrylate Modified Binder for Sustainable Asphalt Pavement Performances Using Superpave Mix Design
W.A. Ismail, I.R. Endut and S.Z. Ishak

Compressive Strength Improvement of Stabilized Peat Soil by Pond Ash - Hydrated Lime Admixture
Z. Md Yusof, S.N. Mohd Harris and K. Mohamed

The Potency of Waste Paper “Egg Tray” as a Noise-Reduction Material
E. Setiyowati and I. Nasrullah

Prefab Materials for Self Build Housing System in Malaysia
W.S. Wan Mohamed, Y. Ahmad, N.F. Nik Mat and A. Azlan

Chapter 3: Technologies and Decisions for Providing of Environmental Sustainability

Affordable Onsite E. coli Testing Device for Community Engagement

Preliminary Study on Climate Change Biomitigation by Improving CO₂ Removal and CO₂ Utilization Efficiency Using Microalgae Culture in Photobioreactor
A. Nugroho, E. Kardena, D.I. Astuti and K. Dewi

Developing Low-Carbon Awareness and Low-Carbon Behavior Framework for Tackling CO₂ Emission in a City
N.J. Abdul Aziz, M.Y. Mohd Yunos, N.A. Ismail and M.A. Othuman Mydin
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>To Develop a Greener Recycled Paper Production by Determining Potential Environmental Impacts through Life Cycle Perspective</td>
<td>N.F. Mohd Ghazali, S.Y. Wong and A. Hamzah Sharaai</td>
<td>269</td>
</tr>
<tr>
<td>Facilitate Recycle Activities via ICT and Physical Approach</td>
<td>W.N. Wan Ab Rahman and J. Ng Yi Shien</td>
<td>273</td>
</tr>
<tr>
<td>Optimizing Multi Response Green Machining Using Taguchi Method Based on Grey Relational Analysis</td>
<td>M.I. Mustajib, T. Prasetyo, H.A. Ilhamshah, R. Soenoko and Sugiono</td>
<td>277</td>
</tr>
<tr>
<td>Towards a Green Quail Meat Production through Life Cycle Perspective</td>
<td>A. Hamzah Sharaai, M.Z. Mat Zainol and K.I. bin Muhammad</td>
<td>282</td>
</tr>
<tr>
<td>Preparation Model of Allergen Inhalant Reduction Level on House Dust in the Rural Based Built Environment Using Structural Equation Modeling Technique</td>
<td>A. Rofieq</td>
<td>286</td>
</tr>
<tr>
<td>The Influence of Land Use in Controlling Potential Damage of the Upper Brantas River Basin</td>
<td>S. Harini</td>
<td>298</td>
</tr>
<tr>
<td>Community Participation in Management of Mangrove Villages with Renewable Energy in Teluk Naga District of Tangerang</td>
<td>A. Gunarsa, I. Krisantia and N.I. Mangunsong</td>
<td>302</td>
</tr>
<tr>
<td>Traditional and Local Ecological Knowledge for Land Use Mapping</td>
<td>N. Mohd Ayob, N. Ismail and T. Masron</td>
<td>306</td>
</tr>
<tr>
<td>Land Use Diversion in the Tourism Area at Sub Watershed Konto Hulu</td>
<td>T. Kusumadewi</td>
<td>310</td>
</tr>
<tr>
<td>An Analysis of Grey Water Treatment System in the National University of Malaysia Mosque</td>
<td>N. Utaberta, A.N. Handryant and M.A. Othuman Mydin</td>
<td>313</td>
</tr>
<tr>
<td>Daylighting Strategies in Iranian Vernacular Residential Buildings in Hot and Dry Climate</td>
<td>E. Maghsoudi Nia, T. Hajihasani, M.Y. Mohd Yunos and N. Abdul Rahman</td>
<td>329</td>
</tr>
<tr>
<td>A Biomimicry Approach on an Architectural Design and Planning Case Study: The Application of Photovoltaic and Green Roof Technologies</td>
<td>R. Hendarti and Y. Mariana</td>
<td>333</td>
</tr>
<tr>
<td>Integration PV and Wind into the Grid to Supply Electricity in Palu (Indonesia)</td>
<td>S. Dewi</td>
<td>337</td>
</tr>
<tr>
<td>Soil Arthropods Diversity in Manggis Natural Reserve and Coffee Agroforestry System Kediri Regency, Indonesia</td>
<td>D. Suheriyanto, Soemarno, B. Yanuwiadi and A.S. Leksono</td>
<td>341</td>
</tr>
</tbody>
</table>

**Chapter 4: Monitoring and Assessment of Facilities, Disaster Prevention**

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Defects or Building Failures: Misconception and Understanding</td>
<td>S. Abdullah, E. Iskandar and A. Abdul Razak</td>
<td>355</td>
</tr>
</tbody>
</table>
Common Defects on Floating Mosque: Tengku Tengah Zaharah Mosque, Kuala Ibai, Kuala Terengganu  

The Conceptual Framework of Building Performance-Risk Indicators (PRI) for Buildings Users in Higher Education Institutions  
N. Khalil, S.N. Kamaruzzaman, A.H. Nawawi, H.N. Husin and A.E. Hashim  363

Well-Being of Malaysia's Disaster-Affected Coastal Communities  
R.K. Zahari, R.N. Raja Ariffin, M.Z. Asmawi and A.N. Ibrahim  367

Sustainable Urban Drainage System to Land Use/ Land Cover Change in Samarinda, Indonesia  
E.S. Butar Butar, A. Sabar and M. Handajani  371

Dynamic Analysis on PCI Girder Bridge  
M. Suangga and Santi  375

Development of Microcontroller Based Potentiometric Transduction Circuit for a Continuous Fluid Level Sensor  
F.N. Mohd Nusa, M.F. Abdullah, S. Setumin, S. Mohd Firdaus, A.I. Che Ani and N. Mohd Tawil  379